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## The Problem of other Minds: a reliable Solution

I witness a man hit by a truck. He is writhing about on the pavement and screaming. The splintered ends of broken bones are protruding through his torn flesh, and he is lying in a pool of blood. Being a philosopher, I ask myself, "How do I know that he is in pain?"

John Pollock

Paul Churchland characterizes the "epistemological problem" in philosophy of mind as the problem "concerned with how we come to have *knowledge* of the internal activities of conscious, intelligent minds."<sup>1</sup> This problem is itself divisible into two separate, but related problems: (1) the "problem of self-consciousness" — that of determining how one comes to have *knowledge* of one's own mental states, and (2) the "problem of other minds" — that of explaining how one can ever come to *know* that something other than oneself has a mind, i.e. is a thinking, feeling, conscious being.<sup>2</sup> My primary aim in the present paper is to examine and solve the problem of other minds.<sup>3</sup> However, since Churchland contends that the problem of other minds is inextricably intertwined with the problem of self-consciousness, I will have cause to examine this latter problem, as well.

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The position I aim to defend consists of both a negative thesis and a positive account. I begin my negative thesis by arguing that neither scientific realism nor

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<sup>1</sup> Churchland, Paul, *Matter and Consciousness* (Cambridge, Mass: The M.I.T. Press, 1984), p. 67.

<sup>2</sup> *Ibid.*

<sup>3</sup> Note: For purposes of the present paper, I leave it an open question as to whether minds are (a) immaterial souls or (b) brains capable of realizing functional and/or computational states. In order to avoid begging this question while still making progress with the epistemological problem, I stipulatively use the locutions 'beings with minds' and 'beings with mental states' interchangeably.

the argument from analogy provides the correct account of how we come to possess knowledge of other minds. During the course of this essay, scientific realism and the argument from analogy will be shown to share certain shortcomings, the most important of which is that they rest on an over-intellectualized, *inferential* model of epistemic justification. I conclude my negative discussion by arguing that such an internalistic, over-intellectualized, inferential picture of epistemic justification must be mistaken. The main thrust of these negative arguments is that our knowledge of other minds does not arise out of inferential reasoning, and so, if we hope to allay the problem of other minds, we must adopt an alternative account of epistemic justification. My positive account consists of proffering an alternative model of epistemic justification and applying it to the problem at hand. My final stance, which draws from the work of both Thomas Reid and Alvin Goldman, is that our knowledge of other minds occurs remarkably early and is the result of certain justification-conferring, reliable belief-forming processes. To facilitate this discussion, I begin with two preliminary sections, which are intended to clarify the problem of other minds, as well as delineate certain basic assumptions that I make throughout the essay.

## I. Epistemological Preliminaries

Ever since the days of Pyrrhonism, our common sense knowledge claims have been threatened by various forms of skepticism. These skepticisms have varied in scope, some global and others local in scope.<sup>4</sup> The more radical global skepticisms deny that we have any knowledge whatsoever. Local skepticisms, on the other hand, restrict their domain to some particular area of knowledge and deny that we know the things we think we know *in that area*. External world skepticism and skepticism concerning the past are two examples of local skepticisms. Against this background, the problem of other minds can be seen to be yet another local variety of skepticism, one denying that we have knowledge of the existence of minds other than our own. It is this latter form of local skepticism that I seek to dispel in the remainder of this paper.

<sup>4</sup> I borrow this scope distinction from George Pappas' article "Some Forms of Epistemological Skepticism" in *Essays on Knowledge and Justification*, eds. G. Pappas and M. Swain (Ithaca, N.Y.: Cornell University Press, 1978), p. 311.

One thing that all types of skepticism have in common is their denial that we possess *knowledge* of at least some of the things we ordinarily think we know. So, in order to properly evaluate any skeptical position and the skeptical problem of other minds in particular, we must have a working conception of knowledge. Prior to Gettier's landmark paper of 1963,<sup>5</sup> it was almost universally agreed that knowledge was equivalent to justified true belief. However, the advent of Gettier-type counterexamples has conclusively proved that justified true belief is not sufficient for knowledge. With the demise of the traditional justified-true-belief analysis of knowledge, some philosophers (e.g. Dretske, Goldman, and Nozick) have offered nontraditional alternative accounts of knowledge. However, these nontraditional accounts have also been found wanting. Rather than try to settle this dispute, a task far beyond the scope of the present paper, I will follow the path of most contemporary epistemologists who regard justified true belief as necessary but not sufficient for knowledge.<sup>6</sup> We can safely sidestep the sufficiency question, since the nonsufficient traditional analysis is all that is needed to formulate the problem of other minds. With this in mind, let us agree that for any subject S and any proposition p:

- (K) S knows that p *only if*:
- (1) p is true,
  - (2) S believes that p, and
  - (3) S's belief that p is epistemically justified.

Given partial analysis (K), it follows that for someone to know that other beings have minds, it must be true that other beings have minds, she must believe that

<sup>5</sup> Gettier, Edmund, "Is Justified True Belief Knowledge?" *Analysis*, 23 (1963).

<sup>6</sup> Even many of the so-called alternative accounts of knowledge ultimately regard justified true belief as necessary for knowledge. For example, on Dretske's analysis, S knows that p *iff* S has conclusive reasons for believing that p. When Dretske unpacks what it is to have conclusive reasons for p, we see that to have conclusive reasons for p, S must believe p on the basis of those reasons and those reasons must entail the truth of p. So, Dretske obviously requires true belief. Furthermore, rather than abandoning the justification condition, by requiring conclusive reasons he is embracing a very stringent justification requirement. For a second example, consider Goldman's causal account: S knows that p *only if* the fact that p is causally connected in an "appropriate" way with S's believing p. Obviously, true belief is required. The "appropriate" knowledge-producing causal processes include such processes as perception, memory, and warranted inferences. Again there is a hidden justification requirement. What really makes these processes "appropriate" is that they are justification-conferring, i.e. they confer justification on the beliefs to which they give rise.

other beings have minds, and her belief that other beings have minds must be epistemically justified. It is generally acknowledged (at least it is not denied) that the first and second conditions for knowledge of other minds are satisfied, even by those who deny that we have such knowledge.<sup>7</sup> Those who take a skeptical stance concerning our purported knowledge of other minds do so by arguing that one is never justified in attributing mental states to beings other than oneself and that, therefore, the third condition for knowledge of other minds is never satisfied. In the next section, I will present the line of argumentation intended to show that the belief that other beings have mental states is never justified. I will conclude the section first with a discussion of how I think such skeptical arguments should be treated and then with a statement of a crucial assumption that I make use of in later sections.

## 2. The Problem and How to Deal with It

The only mental states to which one has direct access are one's own. When one attributes a mental state — such as having a severe stomachache — to oneself, one does so, not on the basis of observing that one is bent over double clutching one's stomach, but rather on the basis of the gut-wrenching feeling that one is then experiencing. Such is not the case when ascribing a mental state to someone else, for one cannot directly experience the pain of another person's stomachache. Instead, one ascribes mental states to others on the basis of their bodily condition and/or their overt behavior.

What these rather obvious and noncontentious observations show is that there are two disparate criteria for applying mentalistic predicates, namely, (1) conscious experience, in the case of oneself, and (2) overt bodily states and behavior, in the case of others.<sup>8</sup> The problem of other minds begins to emerge once we notice that conscious experience entails the existence of mental states (for it is a mental state), whereas bodily behavior does not. One knows from one's own case that there is neither a necessary connection nor a constant con-

<sup>7</sup> However, skeptics with regard to other minds would deny that we *know* that these conditions are satisfied, since knowledge that either (1) or (2) is satisfied entails knowledge of other minds.

<sup>8</sup> Hereafter, for the sake of simplicity, I will focus on bodily behavior as the basis for ascribing mental states to others, though, of course, we do make such ascriptions on the basis of bodily states, as well, e.g. pain on the basis of a broken femur protruding through the skin.

junction between bodily behavior and mental states, for one can feign pain when not in pain, and one can experience pain without exhibiting any of the behavior typically associated with pain. Thus, there is no logical connection between bodily behavior and mental states, and consequently, another being's behavior cannot provide a *conclusive* reason for attributing mentality to that being. Without a good reason for attributing mentality to other beings, we are not justified in making that attribution.

But perhaps things are not as bleak as they seem. Pollock has noted that conclusive reasons do not exhaust the class of good reasons, since nonconclusive inductive reasons are also good reasons.<sup>9</sup> So, if we can inductively establish a probabilistic connection between bodily behavior and mental states, then bodily behavior will constitute a good reason, a nonconclusive inductive reason, for ascribing mental states to others. Put another way, if we can amass evidence via enumerative induction for the truth of psychobehavioral generalizations, then we will have an inductive reason for ascribing mentality on the basis of behavior. Unfortunately, such inductive evidence is not obtainable. Of course, one can confirm that certain psychobehavioral generalizations are true of oneself, but this does little to solve the problem. What one needs, if one is to justifiably ascribe mental states to others on the basis of their behavior, is confirmation that the relevant psychobehavioral generalizations are true of those other beings; but one cannot inductively confirm that these generalizations are true of others, since, as Churchland notes, "all one can observe is one-half of the alleged connection: the creature's behavior."<sup>10</sup> Without such inductive evidence, it is impossible to establish the needed probabilistic connection between behavior and mentality.

The above observations leave us in the following skeptical quandary. In order to be justified in believing that other beings have minds on the basis of their behavior, one must be able to establish a connection, either logical or probabilistic, between behavior and mentality. However, as just demonstrated, it is not possible to establish either sort of connection. Therefore, one's belief that other beings have minds is never justified, and *a fortiori*, one never knows that these beings have minds.

<sup>9</sup> Pollock, John, *Knowledge and Justification* (Princeton, N.J.: Princeton University Press, 1974), pp. 33-46.

<sup>10</sup> Churchland, *op. cit.*, p. 68.

We can summarize the above skeptical argument as follows:

- (SA) 1. It is impossible to establish a logical connection between bodily behavior and mental states, because there is no such connection.
2. It is impossible to establish a probabilistic connection between bodily behavior and mental states in general, because, lacking direct experience of other beings' mental states, one cannot inductively confirm that the relevant psychobehavioral generalizations are true of those other beings.
3. If one cannot establish some connection, either logical or probabilistic, between bodily behavior and mental states, then one is never justified in inferring that other beings have mental states on the basis of their observed bodily behavior.
4. If one is never justified in inferring that other beings have mental states on the basis of their observed bodily behavior, then one's belief that other beings have mental states is never justified.
5. Therefore, one's belief that other beings have mental states is never justified.
6. If one's belief that other beings have mental states is never justified, then one never knows that other beings have mental states.
7. Therefore, one never knows that other beings have mental states.

This conclusion is extremely counterintuitive, but it follows from the premises, each of which is initially quite plausible. Should we therefore accept the conclusion, despite its clash with common sense? No, we know the conclusion is false. As Pollock, among others, rightly suggests, the way to treat such a skeptical argument is as a *reductio ad absurdum* of its premises.<sup>11</sup> Since we know that the conclusion is false, we know that there must be something wrong with the argument that led to it. Harman describes the situation as follows:

The problem is not that there are radical skeptics who need to be convinced they are wrong. The problem is that an extremely natural line of argument seems to lead inevitably to radical skepticism. Common sense keeps us from accepting such a conclusion; but this leaves the philosophical problem of saying what goes wrong with the reasoning that seems to lead there.<sup>12</sup>

<sup>11</sup> Pollock, *Knowledge and Justification*, *op. cit.*, pp. 3-5; and in his *Contemporary Theories of Knowledge* (Totowa, N.J.: Rowman and Littlefield, 1986), pp. 4-7.

<sup>12</sup> Harman, Gilbert, *Thought* (Princeton, N.J.: Princeton University Press, 1973), p. 3.

There are two ways in which an argument can go awry. It can be invalid or it can have false premises. Since (SA) is valid, our task in showing where (SA) goes wrong is to point out which premise is false and to explain why it is false. Of course, it trivially follows by modus tollens that premise 5 is false. But noting this trivial entailment is instructive since it shows that the problem facing us is *not* that of *proving* that our belief that other beings have minds is justified. We already know that it is. Instead, our problem that of *explaining* how our belief in other minds comes to be justified, despite the skeptical argument to the contrary.

In concluding this section, I want to point out a principle which I presuppose throughout this essay:

- (PI) All human beings (except for the extremely immature and the severely cognitively impaired) are in the same epistemic situation with respect to other minds.

This principle is intended to rule out the implausible suggestion that knowledge of other minds is possessed by only a few select philosophers and/or other cognitive sophisticates. Virtually all human beings know that their fellow human beings have minds, and any so-called "solution" to the problem of other minds, which, rather than yielding this result, yields the result that only a few extremely sophisticated cognizers have knowledge of other minds is *ipso facto* inadequate. I now turn to one popular attempt to solve the problem of other minds.

### 3. Scientific Realism and Hypothetico-deductive Justification

Scientific realism attempts to solve the problem of other minds by rejecting premise 3 of (SA). According to scientific realism, it is not necessary to use enumerative induction to establish a probabilistic connection between bodily behavior and mental states in order to confirm that the relevant psychobehavioral generalizations are true of other beings. Instead, the relevant psychobehavioral generalizations can attain a very high degree of confirmation via the hypothetico-deductive (hereafter HD) model of justification. On the HD model, a theory's hypotheses, which consist of postulated unobservable entities together with specific laws governing them, are confirmed to the extent that they yield correct predictions of future observable phenomena on the basis of present

(and/or past) observable phenomena. To apply the scientific realist approach to the problem of other minds, we regard postulated mental states and the psychobehavioral generalizations governing them as the hypotheses of a theory of human (and/or animal) behavior. These hypostatized mental states and the generalizations governing them are then confirmed to the degree that they correctly predict and explain human behavior. Since these postulated mental states combined with psychobehavioral generalizations do, in fact, have a high degree of explanatory and predictive power, they are highly confirmed.

Premise 3 is false on this view because one need not establish a probabilistic connection (via enumerative induction), much less a logical connection, between mental states and bodily behavior in order to be justified in inferring that other beings possess mental states on the basis of their behavior. What one needs in order to make a justified inference from behavior to mentality is confirmation of the relevant psychobehavioral generalizations that underlie the inference, and we have just seen that these generalizations do have a high degree of confirmation on the HD model. Thus, it is argued, we are justified in inferring that other beings have mental states on the basis of their behavior.

Despite its initial plausibility, the scientific realism “solution” to the problem of other minds is open to numerous objections. Pollock raises a decisive objection to one version of scientific realism, which I call “naive scientific realism” (or NSR, for short). According to NSR, we need not confirm any psychobehavioral generalizations in order to justifiably ascribe mental states to ourselves. We directly experience our own mental states, and this experience provides us with a conclusive reason for attributing mental states to ourselves. However, when we ascribe mental states to others, if we are to do so justifiedly, we must employ the HD method to confirm the needed psychobehavioral generalizations. This disparity in the justification conditions for ascribing mental states to ourselves and others yields the following result: Our own mental states are real observational entities, whereas other beings' mental states turn out to be theoretical entities. This result is clearly untenable, because, when we ascribe a mental state, say being in pain, to someone else, we mean to ascribe to her the same thing we ascribe to ourselves when we say that we are in pain. Since, according to NSR, pain is not a theoretical entity in us, it cannot refer to a theoretical entity in others, because we hold the reference of ‘pain’ fixed no

matter to whom we ascribe it. Thus, naive scientific realism cannot be the correct account of what justifies our belief in other minds.<sup>13</sup>

Churchland espouses a different version of scientific realism, which I call “radical scientific realism” (or RSR), and, though it is immune to the foregoing objection, it suffers devastating problems of its own. According to RSR, no mental states are observable, not even our own. Thus, there is no disparity in the justification conditions for ascribing mental states to ourselves and those for ascribing mental states to others, because all ascriptions of mental states, whether to ourselves or to others, are justified by appeal to the HD model of justification. It must be stressed that on the RSR view even our own mental states must be regarded as theoretical postulates intended to explain and predict our own behavior. Since such mentalistic postulates are very useful in explaining and predicting our own behavior, they have a correspondingly high degree of confirmation, and this is what justifies us in thinking that we have mental states.

As Churchland acknowledges, on the RSR view, even our own mental states turn out to be theoretical entities.<sup>14</sup> This result blocks the sort of objection just raised against NSR, because, on the RSR view, when we ascribe pain to someone else, we mean to ascribe to her the same sort of theoretical state that we ascribe to ourselves when we say we are in pain. Here the meaning and the reference of ‘pain’ remain fixed across both ascriptions. This virtue notwithstanding, RSR is extremely counterintuitive. Even Churchland admits that “if you center your attention on your direct consciousness of your own mental states, the idea that they are ‘theoretical entities’ may seem a very strange suggestion.”<sup>15</sup> Nevertheless, Churchland aims to defend this strange suggestion by attacking the traditional view of self-consciousness.

As Churchland characterizes it, the traditional view of self-consciousness maintains that:

Introspection ... is fundamentally different from any form of external perception. Our perception of the external world is always mediated by sensations ... and the external world is thus known only indirectly and problematically. With introspection, however, our knowledge is immediate and direct. One does not introspectively apprehend a sensation by way of a sensation of that sensation. Therefore, once one is considering the states of one's own mind, the distinction

<sup>13</sup> Pollock presents this objection in *Knowledge and Justification*, *op. cit.*, pp. 253-254.

<sup>14</sup> Churchland, *op. cit.*, p. 72.

<sup>15</sup> *Ibid.*

between appearance and reality disappears entirely. The mind is transparent to itself, and things in the mind are, necessarily, exactly what they 'seem' to be ... Accordingly, one's candid introspective judgments about one's own mental states — or about one's own *sensations*, anyway — are incorrigible and infallible.<sup>16</sup>

So construed, the traditional account of self-consciousness consists of two distinct claims: (1) the immediacy thesis and (2) the incorrigibility thesis.

Recall that Churchland wants to prove that all mental states, including one's own, are theoretical entities by showing that the traditional account according to which they are observational entities is mistaken. He begins his alleged proof by refuting the incorrigibility thesis, which he does rather convincingly, by citing psychological evidence which illustrates that prior expectations can cause people to misidentify their sensations.<sup>17</sup> Apart from his clear refutation of the incorrigibility thesis, however, his argument remains obscure. Of course, the falsity of the incorrigibility thesis entails the falsity of the traditional view, but how is this supposed to show that mental states are not observational entities? Showing that we sometimes misidentify our sensations, no more shows that sensations are non-observable theoretical entities than showing that we sometimes misidentify dogs, as in our taking a beagle for a basset, shows that dogs are non-observable theoretical entities. Simply put, establishing corrigibility does not show that sensations are non-observable theoretical entities. To do the latter, Churchland must show that the immediacy thesis is false. Neither the falsity of the incorrigibility thesis nor the falsity of the traditional view *per se* entails the falsity of the immediacy thesis, and Churchland offers no other argument to this effect. He does, at one point, suggest that the immediacy thesis may be false,<sup>18</sup> but without an argument precedence must surely be given to the introspective evidence that there are no intermediary sensations of sensations. As long as the immediacy thesis remains in tact, sensations must be regarded as observable and directly observable at that. Of course, Churchland's failing to prove that sensations are non-observable does not itself show that sensations are observable. So, I will now show that Churchland's argument against incorrigibility demonstrates, ironically, that sensations are observable. To refute incorrigibility, Churchland presents the following experimental result:

<sup>16</sup> *Ibid.*, p. 75.

<sup>17</sup> *Ibid.*, p. 77.

<sup>18</sup> *Ibid.*, pp. 77-78.

An orange-expectant subject fed lime sherbet may confidently identify her taste-sensation as being of the kind normally produced by orange sherbet, only to retract the identification immediately upon being given a (blind) taste of the genuinely orange article. Here one *corrects* one's qualitative identification in flat contradiction to the idea that mistakes are impossible.<sup>19</sup>

What Churchland neglects to notice is that a person's ability to make such corrections depends on her ability to observe and attend to her present sensation, her ability to remember the past sensation, and her ability to compare the two, all of which would be inexplicable if sensations were unobservable. If she could not *observe* differences in the two sensations, there would be no accounting for her ability to distinguish them, much less correctly distinguish them. Proof that sensations are observable entities lies in the fact that their observability is a necessary condition for the discriminations we do, in fact, make.

I contend that the traditional theorists were right about the immediacy thesis and wrong about the incorrigibility thesis and that thus we have direct, though not infallible, access to our mental states and to our sensations in particular. Introspective evidence strongly supports such directness, and our fallibility is best explained, not by our lack of access to our sensations, but by our frequent failure to attend to those sensations. This view accords well with the fact that people can correct their mistaken sensation-judgments by *attending* to their sensations more closely. But most importantly, the fact that people can and do recognize and correct their mistaken sensation-identifications clearly demonstrates that sensations *are* observable entities, and this, in turn, demonstrates that Churchland's RSR account, which entails that *all* mental states are non-observable theoretical entities, is false. With the collapse of both naive scientific realism and radical scientific realism, we must look elsewhere for a solution to the problem of other minds.

#### 4. The Argument from Analogy

Our finding in section 3 that mental states are observable entities reinforces the problem of other minds. We know that we have mental states, because we directly observe them in conscious experience. But we cannot consciously experience anyone else's mental states, so what justifies us in inferring that

<sup>19</sup> *Ibid.*, p. 77.

anyone else has mental states? The argument from analogy provides another popular answer to this question. Pollock defends this argument, but in order to assess his defense, a brief digression is needed to explain his account of reasons. Pollock maintains that "Justification proceeds in terms of reasons."<sup>20</sup> He loosely characterizes reasons as follows: "When one belief justifies another, then the former is said to be a *reason* for the latter."<sup>21</sup> Thus, on Pollock's view, reasons are always *beliefs*. A *good* reason is a belief that is sufficient to justify the belief for which it is a reason.<sup>22</sup> Recall from section 2 that there are two types of good reasons, conclusive reasons and nonconclusive reasons. A conclusive reason is a belief that entails the truth of the belief for which it is a reason.<sup>23</sup> In describing nonconclusive reasons, Pollock asserts, "The most important characteristic of nonconclusive reasons is that they are *defeasible*."<sup>24</sup> Defeasible reasons are reasons for which there can be defeaters, where a defeater is defined as follows: "If P is a reason for S to believe Q, R is a *defeater* for this reason iff R is logically consistent with P and (P & R) is not a reason for S to believe Q."<sup>25</sup> Such defeasible reasons are "prima facie reasons" because they provide one with a good reason for a given belief, provided one does not also believe a defeater for that reason. Digression ended.

Simplifying Pollock's terminology somewhat, I will call any bodily state a "B-state" and any mental state an "M-state."<sup>26</sup> Given this terminology, the problem of other minds can be construed as the problem of specifying what justifies us in ascribing M-states to others. Obviously, within Pollock's system, we must have a good reason for ascribing M-states to others in order to be justified in making the ascription. Pollock's solution to the problem of other minds will unfold as we answer the following three questions: (1) What kind of

<sup>20</sup> Pollock, *Knowledge and Justification*, *op. cit.*, p. 33.

<sup>21</sup> *Ibid.*

<sup>22</sup> *Ibid.*, p. 34.

<sup>23</sup> *Ibid.*, p. 37.

<sup>24</sup> Pollock, *Contemporary Theories of Knowledge*, *op. cit.*, p. 38.

<sup>25</sup> *Ibid.*

<sup>26</sup> Pollock, *Knowledge and Justification*, *op. cit.*, p. 250. Here, Pollock defines an "M-state" (for material) as any state that is definable in the language of physics, and a "P-state" (for person) as any non-M-state of a person. This implies that even such states as "going for a walk" are P-states. I think that this terminology needlessly complicates things. Do notice I use "M-states" for states closely resembling Pollock's P-states, and I use "B-states" for Pollock's M-states.

good reason do we have for ascribing M-states to others? (2) What is the source of this good reason? and (3) What, precisely, is this good reason?

We know from section 2 that there is no logical connection between M-states and B-states. Without such a connection, it is impossible to have a conclusive reason for ascribing M-states to others. Thus, in answer to question (1), if we have any reason at all for ascribing M-states to others, it must be a *prima facie* reason, i.e. a nonconclusive defeasible reason. What could be the source of such a *prima facie* reason?

Pollock contends that the argument from analogy provides us with such a reason.<sup>27</sup> According to the argument from analogy, by using enumerative induction we discover, on the basis of our own cases, that certain B-states tend to be accompanied by certain M-states. This inductively establishes a probabilistic connection between certain B-states and certain M-states, which gives us an inductive reason for thinking that a person who is in a particular B-state is in the M-state that we have found typically accompanies that B-state. Thus, the analogical arguer flatly rejects premise 2 of (SA).

Churchland raises the following standard objection to the argument from analogy:

The first problem is that it represents one's knowledge of other minds as resting on an inductive generalization from exactly *one* case. This is absolutely the weakest possible instance of an inductive argument, comparable to inferring that all bears are white on the strength of observing a single bear (a polar bear) ... Surely, one wants to object, my belief that you are conscious is better founded than *that*.<sup>28</sup>

Foreseeing this objection, Pollock retorts:

It is not an induction based upon a single instance; rather, it is based upon all those cases where I have observed a person in those [B-states] and have been able to judge whether he was in pain. That those were all cases involving myself is irrelevant to the inductive argument.<sup>29</sup>

Pollock's contention here is that, even though all the inductive evidence derives from a single subject, namely oneself, this fact alone does not defeat the

<sup>27</sup> *Ibid.*

<sup>28</sup> Churchland, *op. cit.*, p. 69.

<sup>29</sup> Pollock, *Knowledge and Justification*, *op. cit.*, p. 250.

argument from analogy, since it could only do so if it were a reason for thinking that the evidence was not based on a fair sample. "But," Pollock avers:

the mere fact that the sample in question [my M-states] *might* not be characteristic of others is not sufficient to constitute a defeater ... What is required, to have a defeater here, is some concrete reason for thinking my [M-states] and [B-states] are not characteristic of people in general.<sup>30</sup>

Pollock's response is hardly compelling. We have more than adequate inductive evidence to justify belief in the following proposition: In general, when a series of tests is conducted on a single member of a given population, the results of those tests tend not to be representative of that population as a whole. This belief should defeat the argument from analogy, since it provides good reason for thinking that samples involving a single subject are not fair. This objection seems decisive, given Pollock's account of defeasible reasoning. Even so, this is not where I really take issue with Pollock's handling of the problem of other minds. I take issue with his answer to the third question raised earlier; namely, what exactly is our good *prima facie* reason for attributing a certain M-state, say being in pain, to others? Pollock contends, "Bleeding, grimacing, and crying out cannot be part of a *prima facie* reason for judging that a person is in pain, because it is only a contingent fact that persons in such [B-states] are usually in pain."<sup>31</sup> After all, it is only a contingent fact that people have bodies capable of bleeding, grimacing, and the like. Since *prima facie* reasons are logical reasons, not contingent reasons, our *prima facie* reason for attributing M-states to others must be completely general with no reference to specific contingent facts. As a result, Pollock claims that the required *prima facie* reason is:

(PFR) "S possesses a B-state which tends to be accompanied by being in the M-state X" is a *prima facie* reason for me to think that S is in state X.<sup>32</sup>

Thus, if we are to be justified in believing that another being is in a certain M-state, our belief must be based on the sort of *prima facie* reason just cited. It is

<sup>30</sup> *Ibid.*, pp. 250-251.

<sup>31</sup> *Ibid.*, p. 260.

<sup>32</sup> *Ibid.*, p. 262.

this unrealistic requirement that leads to the collapse of Pollock's attempted solution.

Remember that for Pollock all reasons are *beliefs*. So, in order for a person to be justified in believing that Fred is in pain, she must also *believe* that Fred possesses a B-state which tends to be accompanied by being in the M-state pain, and she must base the former belief on the latter one. The trouble with this suggestion is twofold. First, people simply do not have beliefs of the latter sort. Second, lacking these beliefs, people obviously cannot make the kind of inference required by Pollock's theory. Recall the last time you thought someone was in pain. It no doubt occurred while watching a football game and probably went something like this: A running back is tackled low from the side by a 400 lb. linebacker and has his knee shattered, exposing the dangling remains of his ruptured ligaments. After the play, you see the victim rolling around on the ground clutching what was once his knee. Your first thought is, "That guy is in pain!" At no point did you think to yourself, "Gee, that guy possesses a B-state, clutching his knee, which tends to be accompanied by being in the M-state pain. So, he is in pain!" Hence, Pollock's account of our knowledge of other people's M-states is clearly psychologically unrealistic. Since our belief that other beings have M-states is justified and since, lacking beliefs of the sort specified in (PFR), we lack the *prima facie* reasons required by Pollock's theory, such *prima facie* reasons cannot be what justifies our belief that other beings have M-states. Thus, Pollock's purported solution to the problem of other minds fails.

## 5. Common Problems

We have just seen that neither scientific realism nor the argument from analogy can account for our knowledge of other minds. However, in addition to the objections already raised, they share certain other defects, which any adequate solution to the problem of other minds must avoid. For example, we have just seen that Pollock's account fails because it requires knowers of other minds to have beliefs which they do not have. Scientific realism is open to the same charge. In order for a person to justify the belief that others have M-states on the HD model, that person would have to believe that postulated M-states have regularly led to successful predictions regarding human behavior, but surely, ordinary people lack such beliefs. The fact that both theories require knowers of other minds to have beliefs which ordinary people lack leads to the second



objection. Even if these accounts could be shown to work, they would violate the adequacy principle (PI) presented in section 2. Suppose, for example, that those who have read Pollock start to have the requisite *prima facie* reasons. If Pollock's account were right, then these individuals would be the only people with knowledge of other minds, which directly conflicts with (PI). The same is true of scientific realism. If the HD method were required to justify the belief in other minds, then only those who were aware of and knew how to employ the HD method would be justified in believing that other beings have minds, which also violates (PI).

The third objection arises even if we are more charitable to these two accounts. Suppose, for either account, that most adults did have the beliefs required by that account and could, thereby, justify their belief that others have minds. This would still certainly leave out children, since children obviously lack such sophisticated beliefs, and consequently, children would lack knowledge of other minds. But children do know that their parents, friends, etc. feel pain, get angry, like them, etc. Thus, neither scientific realism nor the argument from analogy can be what accounts for our knowledge of other minds, since such knowledge arises much earlier than the ability to employ either account.

The fourth objection derives from the work of Keith Lehrer, who has astutely observed that one commits a type of epistemic fallacy whenever one tries to justify the more evident by appeal to the less evident.<sup>33</sup> Both the arguer from analogy and the scientific realist commit this fallacy. We are much more justified in believing that there are other minds than we are in believing either scientific realism or the argument from analogy. Thus, neither can be the source of the high degree of justification that our belief in other minds has.

Finally, both scientific realism and the argument from analogy rest on the assumption that our knowledge of other minds is inferential. Admittedly, this is a rather natural assumption to make given the following sort of reasoning: "We never observe other people's mental states. We only observe their behavior. Therefore, our beliefs about other people's mental states must be inferred from beliefs about their behavior." Nevertheless, introspection reveals that this assumption is mistaken. As the earlier football example illustrates, our beliefs about other people's mental states often arise immediately without any forethought. We do not first form a belief about people's behavior and then on the

<sup>33</sup> Lehrer, Keith, "Against Simplicity", in *Philosophical Analysis*, ed. D. Austin (1988), pp. 119-125.

basis of that belief infer some belief about their mental states. Introspection reveals that that is not what is going on. The fact that we do not *infer* our beliefs about the mental states of others from beliefs concerning their behavior is even more clearly evinced by the fact that quite often we immediately form a belief about someone's mental state without forming any beliefs at all about that person's behavior. This should be obvious, since we often find that when asked questions like "What made you think that Joe was depressed?", we cannot point to any particular behavior of Joe's that made us think it. In the next section, we will see how the realization that our knowledge of other minds is non-inferential leads to the solution of the problem of other minds.

## 6. Our Knowledge of Other Minds: A Positive Account

In section 2, we saw that the problem of other minds is not that of *proving* that we have knowledge of other minds, since such knowledge is taken as a datum. The problem is that of *explaining* where the skeptical argument, which leads to the false conclusion that we lack knowledge of other minds, goes wrong. We are now in a position to see exactly where the argument does go wrong. Premise 4, which alleges,

If one is never justified in *inferring* that other beings have mental states on the basis of their observed bodily behavior, then one's belief that other beings have mental states is never justified,

cannot be right. After all, we know from section 2 that our belief that other beings have mental states is justified, since it follows from the fact that we know that other beings have mental states. We also know from sections 4 and 5 that our knowledge of other minds is not inferential. However, since (i) our beliefs about other beings' mental states are justified and (ii) these beliefs are not inferred from beliefs about behavior, it follows that it is not necessary to make an inference, much less a justified one, from behavior to mental states in order to be justified in holding a belief about another being's mental states. Even though we know that premise 4 is false, it is still incumbent upon us to *explain* how it could be. This amounts to *explaining* how it is that our beliefs about other beings' mental states come to be justified, given that we do not infer them. To provide this explanation, we need to explore the possibility of a non-inferential account of epistemic justification.

It is commonly held that if a person has a justified belief, then that person can state his justification for the belief. This suggests that a person's justification for a given belief is simply the justification he would give if asked to justify the belief. Harman explains why such a suggestion cannot be correct when he points out that a person "may offer good reasons, not because he thinks they are any good, but because he thinks they will convince his audience. Such reasons are not the reasons for which he believes as he does."<sup>34</sup> In such a case, the justification stated for the belief is not what justifies the belief, since the stated justification is only given to convince someone else. This, of course, is compatible with the person's being able to state his actual justification, were he to want to, but Harman goes even further and maintains that quite often a person can have a justified belief without being able to state what that justification is at all.<sup>35</sup>

Goldman picks up on Harman's point and extends it. Goldman contends that it is not only possible to have a justified belief without being able to state its justification, but that it is even possible to have a justified belief without being aware that it is justified.<sup>36</sup> It is easy to see that even Goldman's latter contention is correct when we reflect upon the case of young children. Young children have all sorts of justified beliefs, but lacking any notion of justification, they are surely unaware that these beliefs are justified. This leaves us with the question of what gives these justified beliefs their justified status. Goldman maintains that these beliefs are justified in virtue of their being produced by justification-conferring cognitive processes.<sup>37</sup> Which cognitive processes are justification-conferring? Those that are reliable, where a reliable cognitive process (an RCP) is one which generally produces true beliefs.<sup>38</sup> Oversimplifying Goldman's view somewhat, RCP's and only RCP's confer justification on the beliefs to which they give rise. Accordingly, a belief is justified *iff* it results from an RCP (or several RCP's taken together). It is important to note that being produced by an RCP is sufficient for a belief's being justified. Hence, as long as a belief is produced by an RCP, it is justified, even if the person is unaware

<sup>34</sup> Harman, *op. cit.*, p. 26.

<sup>35</sup> *Ibid.*, p. 28.

<sup>36</sup> Goldman, Alvin, "What Is Justified Belief?", in *Justification and Knowledge*, ed. G. Pappas (Dordrecht, Holland: D. Reidel Publishing Co., 1979), p. 2.

<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*, pp. 9-10.

that the belief was so-produced and even if the person is unaware that the belief is justified.

Such a reliabilist account of epistemic justification holds promise for solving the problem of other minds. If the cognitive processes which produce our beliefs about other people's mental states are reliable, then, according to reliabilism, those beliefs are justified. We need not know that these processes are reliable. All that is required is that these processes *be* reliable. Nevertheless, as a solution to the problem of other minds, the reliabilist approach will be much more compelling if we can (i) isolate the processes which give rise to our beliefs about other people's mental states and then (ii) give some reason for thinking that these processes are in fact reliable. I now turn to the insightful work of Thomas Reid for assistance in these last two tasks.

Reid argues that the belief that other beings have minds and beliefs about their mental states arise in us at an incredibly early age, so early, in fact, that they cannot be the product of reason. As he puts it:

As soon as children are capable of asking questions, or of answering a question, as soon as they shew the signs of love, of resentment, or of any other affection, they must be convinced that those with whom they have this intercourse are intelligent beings.

It is evident they are capable of such intercourse long before they can reason.<sup>39</sup>

Thus, already in the 18th century, Reid has made the perspicacious observation that our knowledge of other minds is non-inferential. Rather than being produced by reason, Reid maintains that our beliefs about other beings' mental states are the product of an innate language faculty.

By 'language' Reid means, "all those signs which mankind use in order to communicate to others their thoughts and intentions, their purposes and desires."<sup>40</sup> He then distinguishes two kinds of such signs: (1) artificial signs (e.g. words), which are all those signs that "have no meaning but what is affixed to them by compact or agreement among those who use them" and (2) natural signs, which are those that "previous to all compact or agreement, have a mean-

<sup>39</sup> Reid, Thomas, *Inquiry and Essays*, eds. K. Lehrer and R. Beanblossom (Indianapolis, IN: Hackett Publishing Company, 1983), p. 278.

<sup>40</sup> *Ibid.*, p. 32.

ing which every man understands by the principles of his nature."<sup>41</sup> Artificial language is made up of artificial signs, whereas natural language is made up of natural signs. Reid argues, "if mankind had not had a natural language, they could never have invented an artificial one by their reason and ingenuity."<sup>42</sup> His argument is roughly that all artificial language is conventional; but, in order to establish such linguistic conventions, people already have to be capable of understanding each other, because without such natural understanding, people would not be able to understand what it was that they were conventionally agreeing to mean by the artificial signs.<sup>43</sup> Thus, Reid establishes that there are natural signs and moreover that they exist prior to artificial signs.

Reid contends that our beliefs about other beings' mental states are, at least initially, solely the result of natural language. What are the natural signs that give rise to these early beliefs? Reid reduces them to only three kinds: (1) features of the countenance, (2) modulations of the voice, and (3) gestures of the body.<sup>44</sup> As evidence that people do naturally understand these signs, Reid points to the fact that "An infant may be put into fright by an angry countenance, and soothed again by smiles and blandishments."<sup>45</sup> He also avers that "By means of these [natural signs], two savages who have no common artificial language, can converse together; can communicate their thoughts in some tolerable manner."<sup>46</sup> Even so, one might object as follows: "In light of Reid's arguments, I will grant that we have evolved in such a way that we do have an innate understanding of such natural signs. Nevertheless, it still seems that we must infer the mental states signified from the natural signs that signify them. So, given that our knowledge of other minds is non-inferential, Reid's account cannot be correct." This objection rests on a mistaken conception of the way in which our beliefs in the things signified arise. In order to explain how such beliefs arise, I will briefly present Reid's analogy between the role of signification in perception and the role of signification in natural language.

Reid contends that sensations are natural signs which signify qualities in external objects, but in making this contention Reid in no way means to suggest

<sup>41</sup> *Ibid.*

<sup>42</sup> *Ibid.*

<sup>43</sup> *Ibid.*

<sup>44</sup> *Ibid.*, pp. 33 and 279.

<sup>45</sup> *Ibid.*, p. 43.

<sup>46</sup> *Ibid.*, p. 3

that we first become aware of sensations and then infer the existence of objects with certain qualities on the basis of these felt sensations. In fact, he explicitly rejects this inferential picture, for he points out that whenever we perceive an external object we find three things:

First, Some conception or notion of the object perceived; Secondly, A strong and irresistible conviction and belief of its present existence; and, Thirdly, That this conviction and belief are immediate, and not the effect of reasoning.<sup>47</sup>

Reid's point is simply this: We are hard-wired in such a way that a sensation (the natural sign for perception) immediately gives rise to a conception and to an immediate belief in the existence of the thing conceived, which is just to say that our beliefs about external objects are the immediate effect of belief-forming cognitive processes, which take sensations as inputs. Thus, our perceptual beliefs are immediately produced by these cognitive processes, and are not the result of reason or inference.

Reid points out a second important feature of natural signs, when, in discussing the sensation of hardness, he says:

it is a sensation which nature intended only as a sign of something in the stone; and, accordingly, he instantly fixes his attention upon the thing signified; and cannot, without great difficulty, attend so much to the sensation.<sup>48</sup>

Reid's contention is that since we generally are interested in the thing signified and not in the sign *per se*, we normally pass over the sign and go directly to the thing signified, and that it is only with great difficulty that we can shift our attention back to the sign.

What is true of sensations (the natural signs for perception) is also true of the natural signs of natural language. Our belief that other beings have minds and our beliefs about their mental states, at least initially, are the immediate result of certain belief-forming cognitive processes, which take countenances, gestures, and modulations of the voice as inputs. Consequently, reason or inference has no role to play in our coming to have these beliefs. Moreover, as is the way with all natural signs, we usually skip over the signs of natural language and fix our attention directly upon the thoughts or feelings they signi-

<sup>47</sup> *Ibid.*, p. 160.

<sup>48</sup> *Ibid.*, p. 38.

fy. This accounts for the difficulty we have in answering questions like the one raised in section 5, namely, "What made you think that Joe was depressed?" In such cases there is something about Joe's behavior or his countenance or the tone of his voice which immediately triggers the belief that Joe is depressed via the aforementioned cognitive processes, but in most cases we fail to notice what that something is, because Joe's feelings are what interest us primarily. If we focus on just how automatically our beliefs about other people's mental states arise, the suggestion that these beliefs are the immediate result of the cognitive processes constitutive of the language faculty becomes immanently plausible.

The final question we need to address is whether the cognitive processes which generate our beliefs about other beings' mental states are reliable. As soon as we acknowledge that such cognitive processes were inevitably selected because of their value for survival, we encounter an obvious reason (albeit a defeasible one) for thinking that they are reliable. It is frequently in our interest to know what our fellow human beings are thinking, feeling, desiring, etc. If we know that a person is violently angry, we can take steps to avoid him. If we know that a person is sincere, it can be to our advantage to associate with her. The fact that reliable information about our fellow human beings' mental states is crucial for our survival strongly suggests, since we are still around, that the cognitive processes which produce these beliefs are, indeed, reliable.

## Conclusion

We have just seen that evolutionary theory lends credence to the contention that the cognitive processes which give rise to our beliefs about other people's mental states are highly reliable. When we combine this fact with the reliabilist account of epistemic justification outlined in section 6, we can easily see why our belief that other beings have mental states and our beliefs about their mental states are epistemically justified. They are, in fact, produced by RCP's. In addition to explaining why these beliefs are justified, this natural language account has the following advantages: First, it is a non-inferential account and, thereby, accords with the introspective facts. Second, it complies with principle (PI) in that it even accounts for young children's knowledge of other minds, since it maintains that young children's beliefs about other people's mental states are justified in virtue of the fact that they are the immediate effect of a reliable natural language faculty. And finally, it accommodates a naturalistic picture of mankind in that

such reliable cognitive processes were inevitably selected for their ability to enhance our species' survival rate. In light of these advantages, I submit that we have indeed found a reliable solution to the problem of other minds.

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