

SKEPTICISM, ABDUCTIVISM, AND THE EXPLANATORY GAP

Ram Neta
University of North Carolina, Chapel Hill

I. Introduction: The Skeptical Problem and its Proposed Abductivist Solution

Since at least the time of Descartes, many epistemologists have presupposed a certain conception of the relation between the individual mind and the world around it. On this conception, the mind is known to itself in an especially intimate way. But there are things that exist independently of the mind—things like tables and chairs, say—and these “external” things are not known to the mind in this same intimate way. The mind’s knowledge of these external things can be achieved, if at all, solely on the basis of its intimate knowledge of itself. Theoretical reason is the engine that converts the latter into the former. A central problem of epistemology, then, is to spell out how such reasoning operates, i.e., how the mind can acquire knowledge of external things given that it has only its intimate knowledge of itself from which to work.

We can offer a sharper characterization of this problem if we define “Cartesianism” as the conjunction of the following three theses.¹

- (1) Our knowledge of the contingent facts of the external world is justified *solely* by inference from our knowledge of our perceptual experiences.²
- (2) Our knowledge of our perceptual experiences is non-inferential.
- (3) It is possible for the very same perceptual experience to occur whether we are hallucinating or enjoying veridical perception.³

There are many different versions of Cartesianism, corresponding to the different ways of spelling out these three theses. But we needn’t be concerned at present to distinguish the different versions of Cartesianism, for our aim is to examine a skeptical problem that can be raised within *any*

version of Cartesianism; more specifically, we aim to examine one popular line of solution to that problem. The skeptical problem at issue is the problem of understanding how our perceptual experiences can furnish us with epistemic access to the contingent facts of the external world.⁴ If (1) is true, then our knowledge of our own perceptual experiences provides us with the only premises we have by means of which we can come to know inferentially how things are in the external world. If (2) is true, then the range of these premises is restricted within the narrow scope of what we can know without inference. And if (3) is true, then the premises within this narrow scope do not entail the conclusions that we draw from them. And so how can we know these conclusions to be true? How can we achieve any knowledge of the external world? To answer these questions is to solve what I shall call “the problem of Cartesian skepticism”.

This problem has proved difficult to solve. This is because there is no well-understood form of reasoning that will take us from introspectively known premises to our beliefs about the external world. From (3), it follows that deductive reasoning won't do the job: it is logically possible for the external world to be different without any difference in our perceptual experiences. And from (1), it follows that reasoning by induction won't do the job either: since we never have non-inferential access to the external world, we cannot directly compare our perceptual experiences with the external world, and so we cannot have the data necessary for any inductive inference from claims about our perceptual experiences to claims about the external world.⁵ But if neither deductive nor inductive reasoning can justify our beliefs about the external world on the basis of introspectively known premises, then what kind of good reasoning can do so?

Philosophers have often sought to understand the epistemic situation of the ordinary person by assimilating it to the epistemic situation of the scientist. The scientist is faced with the task of developing a theory that can, among other things, explain the data. Typically, the theory posits unobservable entities or properties, and so the truth of that theory cannot be ascertained by observation alone. Rather, it can be ascertained only by inference from the data, and the inference in question will be better or worse depending, at least in part, on how well the theory explains the data. Let's call all such inferences “abductive”. The whole practice of abductive inference has been subject to criticism,⁶ and I do not intend to defend it here. But in what follows, I will examine and criticize a commonly proposed solution to the problem of Cartesian skepticism—a solution that presupposes that there are at least some good abductive inferences. For the sake of argument then, I intend to concede this presupposition to the proponent of this solution. If the presupposition is false, then so much the worse for the position that I will be criticizing.

Now to describe that target position. Many philosophers have attempted to solve the problem of Cartesian skepticism by assimilating

our ordinary epistemic situation with respect to the external world to the epistemic situation of the scientist with respect to unobservables. Just as the scientist must draw inferences from the data in order to ascertain the truth of her theory, so too (it is alleged) we must ordinarily draw inferences from our perceptual experiences in order to form justified beliefs about the external world. The premises of the relevant inferences are just those propositions that are about our own perceptual experiences and that we know to be true in the non-inferential way mentioned in (2) above. Let's use the term "introspection" to designate this non-inferential way that we allegedly have of knowing things about our own perceptual experiences. Then, the premises of the relevant inferences are just those propositions that we know by introspection. And the rules of inference governing the relevant inferences include whatever non-deductive principles of inference scientists can reasonably employ when they draw inferences from data to theory. Such principles are generally thought to license what we have called abductive inferences, and so I'll call this the "abductivist" solution to Cartesian skepticism.⁷ The abductivist claims that all of our knowledge of the external world is *ultimately* justified by abductive reasoning from introspectively known premises.⁸ In other words, without any good abductive reasoning from introspectively known premises, we could have no knowledge of the external world.

Many philosophers have criticized abductivism. These critics typically make one or more of the following three points. First, we can categorize our perceptual experience only by appeal to their characteristic causes in the external world. So unless we already know their causes in the external world, we cannot know how to categorize the perceptual experiences that we're having. But the premises of the relevant abductive inference must involve categorizing the perceptual experiences that we're having. Therefore, we cannot know the premises of the relevant abductive inference unless we already have some knowledge of the external world.⁹ Second, we can have no reason to regard one explanation as better than another, in any epistemically interesting sense of "better", unless we already know something about which explanations are more likely to be true than which others. But that in turn requires that we have some knowledge of how the external world works, and so our knowledge of the external world cannot all be grounded on abductive inference from our introspective knowledge.¹⁰ And third, even if we could form our beliefs about the external world by abductive inference from our introspective knowledge of our own perceptual experiences, that is not actually how we form those beliefs. Thus their being so formed cannot be what justifies them.¹¹

The abductivist can respond to all three of these criticisms. She can grant that we do not know how to formulate the premises of the relevant abductive inference, that we do not know how to formulate the criteria of explanatory goodness at work in the relevant abductive inference, and that

we are not aware of making any such inference. Nonetheless, the abductivist will claim, it is an obvious fact that we have knowledge of the external world. And *the best explanation of that epistemic fact* is that our beliefs about the external world are conclusions of immensely complicated unconscious inferences to the best explanation of our perceptual experiences— inferences that begin from tacitly known premises about our perceptual experiences, and that follow hard-wired rules of abductive reasoning.¹² This explanation is not invalidated by the fact that it posits cognitive events and mechanisms of which we were not hitherto aware: positing unobservable events or mechanisms is just part of what good explanations typically do. Thus, the abductivist can appeal to an abductive inference in order to reply to all three of the main objections to abductivism.

The critic of abductivism might challenge the abductivist to specify the alleged unconscious inferences in our cognitive machinery. But I believe there is a problem with abductivism that no amount of cognitive science can fix. No matter what inferences the cognitive scientist discovers us to be making, those inferences cannot do the work that the abductivist needs them to do. Or so I'll argue here. More specifically, I'll argue that abductivism is bound to fail because it runs up against the problem of "the explanatory gap". The problem is not that our beliefs about the external world are not clearly the *best* explanation of our sensory data. The problem, rather, is that our beliefs about the external world *cannot provide any explanation at all* of our sensory data—at least not given the way in which the abductivist must conceive of our sensory data.

I can briefly outline the structure of the coming argument as follows: For a proposition *p* to serve as a statement of the abductivists's explanandum, it must meet these two conditions:

- (a) It is introspectively known to be true, and
- (b) It can be explained by a theory that comprises our beliefs about the external world.

I argue in section III below that if (a) obtains with regard to *p*, then thinking that *p* involves conceiving of the explanandum in such a way that there can't be any difference between how the explanandum is and how it appears. But, I go on to argue in section IV, "the explanatory gap" consists precisely in the fact no objective facts can explain any such explanandum. Thus, (a) and (b) are not jointly satisfiable with regard to any proposition, and no proposition can serve as a statement of the data in the abductivist's explanation.

In order to argue for this conclusion, I'll first have to provide an account of precisely what the abductivist is committed to. I'll do that in section III. I'll also have to provide an account of precisely what the problem of the explanatory gap is. I'll do that in section IV. But before undertaking either of those tasks, I'll first spend section II addressing a

concern that some devoted abductivists may have, namely, that abductivism is just plain common sense, and so no complicated philosophical argument could possibly serve to refute it.

II. Abductivism and Common Sense

The abductivist solution says that the best explanation of our having the perceptual experiences that we have is that the external world is roughly the way we believe it to be. This might seem to be mere common sense. When I look out my window at the ocean on a cloudy day, I have a certain visual experience, and the best explanation of my having that particular visual experience is not that I am being deceived by an evil genius, or that I am being electrochemically stimulated by neuroscientists. Rather, it is that I am looking out my window at the ocean on a cloudy day. Isn't this just common sense? Well, it depends upon what we mean when we speak of "visual experience", or more generally, of "perceptual experiences". On some interpretations of that term, it is just common sense to say that the best explanation of our having the perceptual experiences that we have is that the external world is roughly the way we believe it to be. But on those same interpretations, I'll argue, we can't have introspective knowledge of what our perceptual experiences are. On other interpretations of the term "perceptual experience", we can have introspective knowledge of what our perceptual experiences are. But on those same interpretations, common sense is silent on the issue of how to explain the occurrence of such experiences. Either way, the abductivist solution receives no support from common sense. I'll devote the present section to spelling out this argument. I should make it clear that I will *not* attempt to argue against abductivism in this section. The only conclusion that I will attempt to defend in this section is that abductivism is not mere common sense.

What do we mean when we speak of "perceptual experiences"? Could we mean to be denoting whatever things make true such sentences such as "I see the ocean", "she heard the doorbell", "he tasted the curry", and so on? These sentences all ascribe a certain kind of perceptual success to the subject. For me to see the ocean, the ocean must really be there. For her to hear the doorbell, the doorbell must really have rung, and so on. Such things then, don't satisfy the Cartesian constraint (3), i.e., that it is logically possible for our perceptual experiences to occur just as they do occur whether we are hallucinating or enjoying veridical perception. Could we then be using the term "perceptual experience" to mean whatever things make true such sentences as "the ocean looks blue to me", "the doorbell sounds broken to her", "the curry tasted good to him", and so on? Again, this won't do. For although such sentences do not ascribe perceptual success to the subject, they imply that she enjoys such success. For the ocean to look

blue to me, I must see the ocean, and so the ocean must really be there. For the doorbell to sound broken to her, she must hear the doorbell, and so the doorbell must really have rung, and so on. And so again, such things don't satisfy the Cartesian constraint (3).

It may seem that we can avoid these problems by agreeing to use the term "perceptual experiences" to mean whatever things make true such sentences as the following: "It looks to me as if there is a blue ocean before me", "it sounds to her as if a doorbell has rung", "it tastes to him as if there is curry here", etc.¹³ These sentences do not ascribe any perceptual success to the subject, nor do they imply that the subject enjoys such success. It can look to me as if there is a blue ocean before me even if there are no oceans, and no blue objects, anywhere. It can sound to her as if a doorbell has rung even if there are no doorbells anywhere. Are these the perceptual experiences of which the Cartesian speaks?

Here the answer is a bit more complicated. To use our introspective knowledge of our own perceptual experiences in reasoning to our beliefs about the external world, we must at least understand the premises of that reasoning: If we don't understand the premises of some bit of reasoning, then, whether that reasoning is conscious or not, we cannot be justified in believing the conclusion of that reasoning. Being justified in believing the conclusion of our reasoning requires at least that we understand the premises. In this case, understanding those premises requires understanding which perceptual experiences we're having. And if our understanding of which perceptual experiences we're having is captured in sentences of the form "it looks as if..." and "it sounds as if...", then the blanks in those sentence forms must be filled in using clauses that we understand. For if we don't understand the embedded clauses, then of course we won't understand the sentences that embed them. But if the sentences that result by filling in these blanks with those embedded clauses are *true*, then the embedded clauses express (at least some of) the content of the perceptual experiences mentioned by these sentences. That's just how the operators "it looks as if...", "it sounds as if..." are supposed to work: they function to attribute those perceptual experiences (at least part of) the content of which is expressed by the embedded clauses. And if we can understand the content expressed by the embedded clauses, then that content is conceptual.¹⁴ In short, if our perceptual experiences are the experiences that we ascribe to ourselves using such sentence forms as "it looks as if..." and "it sounds as if...", and we can use our knowledge of those premises in reasoning to justified beliefs about the external world, then those experiences must have at least some conceptual content (whether or not they also have any non-conceptual content). And this fact generates a problem for the present way of trying to understand the abductivist's use of the term "perceptual experiences".

To see what the problem is, consider the difference between what happens to me when I taste a 1995 Woodbridge Riesling and what happens

to an expert wine taster as she tastes the same wine. It tastes to her as if this is a 1995 Woodbridge Riesling, but it doesn't taste that way to me. It tastes to me as if I'm drinking white wine, or at best Riesling, but it doesn't taste to me as if I'm drinking 1995 Woodbridge Riesling, since I can't gustatorily discriminate 1995 Woodbridge Riesling from other Rieslings—probably not even from other white wines. My powers of gustatory discrimination are capable of improvement in this respect: I could come to acquire the relevant gustatory discriminatory power. But to acquire this power I would at least need to know what 1995 Woodbridge Riesling tastes like. And to know that fact is to know a contingent fact about the external world. So, in order for it to taste to me as if this is 1995 Woodbridge Riesling, I would have to know a contingent fact about the external world. But then from the premise "it tastes to me as if this is 1995 Woodbridge Riesling", I can deduce that 1995 Woodbridge Riesling tastes like *that* (ostending the same thing that I was ostending in the premise). And it is a contingent fact about the external world that 1995 Woodbridge Riesling tastes like that. Thus, if my knowledge of this premise were introspective, then I could use this bit of introspective knowledge to deduce a contingent conclusion about the external world. But recall that the abductivist is committed to denying the possibility of our having any knowledge of contingent facts of the external world solely on the basis of deduction from introspectively known premises. The abductivist is thereby committed to *not* using the term "perceptual experiences" to denote those things that make true sentences of the form "it looks as if . . .", "it sounds as if . . .", "it smells as if . . .", etc.¹⁵

The same problem affects various other proposals on behalf of the abductivist. Consider the proposal that the abductivist is using the term "perceptual experience" to denote those things that make true sentences of the form "this looks like . . .", "this sounds like . . .", and so on. This proposal runs into the same problem: what can look like what to me depends in part upon what I know about the external world. I cannot know that this looks like quartz unless I know what quartz looks like. I cannot know that this tastes like Kashkaval cheese unless I know what Kashkaval cheese tastes like. And so on.¹⁶

I propose the following admittedly controversial diagnosis of what's gone wrong in each of the last two proposals. In each case, we're trying to interpret "perceptual experience" as denoting mental events that have conceptual content. But what concepts a person has—and so what conceptual contents their mental events can have—depends in part upon what that person knows. And more specifically, it depends upon what she knows about the external things that she perceives. That, I suggest, is why conceptually contentful perceptual experiences cannot provide the basis for all of my knowledge of the external world.

But we need not accept this controversial diagnosis of what's gone wrong in the last two proposals in order to accept the general lesson of

the preceding survey of failed proposals. The general lesson of that survey was the following: the abductivist is *not* using the term “perceptual experiences” to denote those things that make true the sentences that we ordinarily use to ascribe perceptual states. (Either that is because the abductivist is using the term to denote things that cannot be ascribed in ordinary terms, or else it is because she is using the term to denote things that can be ascribed in ordinary terms only by means of sentences so complicated that they could not express the content of any of our ordinary beliefs.) And why should we have thought otherwise? Ordinary language is designed for ordinary purposes, and there’s no reason why we should expect philosophically interesting categories to be captured therein. Better for the abductivist not to worry about finding ordinary language that ascribes just the kinds of occurrences that she means to include in the extension of her term “perceptual experiences”. Let the abductivist pursue this strategy then.

But in that case her claim that the best explanation of our having the perceptual experiences that we have is that the external world is roughly the way we believe it to be is unmasked as something other than mere common sense. That claim seems to be mere common sense if we think that the abductivist is using the phrase “perceptual experience” to denote things that we ordinarily talk and think about. But now it turns out that the abductivist is best understood as using the phrase “perceptual experience” in a theoretical way. And if we have to use theoretical terms just to *state* the abductivist thesis, then abductivism cannot be mere common sense. Rather, it’s a philosophical thesis in need of defense. But, as I will argue in the next three sections, abductivism cannot receive the defense that it requires.

III. Appearance and Reality; Objectivity and Subjectivity

So far, the only thing that I have argued for is this: abductivism is not a piece of common sense, but rather a philosophical thesis in need of defense. Specifically, it is a philosophical attempt to solve the problem of Cartesian skepticism without rejecting any of the tenets of Cartesianism. In this section, I’ll begin to consider whether abductivism can actually work.

Let’s begin by trying to figure out why the abductivist, or anyone else for that matter, is concerned to solve the problem of Cartesian skepticism. Why not just give up one or more of the Cartesian tenets that generate that skeptical problem? Why should anyone be willing to endorse the tenets of Cartesianism in the first place? Evidently, Cartesianism has seemed plausible to many generations of philosophers, and there must be a reason why it has seemed so. In this section, I will suggest an explanation of the plausibility of Cartesianism. I will do so in order to show what it is that the Cartesian must want from a solution to the problem of Cartesian

skepticism. It will eventually turn out that what the Cartesian must want from such a solution is something that the abductivist cannot give her.

I will suggest here that the best explanation for the fact that a philosopher finds Cartesianism plausible is that she accepts certain philosophical assumptions (to be specified below). I take it that the abductivist finds Cartesianism plausible, else why would she be committed to solving the problem of Cartesian skepticism without rejecting any of the tenets of Cartesianism? And so, I conclude that the abductivist accepts the philosophical assumptions at issue. I will now begin to spell out just what these assumptions are.

Cartesianism tells a particular story about what gives us knowledge of the external world. This story says that our knowledge of the external world is inferentially justified by our introspective knowledge of our own perceptual experiences, whereas our introspective knowledge of our own perceptual experiences is not inferentially justified by anything else. But what explanation can the Cartesian offer for the putative fact that there is this difference between our epistemic access to the external world and our epistemic access to our own perceptual experiences? If our knowledge of the external world is inferential, then why, according to the Cartesian, isn't our introspective knowledge of our own perceptual experiences *also* inferential? If I can have non-inferential knowledge of my own perceptual experiences, then why can't I also have non-inferential knowledge of the tables and chairs around me?

To answer these questions, let's begin by noting that there's a sense in which the external world can vary independently of any variation in how it appears to us. The sense in which it "can" so vary is the following. Let S's belief that p be a belief about some contingent fact of the external world. Then, normally, "p" does not imply "it appears to S as if p", nor does the latter imply the former. To illustrate, consider the following two lists:

John is running down the street	It appears to me as if John is running down the street
I have hands	It appears to Sally as if I have hands
There is a tree in the backyard	It appears to Harry as if there is a tree in the backyard

None of the propositions expressed in the first list implies the corresponding proposition in the second list, nor do any of the propositions expressed in the second list imply the corresponding proposition in the first list. We might put this point by saying that external things are "objective": how they are is logically independent of how they appear.

But this way of putting things is not entirely clear. For what do we mean when we speak of how external things "are", as opposed to how they "appear"? Suppose there is a tomato in front of me. There are lots of true

propositions about the tomato. For instance, it's true that the tomato is red. It's also true that the tomato looks red, whether or not there's any observer around for it to look red to. And it's also true that the tomato looks red to me now. Intuitively, the first of these three propositions counts as fact about how the tomato is. But does the second proposition count as a fact about how the tomato is, or how it appears? And if the third proposition counts as a fact about how the tomato appears, then why doesn't it also count as a fact about how the tomato *is*? How do we draw the reality/appearance distinction with respect to the tomato, or with respect to external things in general?

Any way of drawing the distinction is going to involve a lot of complexity. To illustrate, suppose we pick this simple way of drawing the distinction: a proposition about how a thing *x* *appears* is a proposition expressed by a statement of the form "it appears to *S* as if *p*", where "*p*" expresses a proposition about *x*. (I can spell out what I mean by saying that "*p*" expresses a proposition *about x* as follows: "*p*" is a clause that contains a term referring to *x* in referentially transparent position and in logically ineliminable occurrence.) If this is how we demarcate the class of propositions concerning how things appear, then it seems that some propositions about how external things *are* do imply propositions about how they appear. For instance, consider the proposition "the tomato is seen by me to be red". Given how we've just chosen to explicate the appearance/reality distinction, this does not count as a proposition about how the tomato appears. But it implies that the tomato appears red to me. So this is a case in which a proposition about how an external thing is implies a proposition about how it appears. Any attempt to draw the appearance/reality distinction in such a way as to sustain our claim that external things are objective is going to be complicated.

Still, there is obviously *some* truth to the claim that external things are objective. What the last two paragraphs have shown is that it's not entirely clear how to spell out the truth in this claim in a precise and yet general way. But for purposes of this paper, this doesn't matter very much. Rather than fix on a precise way of specifying the truth in the claim that external things are objective, I propose that we rest content with the following vague claim: the propositions that we *normally* entertain about how external things are do not logically imply any of the propositions that we *normally* entertain about how they appear to us, or vice-versa. Rather than say that external things are "objective", we will instead say that we normally "*conceive of them objectively*", i.e., we entertain propositions about how they are which do not entail any propositions about how they appear to us, and vice-versa. I will henceforth use the term "objective" to refer to this feature of our way of thinking about external things. To put the point in terms provided by Williamson 2000: normally, when we think about external things, we are not cognitively "at home".¹⁷

To say that we conceive of external things objectively is then to say at least this much: it is conceivable for us that external things are not the way that they appear to us to be. But then, in order for us to have knowledge of the external world, it may seem that we must have some epistemic basis for preferring our actual beliefs about the external world to alternative hypotheses on which the external world is not the way that it appears to us to be. (I say *it may seem* this way because I do not want to be committed to its actually being this way. I will return to this point in the last section, when I attempt to locate the error in the present line of thinking.) The abductivist appeals to abductive inference to provide such a basis: we have an epistemic basis to prefer our actual beliefs about the external world to alternative hypotheses because the contents of our actual beliefs provide a better explanation of our perceptual experience than do the contents of the alternative hypotheses.

There is a role for abductive inference to play here only because our beliefs about external things involve our conceiving of external things objectively. In contrast—according to the Cartesian—we do not conceive of our perceptual experiences objectively. In other words, on the Cartesian view, the following is not conceivable: our own perceptual experiences are not the way they appear to be.¹⁸ Knowing how our perceptual experiences appear to us is not a different state than knowing how they are, assuming that it even makes sense to speak of their “appearing” to us at all. And so there is no conceivable skeptical hypothesis that is such that we need to have some epistemic basis to disprefer it to our actual introspective beliefs in order for us to have introspective knowledge of our own perceptual experiences.¹⁹ Thus, although the abductivist takes herself to have a reason to appeal to abductive inference to explain our knowledge of the external world, she cannot have that same reason to appeal to abductive inference to explain our introspective knowledge of our own perceptual experiences. Absent some other reason to appeal to inference in order to explain our introspective knowledge of our own perceptual experiences, the abductivist has no reason to claim that our introspective knowledge of them is inferential.²⁰

Thus, on my interpretation, the abductivist thinks of the difference between our epistemic access to the external world and our epistemic access to our own perceptual experience as resulting from the following two facts. First, when we form our beliefs about external things on the basis of perception, we conceive of those things objectively. In other words, our perceptual beliefs about how they are don’t imply any of the propositions that we normally entertain about how they appear, or vice-versa. In contrast, when we form our beliefs about our own perceptual experiences on the basis of introspection, we do not conceive of those experiences objectively. To mark this difference, I’ll say that we normally conceive of our perceptual experiences “subjectively”.²¹ Or, to adopt once again the vocabulary of

Williamson 2000, when we think about our perceptual experiences, we are cognitively “at home”.

I do not say that the abductivist *must* claim all this. It would not be *inconsistent* with the basic tenets of abductivism to give an alternative answer to the question of what it is that accounts for the difference between our epistemic access to external things and our epistemic access to our own perceptual experiences. But what alternative is there? Since I don’t know of any plausible answer to this question, I take it that the abductivist accepts the view that I have attributed to her.

In this section, I have offered an interpretation of the abductivist’s philosophical motivations, and this interpretation will be crucial to my argument against abductivism. For what my argument will show is that, given this motivation, there is no abductive argument that can do what the abductivist wants it to do: there is no abductive argument that can solve the problem of Cartesian skepticism. That is precisely what I go on to argue in section IV.

IV. The Explanatory Gap (between Objectively Conceived Causes and Subjectively Conceived Effects)

On my interpretation, the abductivist claims that the difference between our epistemic access to the external world and our epistemic access to our own perceptual experience results from the following fact: we conceive of external things objectively (so that there is a possible gap between how they appear and how they are), but we conceive of our own perceptual experiences subjectively (so that there is no such possible gap). The abductivist also claims that the contents of our beliefs about the external world provide a better explanation of our own perceptual experiences than do the contents of various conceivable skeptical hypotheses. *A fortiori*, the abductivist is committed to claiming that the content of our beliefs about the external world provides *some* explanation of our own perceptual experiences. In this section, I will argue that the abductivist cannot consistently claim all of this. And the reason that she cannot consistently claim all of this has to do with what philosophers of mind have called “the explanatory gap”. In spelling out this argument, I will have to spell out what I take the explanatory gap to be. In order to do this, let’s begin with some general and familiar points about the nature of explanation.

Note that there may be many ways to explain the same effect. This is partly because the same effect may have many different causes. But it is also partly because we can ask many different questions about the same effect. For instance, say that the hurricane knocked down the house. Now we may ask different “why?” questions about the effect, the knocking down of the house. For instance, “why did the hurricane knock down

the house (as opposed to the tent)?” or “why did the hurricane knock down the house (as opposed to lifting it up into the air)?” Each of these questions requires a different answer than the other, but each of these answers is an explanation of the same effect, namely, the knocking down of the house.²²

So we can ask different “why” questions about the same effect. But one specific way in which “why?” questions about the same effect can differ is that they can involve different ways of conceiving of that effect. Thus, I might conceive of a particular effect as *Jones’s* sitting down, or as the tallest person in the room sitting down. Then, I might ask “why did Jones sit down?”, and the answer to this question does not, by itself, answer the question “why did the tallest person in the room sit down?” To answer the latter question, we should at least have to add this bit of information to our answer to the former question: that Jones *is* the tallest person in the room. To explain an effect is always to explain it *as conceived in one or another way*.²³

Now what does all this have to do with abductivism? The abductivist claims that the contents of our beliefs about the external world collectively constitute an explanation of our perceptual experiences. But the premises of the abductivist’s inference—the statements of the effects to be explained by the abductive inference—are all supposed to be known by introspection. Thus, the abductivist is committed to claiming that the content of our beliefs about the external world can explain our perceptual experiences *as conceived by introspection*. Now, we have already said (in section III) that we introspectively conceive of our perceptual experiences subjectively. But can we explain our perceptual experiences *so conceived*?

Keep in mind what such an explanation would involve. If our perceptual experiences were non-physical phenomena, then it would be quite mysterious how they could be explained by appeal to contingent facts about the external world. The abductivist should not, then, allow that our perceptual experiences are non-physical phenomena. So let’s grant, for the sake of argument, that our perceptual experiences are physical phenomena, and let’s also grant, for the sake of argument, that we know how to explain those physical phenomena. This still wouldn’t be the kind of explanation that the abductivist needs. For recall, the kind of explanation that the abductivist needs is an explanation of perceptual experiences conceived in such a way that there can’t conceivably be any difference between their actually being that way and their merely appearing to be that way. That is, the abductivist needs an explanation of perceptual experiences conceived *subjectively*.

Is it possible to give an explanation of phenomena *so conceived*?²⁴ According to the Cartesian, our knowledge of the explanans propositions of our explanation is *inferential* knowledge: we gain knowledge of the external world *only* by means of inference to the best explanation of our

perceptual experience. If we were to conceive of our explanans (i.e., the external world) subjectively, then we should be able to know our explanans non-inferentially, just as know our explanandum (i.e., our perceptual experiences) non-inferentially. Since the Cartesian claims that we cannot know our explanans non-inferentially, she is committed (on the interpretation that I've advanced in section III above) to claiming that we do not conceive of our explanans subjectively. Thus, we must conceive of our explanans objectively. That is, we conceive of our explanans (i.e., the external world) in such a way that there is a potential gap between how it appears and how it is, although we conceive of our explanandum (i.e., our perceptual experiences) in such a way that there is no such potential gap. But now we must ask: *is it possible to explain a subjectively conceived effect by appeal to an objectively conceived cause?*

Let's consider what light can be shed on this question by contemporary philosophical accounts of explanation. There are many different accounts available, but most of these accounts fall into two broad schools of thought: according to one school, explanation involves locating effects within causal processes;²⁵ according to the other school, explanation involves unification of natural phenomena.²⁶ (I leave aside, for the moment, the old Hempelian account of explanation, according to which explanations are arguments.²⁷ In section V, I will consider an objection to the present line of argument, an objection which appeals to such Hempelian accounts of explanation.) On the "causalist" account, explanation involves conceiving of the explanandum as a part of a causal process in nature; on the "unificationist" account, it involves conceiving of the explanandum in a hierarchy of more or less general regularities in nature. But on either account, to explain an explanandum involves conceiving of that explanandum as part of a process or a regularity that is *objectively conceived*. That is, we conceive of how the process or the regularity is in such a way as to imply nothing about how it appears to us, or vice-versa.

To locate an explanandum within an objectively conceived order of processes or regularities involves conceiving of that explanandum objectively. And this is something that we do not do when we conceive of that explanandum subjectively, e.g., through introspection. We can conceive of something objectively or we can conceive of it subjectively, but these are necessarily different ways of conceiving of that thing. Explanation, I've just argued, necessarily involves conceiving of the explanandum objectively; introspection, according to the abductivist, involves conceiving of it subjectively. So, while we can explain a phenomenon objectively conceived, we cannot explain that same phenomenon introspectively (i.e., subjectively) conceived. If the phenomena that we conceive of subjectively are identical to phenomena that we conceive of objectively, then we can explain those same phenomena conceived of objectively. But we cannot introspectively know those phenomena under their objective description, and so the

truths that we explain are not identical with the truths that we introspectively know. This seems to me to be the best way of spelling out the point that recent philosophers of mind have been gesturing at when they speak of the “explanatory gap”.²⁸ Thus, I will say that the explanatory gap results from the impossibility of explaining phenomena subjectively conceived.

This argument against the abductivist should immediately provoke the following objections:

Objection 1. If that’s what the explanatory gap is, then it should be easy to overcome it. If we already have an explanation of our phenomenon objectively conceived, then we can simply conjoin to our explanans the claim that the phenomenon objectively conceived (as, say, the firing of C-fibers) is identical to the phenomenon subjectively conceived (as, say, this particular quale). Won’t that give us an explanation of the phenomenon subjectively conceived?

Reply. Conjoining our explanans with the identity claim in question will give us the desired explanation only if the “explanatoriness” of our explanans is preserved by conjoining the identity claim. *But conjoining an identity claim will preserve explanatoriness only if we can understand how that identity claim could itself be true.* If we take a perfectly good explanans, and conjoin it with a completely baffling identity claim (e.g. aluminum is identical to little purple dinosaurs), then the resulting conjunction is no longer explanatory. Now what’s involved in understanding how an identity claim can be true? For us to understand how it can be true that water is identical to H₂O, we need to understand how it is that H₂O can produce the characteristic appearances of water. For us to understand how it can be true that temperature of a gas is identical to its mean molecular kinetic energy, we need to understand how it is that mean molecular kinetic energy can produce the characteristic appearances of temperature in a gas. Analogously, for us to understand how a particular phenomenon objectively conceived (as, say, the firing of C-fibers) could be identical to a particular phenomenon subjectively conceived (as, say, a particular quale), we would have to understand how the phenomenon objectively conceived could give rise to the appearances of the phenomenon subjectively conceived. Why does the firing of C-fibers feel that way, rather than some other way? Why does eating a peach produce that taste sensation, rather than some other?²⁹ But, by the argument just given, these are questions that we cannot answer—at least, not if feels and sensations are subjectively conceived (so that there can be no gap between how they appear and how they are). We cannot have an explanation of appearances so conceived, because explanation involves conceiving of its explanandum objectively, whereas we conceive of appearances subjectively when we conceive of them *as appearances*.

Objection 2. It may be objected that I have been placing unreasonably high demands on explanation.³⁰ Suppose that we have a perfectly good causal explanation of all of our neurochemical activity, and furthermore we somehow come to know that certain neurochemical processes constitute, or are identical with, certain perceptual experiences. Wouldn't this supply us with a perfectly adequate explanation of our perceptual experiences? Couldn't a perfectly adequate explanation appeal to constitutive claims or identity claims which are such that we do not understand how they could be true? Couldn't there be some mechanisms—however mysterious they may be to us—whereby certain neurochemical processes produce one perceptual experience rather than another? And couldn't we somehow come to know what those mechanisms are? Maybe God tells us about them.

Reply. I leave it open, for the sake of argument, that this is possible. Maybe God will one day reveal to us the mechanisms whereby certain neurochemical processes produce certain perceptual experiences, and then we will know the correct answer to the question "why do we have these perceptual experiences, rather than some others?" But notice that, in the scenario that I've just described, we gain knowledge of these mechanisms in some way *other than* by inference to the best explanation of our perceptual experiences. The explanatory virtues of the divinely-revealed causal story are not what justify us in believing that causal story, for by hypothesis that causal story *has no explanatory virtues*. If we come to know the truth of that causal story, our knowledge cannot be acquired by inference to the best explanation. And so, even if there is a true and knowable story about how our perceptual experiences (subjectively conceived) are produced by our neurochemical processes (objectively conceived), our knowledge of this story—our justification for believing it—cannot be based on abductive inference. And so this possibility is, once again, of no help to the abductivist.

Objection 3. It may be objected that the problem that I'm raising for the abductivist is really a problem for any explanation whatsoever, and so not really a problem at all. Whenever we explain any phenomenon, our explanation will itself invite further "why?" questions that we don't know how to answer. When Newton explained the motions of the planets by appeal to gravity, he was positing one mystery (gravity) to explain another (celestial and terrestrial motions). When Darwin explained the origin of species by appeal to natural selection, he was positing one mystery (the heritability of traits) to explain another (the origin of species). How is the abductivist's proposed explanation any worse than Newton's or Darwin's?

Reply. I am *not* claiming that the abductivist's "explanation" invites further "why?" questions that we don't know how to answer. That much is of

course true of many excellent explanations. Rather, I am claiming that the abductivist's "explanation" is not an explanation at all, because it doesn't locate its subjectively conceived explanandum within any objectively conceived explanans (be it a causal process or a natural regularity). While Newton left us with plenty of questions about gravity, at least he gave us the inverse square law of gravitational attraction, thereby locating the effects of gravity within an objectively conceived order. While Darwin left us with plenty of questions about the mechanisms of heritability and of variation, at least he gave us reason to predict that heritability and variation would alter species, and thereby located the effects of heritability and variation within an objectively conceived order. For the abductivist to do something analogous, she'd have to locate our subjectively conceived perceptual experiences within an objectively conceived order. But that's exactly what she cannot do, *while she conceives of those experiences subjectively*. And if she conceives of them objectively instead, then she can't know them introspectively under that description. Either way, she can't explain the very same truths that she introspectively knows. She can explain one set of truths. She can introspectively know another set of truths. But she cannot explain the same truths that she introspectively knows.

Objection 4. Apart from what philosophers tell us about the nature of explanation, aren't there obviously good explanations of our introspectible experiences? To illustrate: I am now feeling nervous *because* I just had a mental image of falling from a great height. Isn't this a perfectly good explanation, whether or not it fits into the mold described by any of the current philosophical accounts of explanation? If it is a perfectly good explanation (as it seems to be), then doesn't this tell against my "explanatory gap" argument against abductivism?

Reply. In the example that I've just described, either my knowledge of the explanans is inferential knowledge or it is not. If it is inferential knowledge (gained, say, through some form of psychological theorizing about myself), then I am not conceiving of the explanans subjectively, and the explanans can appear to be other than it is: my inference could have led me to the wrong conclusion. If it is not inferential knowledge (if, say, it is gained directly through introspection), then I am conceiving of the explanans subjectively, and the explanans cannot appear to be other than it is. Either way, I am not bridging the gap between subjectively conceived explanandum and objectively conceived explanans by appeal to inference to the best explanation. And so the perfectly good explanation above cannot serve as a model for the kind of explanation that the abductivist needs to offer: an explanation in which a subjectively conceived explanandum is explained by appeal to an objectively conceived explanans.

Here's a modification of the case just described: I acquire knowledge of the explanans inferentially at first, and then I am able to retain that knowledge introspectively, since my powers of introspection are improved by the initial inference. In this modified case, the abductivist story still cannot be right about either stage of the process. In the first stage, I conceive of the explanans objectively. If, however, I conceive of the explanandum subjectively, then my initial knowledge of the explanans cannot be based on inference to the best explanation, but must be gained by means of some other inference. In the second stage, my knowledge of the explanans is non-inferential. Either way, my knowledge of the explanans is not based on inference to the best explanation. And so this new case also cannot be of any use to the abductivist.

Objection 5. If explanation is contrastive, then there's a difference between explaining why I'm having this experience *now* (as opposed to some other time) and explaining why I'm now having *this experience* (as opposed to some other experience). Even if the explanatory gap argument shows that the second kind of explanation is impossible, it still doesn't show that the first kind of explanation is impossible.³¹

Reply. We can grant this, but it doesn't help the abductivist. For it shows only that the abductivist can appeal to hypotheses about the external world in order to explain why our experiences happen at the times at which they happen. It doesn't show that the abductivist can appeal to hypotheses about the external world in order to explain anything else about our experiences. But if *all* that the abductivist seeks to explain is why our experiences happen at the times at which they happen, and there's nothing else about our experiences that the abductivist seeks to explain, then the abductivist's explanandum obviously massively underdetermines her explanans. In fact, the situation is even worse than this. For according to the present objection, the fact that we have perceptual experiences *with various intrinsic qualities* is completely irrelevant to what the abductivist seeks to explain. The abductivist's explanandum could just as easily be stated as follows: "something is happening *now* (ostending a particular moment), and something else is happening *now* (ostending a later moment), and something else is happening *now* (ostending a still later moment)," and so on. If that's all that we want to explain, then we could explain it in countless different ways, and without resorting to all the explanatorily useless detail of our beliefs about the external world. Most of our beliefs about the external world would turn out to be explanatorily useless if this were all that the abductivist sought to explain.

Of course, the explanatory gap, as I have described it, is a gap that obtains only between phenomena objectively conceived and phenomena subjectively conceived. I have assumed that there are some phenomena of

which we can conceive subjectively, but I have made this assumption only because, as I argued in section III, this assumption is part of the only motivation to be a Cartesian, and so I infer that the Cartesian must be committed to this assumption. And I have granted this assumption to the Cartesian for the sake of argument. Now, I don't see any compelling reason to believe that there are phenomena of which we can conceive subjectively (as I've defined the phrase above), and so I don't see any reason to think that there is any real explanatory gap. Nevertheless, I shall not try to argue for that controversial claim here. For now, my conclusion is just this: *if* the Cartesian's assumptions are granted, *then* there is an explanatory gap. But *if* there is an explanatory gap, *then* the abductivist solution to Cartesian skepticism won't work. In sum, if the Cartesian's assumptions are granted, then the abductivist solution won't work. And so abductivism cannot do the work that it was designed to do—namely, to solve the problem of Cartesian skepticism without rejecting any of the tenets of Cartesianism.

V. Can the Abductivist Avoid the Problem of the Explanatory Gap?

Here is a summary of my argument so far:

For a proposition *p* to serve as a statement of the data to be explained by the abductivist's explanation, it has to meet at least these two conditions:

- (a) It is introspectively known to be true, and
- (b) It can be explained by a theory that comprises our beliefs about the external world.

But if (a) obtains with regard to *p*, then thinking that *p* involves conceiving of an effect subjectively, and so there's an explanatory gap between *p* and our beliefs about the external world. Thus, (a) and (b) are not jointly satisfiable with regard to any proposition, and no proposition can serve as a statement of the data in the abductivist's explanation. Thus, no abductive inference can do what the abductivist needs for it to do.

There are two ways in which the abductivist may wish to avoid the problem posed by this argument. Let's consider each of them in turn:

(1) It may seem that the abductivist can bypass the problem of the explanatory gap by adopting an alternative account of explanation, an account according to which for a theory to explain some data is just for that data to be inferable from the theory. How might this help the abductivist? It might help if the abductivist claims that our theory of the external world includes not just propositions about contingent features of that world, but also bridge principles connecting features of the external world with subjectively conceived features of our perceptual experience. These

bridge principles would state that certain features of the external world cause the occurrence of such-and-such perceptual experiences, subjectively conceived. The total theory that comprised such bridge principles, along with other claims about the external world, might be thought to explain our introspectively known data by virtue of entailing or probabilifying the content of that introspective knowledge. Thus, the abductivist might claim to have constructed a schema for a theory of the external world that explains our perceptual experiences, subjectively conceived.

Let's set aside whatever worries we might have about this inferentialist account of explanation, and ask whether, granting such an account of explanation, this maneuver can save the abductivist. It may at first seem that it can't, since, by varying our theory of the external world and making compensating adjustments in our bridge principles, this very same maneuver can be employed to construct infinitely many mutually incompatible explanations of the same body of introspected data. And since the abductivist claims that our only source of evidence about the external world is our introspected data, she cannot appeal to any other evidence to favor any one of these theories to any other. But this is just to level at the abductivist the general problem of underdetermination of theory by data, and that seems unfair since the underdetermination problem is everyone's problem.

Or is it? We normally avoid the underdetermination problem in our explanatory practice by appealing to non-evidential standards of explanatory goodness (e.g., simplicity, elegance, plausibility) to favor one explanation over empirically equivalent alternative explanations. Can the abductivist avail herself of this strategy? In order to answer this question, let's recall the familiar point that the application of such non-evidential standards in comparing theories may produce different results depending upon our choice of primitive vocabulary.³² Let T1 and T2 be two empirically equivalent and empirically adequate theories that differ in their ontology: T1 posits stuffs but not objects, whereas T2 posits objects but not stuffs. And let C1 and C2 be two scientific communities. C1 has a primitive vocabulary that includes no referring devices other than mass nouns. Since the scientists of C1 do not employ logically primitive referring devices, they tend to be not so much interested in minimizing their ontological commitments as in minimizing the number of logically independent principles of their theories. C2, on the other hand, has a primitive vocabulary that includes no referring devices other than count nouns. The scientists of C2 are not so much interested in minimizing the number of logically independent principles of their theories as they are in minimizing their ontological commitments. In this case, the scientists of C1 might be entitled to regard T1 as simpler, more elegant, or more parsimonious than T2, whereas the scientists of C2 might be entitled to regard T2 as simpler, more elegant, or more parsimonious than T1. In general, which of two empirically equivalent theories we are entitled to regard as better than

which other depends upon which primitive vocabulary we use, and which non-empirical virtues we look for in a theory. Thus, if the abductivist says that our theory of the external world enjoys non-evidentiary advantages over those empirically equivalent alternative theories, she is committed to using her own primitive vocabulary in applying non-evidentiary standards to our theory of the external world.

Now, when we use certain terms in thinking or speaking, we presuppose that those terms are meaningful. But most of the terms that we use have the following property: they can have a certain meaning only if the non-linguistic world is a certain way. For instance, when we use a term “F” as a count noun, we presuppose the coherence of certain principles of identity and individuation for F’s. When we use a term “D” as a demonstrative, we presuppose the existence of D. And when we use a substance term X, we presuppose that there is an essence common to various samples to which the term “X” applies. If we discover that these presuppositions are false, then we must either stop using the terms in question or else use them in a different way (e.g., use the term in question as a mass noun rather than a count noun, or as a description rather than a name, etc.).³³ Thus, when we use certain terms in theorizing, or in appraising our theories, we presuppose that the world is the way that it would have to be in order for those terms to mean what we are trying to mean by them.

Now, as I said above, if the abductivist appeals to non-evidentiary standards of explanatory goodness to favor our theory of the external world over its alternatives, she is committed to using her own primitive vocabulary in the application of those standards. But using the terms of her primitive vocabulary involves presupposing that the non-linguistic world is just the way that it would have to be in order for those terms to mean what she’s trying to mean by them. Is the abductivist entitled to presuppose that the non-linguistic world is this way?³⁴ Since the abductivist is committed to regarding all our knowledge of the external world as inferentially justified by our introspective knowledge, she cannot, by her own lights, justifiably commit herself to presuppositions about the external world unless those presuppositions are themselves inferentially justified by her introspective knowledge. But we have already granted that her introspective knowledge, by itself, cannot justify any one theory of the external world over the infinitely many alternatives to it that equally well entail or probabilify the content of that introspective knowledge. Thus, the abductivist cannot appeal to non-evidentiary standards of explanatory goodness to favor our theory of the external world over its alternatives. And so she is committed to claiming that we have no epistemic basis to favor our actual beliefs about the external world over the infinitely many incompatible alternatives to it. We normally avoid the underdetermination problem in our scientific practice by relying on what we take to be our background knowledge of the external world, but this is precisely what the abductivist cannot do.

Can the abductivist avoid the underdetermination problem by claiming that these various explanations are only *apparently* incompatible, and that their empirical equivalence reveals that they are actually just different ways of saying the same thing? This reply implies that empirically equivalent explanations are also semantically equivalent. Now, for two explanations to be empirically equivalent is for them to have all the same implications for our experience. And since our explanations posit an external world to explain our experiences, for two of these explanations to be semantically equivalent is at least for them to have all the same implications about the external world. Thus, the present reply assumes that explanations that have all the same implications for our experience have all the same implications for the way the external world is. But how could this be? Part of what makes external things *external* is just the fact that we can correctly conceive of them objectively, i.e., we can conceive of how they are in such a way as to leave it logically open how they appear to us in our experience. So the proponent of the present reply must give up the very idea that the explanations in question posit an *external* world at all. This is incompatible with Cartesianism generally, and so incompatible with abductivism specifically.

(2) The abductivist might attempt to avoid the problem of the explanatory gap by claiming that what has to be explained by the external world hypothesis are not our introspectible data, but rather *patterns* in our introspectible data. These patterns cannot be discerned solely by introspection, but only with the help of memory. That's because we must rely on memory of past introspectible data in order to discern the diachronic patterns in such data. And so the patterns to be explained by the external world hypothesis are patterns known only by the combined use of introspection and memory. Thus, the data to be explained needn't be introspectible. On this proposal, the abductivist isn't committed to there being any facts that jointly satisfy (a) and (b), since she's given up on (a). And so the preceding argument is ineffective against this new kind of abductivism.

Now let's ask the proponent of this new kind of abductivism the following question: can facts about one's own experiential past vary independently of how they now appear? For instance, can it now appear to you as if you had a particular experience yesterday, whether or not you actually did? Obviously, it can: we are frequently subject to illusory memories concerning our own experiential past. It now seems to me as if I enjoyed the taste of a Merlot yesterday, and it can seem this way to me even if I had a cold yesterday and so was unable to enjoy any gustatory experiences at all. So we conceive of our experiential past objectively. More generally, we conceive of the past objectively. Since, as we saw in section III, such objectivity in our way of conceiving of external things is what gives the Cartesian grounds for claiming that our knowledge of the external world is

inferential, it should equally well give her grounds for claiming that our memory knowledge is inferential.

But then by what kind of inference are our memory-based beliefs justified? What are the premises of that inference, and what is the rule of inference? If the premises of the relevant inference are themselves known by memory, then we can raise the same question about how we have memory knowledge of them. If memory knowledge of our own experiential past is inferential, then there must be some memory knowledge that is not justified by inference from other memory knowledge, but is rather justified by inference from non-memory knowledge. But the inference in question cannot be deductive, since what we can know about the present without the help of memory does not entail any contingent facts about the past. Again, the inference in question cannot be inductive: for us to inductively infer anything about the past from what we can know about the present without the help of memory, we would need to know something about the correlation between past and present facts. But we cannot have such knowledge without already having some memory knowledge. So the same considerations that led the abductivist to say that our knowledge of the external world is abductive might now lead us to say that our memory knowledge is abductive.³⁵

But now the abductivist has not avoided the problem of the explanatory gap: she has only relocated it. For now she is committed to the claim that there are good abductive inferences from introspectively known premises to conclusions about the past. The premises of such inferences must state facts that satisfy constraints (a) and (b) above. But recall the argument of the previous section: the problem of the explanatory gap implies that no fact can satisfy (a) and (b) simultaneously. And so there can be no good abductive inferences from introspectively known premises to conclusions about the past. Our memory knowledge is not abductive.³⁶ And so the present attempt to rescue abductivism from the problem of the explanatory gap fails. There is, it now seems, no way to save abductivism from the problem of the explanatory gap.

VI. Conclusion

It turns out to be no accident that the abductivist cannot spell out in any detail the abductive inferences to which she appeals: it is impossible for any inferences to satisfy the constraints that the abductivist needs them to satisfy. Abductivism can't solve the problem of Cartesian skepticism.

But then how to solve the problem? The solution becomes clear if we draw a lesson from the discussion of memory knowledge in section V. We argued that memory knowledge cannot be deductively, inductively, or abductively justified by appeal to non-memory knowledge. In fact, it is

utterly implausible to suppose that memory knowledge is inferential. Why should we have thought otherwise? Recall that we were led to think of memory knowledge as inferential by noticing that we conceive of the past objectively. If this is the case, then isn't it a requirement of having memory knowledge at all that we be able, without appealing to any other memory knowledge, to rule out conceivable skeptical hypotheses about the past? If the answer to this question were "yes", then we couldn't have any memory knowledge whatsoever. If we have any memory knowledge, then our knowledge of how things are, objectively conceived, needn't be inferential.

But if that's the case, then there is something wrong with the line of thinking that makes Cartesianism plausible. Recall from section III, that line of thinking goes as follows:

It is conceivable that the external world is not the way it appears to be, but it is not conceivable that our own perceptual experiences are not the way they appear to be. So, in order for us to have knowledge of the external world, we must have some epistemic basis for preferring our actual beliefs about the external world to alternative hypotheses on which the external world is not the way it appears to be. But this is not something that we must have in order to have knowledge of our own perceptual experiences. Thus, our knowledge of our own perceptual experiences can be non-inferential, but our knowledge of the external world can only be inferential.

But we can consistently accept the premises of this reasoning without accepting the conclusion. This is just what epistemological externalists typically do: they reject the conclusion of this argument on the grounds that our epistemic basis for preferring our actual beliefs about the external world to alternative hypotheses is not an argument that we have available to us, but is rather some fact about us (say, about the reliability of our belief-forming processes, or about the counterfactual co-variation of our beliefs with the facts) of which we needn't be aware.

The point for now is that the line of thinking that makes Cartesianism plausible is not compelling. (I have elsewhere addressed the diagnostic question why has it seemed compelling to so many generations of philosophers.³⁷) Cartesianism creates an insoluble skeptical problem, but there's no good reason to accept Cartesianism, and so no good reason to undertake the futile task of solving that problem. In short, the non-skeptical solution to the problem of Cartesian skepticism lies in rejecting Cartesianism altogether, and allowing that our knowledge of the external world can be as non-inferential as our introspective knowledge. We can have non-inferential knowledge even when we conceive of the objects of our knowledge objectively, i.e., even when we are not cognitively "at home".³⁸ We can have direct knowledge of a world that can appear to be other than it is.³⁹

Notes

1. I treat this as a *definition* of “Cartesianism” in order to avoid interesting but difficult issues concerning the correct interpretation of Descartes, or of his influence upon subsequent epistemology. Of course Descartes thought that we could have knowledge of extended substance by deduction from first principles, but then we could only know the necessary features of extended substances not its contingent features. Such issues are not relevant for present purposes.
2. It may be thought that this claim was refuted when Kripke 1980 showed that we have *a priori* knowledge of contingent facts (e.g., the length of the meter stick). But this is not true. To have the *a priori* knowledge that Kripke describes, we must already have various bits of *a posteriori* knowledge (e.g., that a particular stick has been established as the standard meter).
3. A worry: It may seem that perceptual experience A can be “the same” as perceptual experience B only if there are principles of identity for perceptual experiences. But what are these principles of identity? I will not attempt to answer this question on behalf of the Cartesian; it is her problem and not mine.
4. Henceforth, I will speak of our epistemic relations to the external world when I mean to indicate our epistemic relation to *the contingent facts* of the external world.
5. For a classic statement of the preceding argument, see Ayer 1956.
6. See van Fraassen 1980, Hacking 1982, Cartwright 1983, van Fraassen 1983. For a defense of inference to the best explanation, see Lipton 1991.
7. One or another version of abductivism is propounded in Brandt 1955, Ayer 1956, Russell 1959, Mackie 1969, Slote 1970, Harman 1973, Jackson 1977, Cornman 1980, Watkins 1984, BonJour 1985, Goldman 1988, Moser 1989, Vogel 1990, and BonJour 1999.
8. The abductivist should not be confused with Quine 1960, Sellars 1963b, or Lycan 1988, all of whom she superficially resembles. Quine takes all our knowledge of physical objects to be abductively achieved, but he also takes our knowledge of our own perceptual experiences to be abductively achieved. And so, unlike the abductivist, Quine rejects the basic tenets of Cartesianism. Sellars and Lycan take much of our knowledge of physical objects to be abductively achieved, but accept that not all such knowledge is so achieved.
9. See Sellars 1963a and Williams 1977. (Sellars uses this point in criticism of phenomenalism rather than abductivism, but the point can be adapted to work against the abductivist.) The point is also implicit in Strawson 1959, Evans 1984, Long 1992, and Cassam 1997.
10. See Chisholm 1989, Lehrer 1990, Alston 1993, Fumerton 1995, and Butcharov 1998. The point is also implicit in the attack on “the causal theory” in Price 1932.
11. See Strawson 1985.
12. Cf. Harman 1973.
13. The proposal to use such sentences to ascribe perceptual experiences (of the sort that the Cartesian wants to speak of) is in Firth 1952.
14. I’ve found philosophers who refuse to assent to this. But the claim strikes me as true by the definition of “conceptual”. Of course, the term “conceptual” is to some extent a term of art, and we’re free to use it as we like. So maybe I should

say that I'm using the term as follows: the content of a mental state is *conceptual* if and only if the possessor of that mental state has (at the time of being in the state) the ability to understand that content.

15. Chisholm 1957 would have tried to avoid this problem by saying that we might use "appears" talk "noncomparatively". But I don't have any reason to believe that we so much as understand the alleged "noncomparative" use of "appears" talk. In any case, even if we could understand it, it's clear that we do not *ordinarily* use "appears" talk noncomparatively. And so any claim that we express using "appears" noncomparatively cannot be part of the content of common sense. That is all I need for my present argument.

Burge 1979 argues that the contents of our thoughts and experiences generally depend upon factors outside the individual. If we accept this form of anti-individualism about content, then we have another argument for the conclusion that the abductivist cannot be using the term "perceptual experience" to denote events that are ordinarily ascribed by sentences of the form "it looks as if p", "it sounds as if p", etc. For if the abductivist were to use the term that way, then from my knowledge that I have such-and-such perceptual experiences I could deduce various claims about the external world.

16. What about this case: I know that a particular thing I'm seeing looks like a unicorn. Then, on the present reasoning, I must know what unicorns look like. But how can unicorns look like anything if there are no unicorns? This question doesn't pose a problem for my argument, for there *is* something that unicorns look like—namely, like horses with straight horns coming out of the middle of their heads. But since unicorns aren't real animals, the fact that this is what they look like is made the case by our standard depictions of unicorns. Analogously, there is something that Santa Claus looks like, but his looking that way is the result of our depictions of him.
17. See Williamson 1996 and Williamson 2000, ch. 4.
18. Price 1932: "in the sphere of the given (as in that of pleasure and pain), what seems, is." (10)
19. This does not imply that we are infallible, incorrigible, or omniscient about our perceptual experiences. But it does imply this: *if* we form false beliefs about our perceptual experiences, that is *not* because they appear to us to be some way that they are not.
20. The view developed in this paragraph on the abductivist's behalf is suggested by Ayer 1940, 117–34.
21. Some philosophers might claim that this is because our perceptual experiences *cannot* be thought of objectively; to think of them at all is to think of them subjectively. I take no stand on this issue here.
22. The contrastiveness of explanation has been made very familiar in the literature on explanation. See, for instance, Van Fraassen 1980 and Lipton 1991.
23. At least this is true if the effect is an event, and if events are individuated more coarsely than the propositions that state that they occurred. For more on this issue, see Davidson 1967. On the intensionality of "explains", see Williamson 2000 (195).
24. We can understand the request for such explanation in three different ways: First, we may want an explanation of why there is anything at all that has the

following property: it can't conceivably vary independently of any variation in how it appears. Why are there these subjective facts in the world? Second, we may want an explanation of why there are just these particular subjective features instantiated in the world, rather than some alternative set. For instance, what explains the fact that our perceptual experiences have qualitative features within this range, rather than some other? And third, we may want an explanation of why these particular subjective facts obtain just when they do. Why does coffee taste like *this* (referring to the taste of coffee) rather than like pizza? I don't distinguish these questions in the text, since I need not appeal to the distinction in my argument.

25. The most influential and well-developed exposition of this view is in Salmon 1984.
26. See, e.g., Friedman 1974, Kitcher 1976, and Kitcher 1993.
27. See, e.g., Hempel 1965b and the other essays in Hempel 1965a for the most influential defense of this inferentialist account of explanation.
28. See Nagel 1974, Levine 1983, McGinn 1989, Loar 1990, Searle 1992, Levine 1993, Sturgeon 1994, and Levine 2001. But the insight long antedates these philosophers. We read in Locke 1975: 'Tis evident that the bulk, figure, and motion of several Bodies about us, produce in us several Sensations, as of Colours, Sounds, Tastes, Smells, Pleasure and Pain, etc. These mechanical Affections of Bodies, having no affinity at all with those Ideas, they produce in us, (there being no conceivable connexion between any impulse of any sort of Body, and any perception of a Colour, or Smell, which we find in our Minds) we can have no distinct knowledge of such Operations beyond our Experience; and can reason no otherwise about them, than as effects produced by the appointment of an infinitely Wise Agent, which perfectly surpass our Comprehensions. (Book IV, iii. §28)
29. See Kripke 1980, Searle 1992, and Sturgeon 1994 on this point.
30. I am grateful to an anonymous referee for raising the objection in response to which the present paragraph was written.
31. Let's recall that the abductivist's explanandum must be subjectively conceived. That is, there must be no possible difference between how the explanandum is and how it appears. If the whole explanandum proposition "I'm having this experience now" is to fit this description, then the temporal indicator "now" must also fit this description. There must be no possible difference between its being now and its appearing to be now. But if that's the case, then wouldn't the explanatory gap argument given above show that it's impossible to explain why I'm having this experience now? Not quite. If we can explain why it is that e takes place now, and it's true that now = 6:48 PM on Tuesday, and adding this identity claim to our explanans preserves the explanatoriness of the explanans, then we can explain why it is that e takes place now. So, for all I've shown, it is possible for us to explain why I'm having this experience *now* (as opposed to some other time).
32. Cf. Goodman 1983 on the relative epistemic merits of the "green" and "grue" hypotheses.
33. The preceding points have been made familiar in the literature on semantic externalism. See, for instance, Putnam 1975, Burge 1979, and Kripke 1980.

34. If we regard her entitlement to this presupposition as deriving from the fact that the presupposition is built into her language, then her abductive inference from introspectively known premises to her conclusions about the external world is only justified relative to her linguistic community. But if justification relative to her linguistic community was all that the abductivist wanted, then why did she need to bother finding an abductive inference from introspectively known premises in the first place? Why couldn't she simply have appealed to the fact that, in her linguistic community, some beliefs about the external world count as justified?
35. This abductivist position concerning memory is explored in Harman 1973 and Peacocke 1986.
36. For arguments against the view that memory knowledge is, in general, inferentially justified by non-memory knowledge, see Pollock 1986, Burge 1993, Plantinga 1993, Huemer 1999, and Owens 2000.
37. See Neta 2002, Neta 2003, Neta 2004 and Neta manuscript.
38. Williamson 1996 and Williamson 2000, ch. 4 argue that we are *never* cognitively at home. His argument relies on an assumption that is criticized in Neta and Rohbaugh forthcoming.
39. I am grateful to Dorit Bar-On, Jonathan Cohen, Mark Greenberg, Thomas Hofweber, Michael Huemer, Adam Leite, William Lycan, Ron Mallon, Eric Marcus, Elijah Millgram, and Jonathan Schaffer for their very helpful comments on earlier drafts of this manuscript.

References

- Alston, William. 1993. *The Reliability of Sense Perception*. Cornell University Press: Ithaca, NY.
- Ayer, A. J. 1940. *The Foundations of Empirical Knowledge*. MacMillan: London.
- . 1956. *The Problem of Knowledge*. Hammondsworth: London.
- Berkeley, George. 1975. *Philosophical Works*, ed. P. H. Nidditch. Everyman's Library: London and Melbourne.
- BonJour, Laurence. 1985. *The Structure of Empirical Knowledge*. Harvard University Press: Cambridge, MA.
- . 1999. "Foundationalism and the External World" in Tomberlin 1999.
- Brandt, R. B. 1955. "The Epistemological Status of Memory Beliefs." *Philosophical Review* 64: 78–95.
- Burge, Tyler. 1979. "Individualism and the Mental" in French, Uehling, and Wettstein 1979.
- . 1993. "Content Preservation." *Philosophical Review* 102: 457–88.
- Butcharov, Panayot. 1998. *Skepticism About the External World*. Oxford University Press: Oxford.
- Cartwright, Nancy. 1983. *How the Laws of Physics Lie*. Clarendon Press: Oxford.
- Cassam, Quassim. 1997. *Self and World*. Oxford University Press: Oxford.
- Chisholm, Roderick. 1957. *Perceiving: A Philosophical Study*. Cornell University Press: Ithaca, NY.
- . 1989. *Theory of Knowledge*, Third edition. Prentice-Hall: Englewood Cliffs, NJ.
- Cornman, James. 1980. *Skepticism, Justification, and Explanation*. Reidel: Dordrecht.
- Davidson, Donald. 1967. "Causal Relations." *Journal of Philosophy* 64: 691–703.
- Earman, John., ed. 1983. *Minnesota Studies in the Philosophy of Science, vol. 10: Testing Scientific Theories*. University of Minnesota Press: Minneapolis, MN.

- Evans, Gareth. 1984. *The Varieties of Reference*. Oxford University Press: Oxford.
- Firth, Roderick. 1952. "Phenomenalism." *Proceedings and Addresses of the American Philosophical Association*.
- French, P. A., Uehling, T. E., and Wettstein, H. K. 1979. *Midwest Studies in Philosophy 4: Studies in Metaphysics*. University of Minnesota Press: Minneapolis, MN.
- Friedman, Michael. 1974. "Explanation and Scientific Understanding." *Journal of Philosophy* **71**: 5–19.
- Fumerton, Richard. 1995. *Metaepistemology and Skepticism*. Rowman and Littlefield: Lanham, MD.
- Goldman, Alan. 1988. *Empirical Knowledge*. University of California Press: Berkeley and Los Angeles.
- Goodman, Nelson. 1983. *Fact, Fiction and Forecast*, 4th edition. Harvard University Press: Cambridge, MA.
- Gunderson, Keith, ed. 1975. *Language, Mind, and Knowledge*. University of Minnesota Press: Minneapolis, MN.
- Hacking, Ian. 1982. "Experimentation and Scientific Realism." *Philosophical Topics* **13**: 111–222.
- Harman, Gilbert. 1973. *Thought*. Princeton University Press: Princeton, NJ.
- Hempel, Carl. 1965a. *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science*. Free Press: New York.
- . 1965b. "Aspects of Scientific Explanation" in Hempel 1965a.
- Huemer, Michael. 1999. "The Problem of Memory Knowledge." *Pacific Philosophical Quarterly* **80**: 346–57.
- Jackson, Frank. 1977. *Perception: A Representative Theory*. Cambridge University Press: Cambridge.
- Kitcher, Philip. 1976. "Explanation, Conjunction, and Unification." *Journal of Philosophy* **73**: 207–12.
- . 1993. *The Advancement of Science*. Oxford University Press: Oxford.
- Kripke, Saul. 1980. *Naming and Necessity*. Harvard University Press: Cambridge, MA.
- Lehrer, Keith. 1990. *Theory of Knowledge*. Westview Press: Boulder, CO and San Francisco, CA.
- Levine, Joseph. 1983. "Materialism and qualia: The explanatory gap." *Pacific Philosophical Quarterly* **64**: 354–61.
- . 1993. "On Leaving Out What It's Like" in Davies and Humphreys 1993.
- . 2001. *Purple Haze*. Oxford University Press: Oxford.
- Lipton, Peter. 1991. *Inference to the Best Explanation*. Routledge: London.
- Loar, Brian. 1990. "Phenomenal States" in Tomberlin 1990.
- Locke, John. 1975. *Essay Concerning Human Understanding*, ed. P.H. Nidditch. Oxford University Press: Oxford.
- Long, Douglas. 1992. "The Self-Defeating Character of Skepticism." *Philosophy and Phenomenological Research* **52**: 67–84.
- Lycan, William. 1988. *Judgment and Justification*. Cambridge University Press: Cambridge.
- Mackie, J. L. 1969. "What's Really Wrong with Phenomenalism?" *Proceedings of the British Academy* **55**: 113–27.
- McGinn, Colin. 1989. "Can We Solve the Mind-Body Problem?" *Mind* **98**: 349–66.
- Moser, Paul. 1989. *Knowledge and Evidence*. Cambridge University Press: Cambridge.
- Nagel, Thomas. 1974. "What Is it Like to be a Bat?" *Philosophical Review* **83**: 435–50.
- Neta, Ram. 2002. "S knows that p." *Nous* **36**: 663–81.
- . 2003. "Contextualism and the Problem of the External World." *Philosophy and Phenomenological Research* **66**: 1–31.
- . 2004. "Perceptual Evidence and the New Dogmatism." *Philosophical Studies* **119**: 199–214.
- . Manuscript. "How to Raise and Lower the Veil of Ideas."
- Neta, Ram and Rohrbaugh, Guy. Forthcoming. "Luminosity and the Safety of Knowledge." *Pacific Philosophical Quarterly*.

- Owens, David. 2000. *Reason without Freedom*. Routledge: London and New York.
- Peacocke, Christopher. 1986. *Thoughts: An Essay on Content*. Basil Blackwell: Oxford.
- Plantinga, Alvin. 1993. *Warrant and Proper Function*. Oxford University Press: Oxford.
- Pollock, John. 1986. *Contemporary Theories of Knowledge*. Rowman and Littlefield: Savage, MD.
- Price, H. H. 1932. *Perception*. Methuen: London.
- Putnam, Hilary. 1975. "The Meaning of 'Meaning'" in Gunderson 1975.
- Quine, W. V. O. 1960. *Word and Object*. MIT Press: Cambridge, MA.
- Russell, Bertrand. 1959. *The Problems of Philosophy*. Oxford University Press: Oxford.
- Salmon, Wesley. 1984. *Scientific Explanation and the Causal Structure of the World*. Princeton University Press: Princeton, NJ.
- . 1990. *Four Decades of Scientific Explanation*. University of Minnesota Press: Minneapolis, MN.
- Searle, John. 1992. *The Rediscovery of the Mind*. MIT Press: Cambridge, MA.
- Sellars, Wilfrid. 1963a. "Phenomenalism" in Sellars 1963c.
- . 1963b. "Some Reflections on Language Games" in Sellars 1963c.
- . 1963c. *Science, Perception and Reality*. Ridgeview: Atascadero, CA.
- Slote, Michael. 1970. *Reason and Scepticism*. George Allen and Unwin: London.
- Strawson, P. F. 1959. *Individuals*. Methuen: London.
- . 1985. *Skepticism and Naturalism: Some Varieties*. Columbia University Press: New York.
- Sturgeon, Scott. 1994. "The Epistemic View of Subjectivity." *Journal of Philosophy* **91**: 221–35.
- Tomberlin, James, ed. 1990. *Philosophical Perspectives 4: Action Theory and Philosophy of Mind*. Ridgeview: Atascadero, CA.
- , ed. 1999. *Philosophical Perspectives 13: Epistemology*. Blackwell: Cambridge, MA and Oxford.
- Van Fraassen, Bas. 1980. *The Scientific Image*. Oxford University Press: Oxford.
- . 1983. "Glymour on Evidence and Explanation" in Earman 1983.
- Vogel, Jonathan. 1990. "Cartesian Scepticism and Inference to the Best Explanation." *Journal of Philosophy* **87**: 658–66.
- Watkins, J. W. N. 1984. *Science and Scepticism*. Hutchinson: London.
- Williams, Michael. 1977. *Groundless Belief: An Essay in the Possibility of Epistemology*. Yale University Press: New Haven, CT.
- Williamson, Timothy. 1996. "Cognitive Homelessness." *Journal of Philosophy* **93**: 554–73.
- . 2000. *Knowledge and its Limits*. Oxford University Press: Oxford.