

**A Reliabilist Strategy for Solving the Problem of Induction**

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### Introductory Remarks

In this dissertation I propose a reliabilist strategy for solving the problem of induction. In essence, the problem of induction shows that it is in principle not logically possible to show that we can possess inductive knowledge if inductive inference *involves the principle of regularity*. While I submit that the problem of induction is successful at defeating the assumption that inductive inference is a source of knowledge if inductive inferences involves the principle of regularity, my thesis is that it is nevertheless a contingent fact about human cognition that inductive inference is a source of knowledge, and that such a claim is well supported by sound philosophical reasoning. In so doing, I make two central claims: firstly, we can possess inductive knowledge without needing to show how we know that inductive inference is a source of knowledge, and secondly, we can show how we know that inductive inference is a source of knowledge, even though it is by no means necessary that we do so.

The structure of the outline of my thesis goes as follows. Before I develop my strategy for solving the problem of induction, I establish the necessary groundwork that underpins the solution that I defend. For instance, in **Chapter 1** I examine and analyse the problem of induction and conclude that it is successful in showing why inductive inference does not involve a quasi-logical relation such as the principle of regularity. Instead, I propose that the success of the problem of induction leaves us with no real choice but to conclude that it is a contingent fact about human cognition that inductive inference is a source of knowledge. I also elaborate on why we should take a particularist approach to sceptical problems to show how we know *what* we know. Then in **Chapter 2** I consider the reasons why many epistemologists find an internalist account of justification to be intuitively plausible in the construction of an adequate theory of knowledge, and how internalism is *prima facie* compatible with a particularist approach to responding to sceptical concerns. I then proceed to argue that the types of factors that are relevant to justification do not possess an internalist character, but are instead

externalist in character. I also draw out the implications of an externalist account of justification for how we should understand a particularist approach to responding to the concerns of the sceptic.

In the remaining two chapters I develop a two-stage strategy for successfully solving the problem of induction, with each chapter dedicated to one of the two stages of this strategy. In **Chapter 3** I argue that if we are to solve the problem of induction we should adopt a 'simple reliabilist' theory of justification and knowledge, where beliefs are justified on the basis of whether or not they were produced by a cognitive process that has a history of being contingently reliable. Insofar as contingently reliable cognitive processes are exactly the type of thing that qualifies as a contingent fact about human cognition, and inductive inference is a reliable cognitive process of an epistemic agent, I contend that we already have adequate grounds to conclude that inductive inference is able to confer justification upon its output beliefs, and ultimately qualify as a source of knowledge. Moreover, seeing as a reliable process is an externalist source of justification, the proponent of simple reliabilism has philosophically motivated reasons to reject the demands of the sceptic to show that we know that inductive inference is contingently reliable. Thus, by understanding inductive inference from the perspective of simple reliabilism, I conclude that a philosophically plausible solution to the problem of induction is at our disposal.

In **Chapter 4**, I argue that while it is not necessary to placate the concerns of the inductive sceptic, the proponent of simple reliabilism can still do so by explaining how the contingent reliability of inductive inference means that an inductive justification of inductive inference is possible. In so doing, I provide a supplemental solution to the problem of induction which is both philosophically and psychologically plausible. In developing both of these stages of a reliabilist strategy for solving the problem of induction I also respond to what I consider to be the strongest objections to both reliabilism in general and whether the reliabilist account

of how an inductive justification of inductive inference is philosophically adequate. Ultimately, I conclude that the two-stage reliabilist strategy that I defend for solving the problem of induction is sufficiently robust and dynamic to be successful at showing that inductive inference is a source of knowledge, and that – if we so please – we can show how we know it too.

## **Chapter 1. The Problem of Induction**

### **Introduction**

Among the first tasks of developing a successful strategy for solving the problem of induction is to establish what the argument for the problem of induction actually is, why it is *prima facie* plausible, how we should respond to such *prima facie* plausibility, and why it is important that the problem is solved. In this opening chapter I will fulfil these tasks. Firstly, I will introduce key epistemological notions such as knowledge, justification, rational belief, induction, and deduction that are assumed in the formulation of the argument for the problem of induction. I then examine Hume's argument that has become known as the 'problem of induction' and conclude that it is successful in showing that we cannot know either inductively or deductively that the principle of regularity that most people assume connects their beliefs about observed matters of fact to our beliefs about unobserved matters of fact. In so doing, I respond to the common objection that the problem of induction is unsuccessful because it incorrectly assumes a deductivist account of knowledge. I also reject the contention that because the principle of regularity is grounded in the metaphysical structure of the world we can claim to know that inductive inferential reasoning is a source of knowledge without committing fallacious reasoning. As a result of the principle of regularity not being able to be known by deduction, induction, or on the grounds of metaphysics, I conclude that we must adopt a theory of knowledge that allows for us to understand inductive inference being a source of knowledge as a contingent fact about human cognition.

### **1.1. The Nature of Knowledge**

Before we examine the problem of induction, it will prove beneficial to first examine a number of the underlying logical and epistemological notions that are assumed in the formulation of

Hume's famous problem. The problem of induction is situated within the context of the philosophical discipline of *epistemology*, which focuses on questions such as: what is the nature of knowledge? What should we do to possess knowledge? How we can distinguish between justified beliefs and unjustified beliefs? How can we determine whether *this* belief is more justified than *that* belief? And in what sense is belief rational?<sup>1</sup> But as Roderick Chisholm suggests, all of these questions about epistemological matters derive from our inherent ambition "to correct and improve our own epistemic situation."<sup>2</sup> Thus, epistemological speculation is a positive project where the goal is to *progress* in our understanding until which point the ideal epistemic situation is realised. Put differently, the purpose of problems, puzzles, and questions in epistemology is not to undermine what we think we know, but instead serve as a means by which the nature of knowledge becomes better understood and to establish a basis by which knowledge can be more consistently achieved.

What is the nature of knowledge? Epistemologists are generally in agreement that a *person who possesses knowledge* – henceforth referred to as an 'epistemic agent' – does so on the basis that approximately three conditions are fulfilled, namely, (1) that there is a good *reason* for believing the proposition, (2) that the proposition is *true*, and (3) that the epistemic agent possesses a *belief* about the proposition. Insofar as the necessary conditions of knowledge consist of justified *J*, true *T*, belief *B*, knowledge is often abbreviated to *JTB*.<sup>3</sup> Let us briefly examine these three necessary conditions of knowledge, albeit in reverse order.

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<sup>1</sup> Roderick M. Chisholm, *Theory of Knowledge*, Third Edition (Englewood Cliffs, N. J.: Prentice Hall, 1989), p. 1. It should be noted that there are select passages that I will draw from the second edition of this text, so to distinguish between references to the second edition and the third edition of *Theory of Knowledge* I will identify the edition in the footnote. For the second edition, refer to: Roderick M. Chisholm, *Theory of Knowledge*, Second Edition (Englewood Cliffs, N. J.: Prentice Hall, 1977).

<sup>2</sup> Chisholm, *Theory of Knowledge*, Third Edition, p. 1.

<sup>3</sup> According to the widely accepted narrative of the history of epistemology, Edmund Gettier's argument in the famous three-page 1963 article "Is Justified True Belief Knowledge?" has convinced most epistemologists to abandon the position that knowledge is identical to *JTB*. For the landmark paper on the Gettier Problem, refer to: Edmund Gettier, "Is Justified True Belief Knowledge?," *Analysis* 23, n. 6 (1963): pp. 121-3. For an alternative narrative of the history of epistemology, where it is argued that accounts of knowledge as *JTB* is an innovation in 20th Century thought that is anachronistic to the pre-20th Century epistemological tradition, refer to: Julien Dutant, "The Legend of the Justified True Belief Analysis," *Philosophical Perspectives* 29 (2015): pp. 95–145.



The first necessary condition of knowledge is *belief*. In everyday parlance, when we state our belief in some person or state of affairs, we express our faith, trust, or acceptance that it is true. In much the same way, in epistemology, ‘to believe’ is an expression of our faith, trust, or acceptance of a particular proposition. Belief can be conceived of as a ‘propositional attitude’ towards the truth of a proposition. Thus, an epistemic agent that is confident that a proposition is true will have a positive attitude about the truth of the proposition, which constitutes ‘belief’ about the proposition. On the other hand, an epistemic agent that is doubtful that a proposition is true will have a negative attitude about the truth of a proposition, which constitutes ‘disbelief’ about the proposition. Epistemologists typically conceive of belief as a *doxastic* (Greek, *doxa*, belief) state within the cognitive system of the epistemic agent.<sup>4</sup>

The second necessary condition of knowledge is *truth*. Whether a belief is true is a separate matter from belief *per se*, since an epistemic agent can believe a proposition to be true, despite the proposition actually being false. The truth of the proposition is a necessary condition for knowledge, since we cannot correctly claim to ‘know’ a particular proposition if that particular proposition believed is false.<sup>5</sup>

The third necessary condition for knowledge is *reasonability* or *justification*. Importantly, a true belief is not in and of itself sufficient to count as knowledge, since an epistemic agent may *accidentally* believe a particular proposition by means of wishful thinking or a lucky hunch, only for that proposition to be confirmed as being true for a separate reason

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Mark Kaplan, “It’s Not What You Know that Counts,” *The Journal of Philosophy* 82, n. 7 (1985): pp. 350–63. As a consequence of the perceived effectiveness of the challenge that the Gettier problem poses for understanding knowledge as *JTB*, in recent times it has become common for contemporary epistemologists to suggest that the justification condition of knowledge should be replaced by an alternative – albeit, closely related – condition, or that the three existing conditions of knowledge are to be supplemented by a fourth condition that is ancillary to justification. Nevertheless, as Alvin Plantinga rightly points out, “*the basic shape or contour of the concept of knowledge is given by justified true belief*, even if a quasi-technical fillip or addendum (“the fourth condition”) is needed [...]” My emphasis added. Alvin Plantinga, *Warrant: The Current Debate* (New York, United States: Oxford University Press, 1993), p. 6.

<sup>4</sup> David Armstrong, *Belief, Truth, and Knowledge* (New York, United States: Cambridge University Press, 1973), p. 4.

<sup>5</sup> Armstrong, *Belief, Truth, and Knowledge*, p. 137.

that is either unknown or unrecognised for what it is by the epistemic agent. As I will elaborate upon further at various points in this dissertation, epistemologists are generally in agreement that knowledge possesses an extra *value* to it that is absent from mere true belief, with the cause of that added value to a true belief deriving from the fact that there exists a good reason to believe a particular proposition.<sup>6</sup> Traditionally epistemologists have referred to possessing good reasons for belief as justification, since good reasoning is considered to be an antidote to the possibility of error, and the absence of error makes believing a proposition *right* or *just*, and the epistemic agent *justified*.<sup>7</sup> An implication of understanding justification in the context of the nature of knowledge is that it means that the type of belief that is required for knowledge is akin to ‘rational belief’, which is to say that an epistemic agent should only believe a proposition if he or she possesses (*prima facie*) justification for doing so. With the above in mind, the working definition of knowledge that we will use for this dissertation is as follows: an epistemic agent has achieved ‘knowledge’ if he or she has a rational belief or a doxastic attitude of confidence that a given proposition is true because he or she possesses relevant *rational adequate grounds* or a *sufficient reason* to warrant such a belief.

## 1.2. Two Species of Inferential Justification

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<sup>6</sup> Frederick F. Schmitt, *Knowledge and Belief* (New York, United States: Routledge, 1992), pp. 1-3. Also refer to: Jonathan L. Kvanvig, *The Value of Knowledge and the Pursuit of Understanding* (Cambridge, England: Cambridge University Press, 2007), pp. 44, 55-62.

<sup>7</sup> Schmitt, *Knowledge and Belief*, p. 3. A concern for epistemologists when considering a theory of justification is whether the ‘good reasons’ an epistemic agent possesses is *propositional* or *doxastic* in nature, with the former account involving an epistemic agent having good reasons for believing that a particular proposition, and the latter position involving an epistemic agent actually believing a particular proposition on the basis of those reasons. The discussion about whether a propositional or doxastic account of justification is preferable to the other, as well as how they both relate to one another, involves a high level of nuance to avoid any one of a multitude of hidden *lacunas* which are not immediately relevant to solving the problem of induction. Consequently, I will refrain from the practice of identifying whether a theory of justification is being used in a doxastic or a propositional sense when developing a solution to the problem of induction. For a more extensive treatment of the distinction between doxastic justification and propositional justification, refer to: John Turri, “On the Relationship between Propositional and Doxastic Justification,” *Philosophy and Phenomenological Research* 80, no. 2 (2010): pp. 312-26. Also see: Giorgio Volpe, “Propositional and Doxastic Justification: Their Relationship and a Questionable Supervenience Claim,” in *Supervenience and Normativity*, edited by Bartosz Brożek, Antonino Rotolo, Jerzy Stelmach (Cham, Switzerland: Springer International Publishing, 2017): pp. 25-48.

How do we come to possess knowledge? In answering this question, it is important to distinguish between *inferential* or *non-inferential* means of knowledge formation. Inferential justification involves an epistemic agent believing a particular proposition as a result of moving rationally from old beliefs to a new belief, whereas non-inferential justification involves an epistemic agent believing a proposition because of some reason that is not a belief.<sup>8</sup> Furthermore, inferential justification for a belief can take the form of an *argument* so that the truth of the new belief (the conclusion) can be evaluated on the basis of the support that the old beliefs (the premises) provide for it. On the other hand, since non-inferential justification by definition does not involve an act of inferring it follows that it is not able to take the form of an argument.<sup>9</sup>

One of the reasons that an understanding of the distinction between inferential and non-inferential justification is significant is because it can contribute to how we address what is referred to as the ‘infinite regress problem’. The argument for the infinite regress problem goes as follows: if all rational beliefs are possessed purely on the basis of inferential justification then the previously held beliefs from which a new belief is inferred must themselves also be inferred by beliefs prior to them *ad infinitum*.<sup>10</sup> *Foundationalists* about justification and knowledge draw on the notion of non-inferential justification to argue that the threat of an infinite regress is avoided because all of our beliefs are ultimately based on ‘basic beliefs’, which are non-inferred beliefs that are possessed on the basis of non-doxastic factors such as perceptual states rather than other beliefs. On the other hand, *coherentists* about justification and knowledge reject the possibility of basic beliefs, and instead affirm that the threat of an infinite regress is avoided because all rational beliefs are justified on the basis of their relation

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<sup>8</sup> Paul A. Boghossian, “Externalism and Inference,” *Philosophical Issues* 2 (1992): p. 22. Also refer to: Robert S. Truog, “Inference,” in *A Companion to Epistemology*, edited by Jonathan Dancy, Ernest Sosa, and Matthias Steup, Second Revised Edition (Chichester, England: John Wiley and Sons, 2010), p. 444.

<sup>9</sup> Brian Skyrms, *Choice and Chance*, Fourth Edition (Belmont, California: Wadsworth, 1999), p. 12.

<sup>10</sup> For an extensive exposition of the infinite regress problem, refer to: Scott F. Aiken, *Epistemology and the Regress Problem* (Oxon, England: Routledge, 2011).

to other beliefs. Thus, in contrast to the foundationalist, in a certain sense it is correct to understand the coherentist as maintaining that *all* beliefs are inferred from other beliefs.<sup>11</sup> The limited scope of this dissertation does not allow me to examine the purported merits and deficiencies of the respective foundationalist and coherentist accounts of justification and knowledge, but suffice it to say, the simple reliabilist theory of knowledge that I will later defend is itself a representative of the foundationalist account of justification and knowledge.

For now, I will refrain from commenting further on non-inferential justification, and instead focus solely upon inferential justification. An epistemic agent may establish whether it is reasonable or justifiable to believe a particular proposition by means of one of the two species of inferential justification, namely, deductive reasoning or inductive reasoning. An epistemic agent reasons *deductively* iff it would be impossible for the conclusion to be false while the premises are true. On the other hand, non-deductive reasoning, which is typically referred to as *inductive* reasoning, involves an epistemic agent inferring a conclusion that is *probably* true from true premises, since the conclusion contains information that is not supported by the evidence in the premise set.<sup>12</sup>

The type of support for a conclusion in a deductive argument can be differentiated from the type of support for a conclusion in an inductive argument on the basis of the semantic *relation* between the conclusion and the premises. For instance, the relation between the premises and the conclusion of a deductive argument is one of *entailment*, whereby an inference is deductive if it is necessarily the case that if the premises are true then the conclusion is true.<sup>13</sup> To illustrate this point, consider the following often-used example of a deductively valid argument:

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<sup>11</sup> Alvin Plantinga, *Warrant and Proper Function* (New York, United States: Oxford University Press, 1993), pp. 177-8.

<sup>12</sup> Skyrms, *Choice and Chance*, pp. 17-23.

<sup>13</sup> John Greco, *Putting Skeptics In Their Place: The Nature Of Skeptical Arguments And Their Role In Philosophical Inquiry* (New York, United States: Cambridge University Press, 2000), p. 150.

- P1. Socrates is a man.  
P2. All men are mortal.  
C. Therefore, Socrates is a mortal.

If the statements “Socrates is a man” and “All men are mortal” are both true, it would be contrary to the principle of non-contradiction for the conclusion “Socrates is a mortal” to be false, because it would mean that one of the true premises is false, and a statement cannot be true and false at one and the same time. Or to put it another way, the truth of the premises *guarantees* or *certifies* the truth of the conclusion, which is to say that the evidence for believing the conclusion is *conclusive*. As we can see in the above example, and as is the case for all deductive arguments, a distinctive feature about inferring deductively is that it involves making information that is *implicit* in the premise set to be *explicit* in the conclusion.<sup>14</sup> Deductive arguments that possess a form where *if* the premises are true the conclusion must be true are considered to be *valid*. Additionally, in such cases where the argument is valid and the premises *are* true, the argument is considered to be *sound*.<sup>15</sup>

Unlike in the case of deductive inference, an inference is inductive if it is necessarily the case that the conclusion being true is *likely* or *statistically probable* in relation to the truth of the premises.<sup>16</sup> Thus, unlike in a deductive argument, in an inductive argument the link between the premises and the conclusion is inconclusive, which is to say that the evidentiary support from the premises of an inductive argument never *guarantees* or *validates* the truth of the conclusion. The reason that inductive inferential reasoning does not guarantee the truth of

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<sup>14</sup> Skyrms, *Choice & Chance*, p. 18. Charles Sanders Peirce refers to the inference that makes the implicit become explicit in deduction as an *explicative inference*. Peirce, *W*, 1, p. 458. It should be noted that I am referencing Peirce’s writings according to the standard scholarly form. “*W*” refers to eight-volume set of works called the *Writings of Charles S. Peirce, A Chronological Edition*. According to the standard scholarly form, reference to specific parts of Peirce’s work are identifiable by the abbreviation of the work (in this case *W*), followed by the volume number, and the page number.

<sup>15</sup> Skyrms, *Choice & Chance*, pp. 9-11.

<sup>16</sup> Greco, *Putting Skeptics in Their Place*, pp. 150-1. Greco immediately adds that it is important to note that unlike in the case of deduction, additional premises can be added to an inductive argument so that the makeup of the support for the conclusion can continually change. It is not necessarily the case that the truth of the conclusion of an argument remains likely or statistically probable as premises are added, only that “it is necessarily true that the conclusion is likely in relation to [those specific] premises.”

the conclusion when the premises are true is because the conclusion of an inductive argument contains new information that is neither explicitly nor implicitly contained in the premise set.<sup>17</sup>

While inductive inference does not involve a relation of entailment, it could be said to involve a relation of partial-entailment, in the sense that it does not guarantee truth, but it does guarantee the likelihood of truth.<sup>18</sup>

Insofar as the truth of the premises does not guarantee the truth of the conclusion in an inductive argument, whereby the premises could be true and the conclusion could still be false, inductive arguments are *invalid*. While the truth of the premises does not guarantee the truth of the conclusion in an invalid argument, an inductive argument can be evaluated along a vector of *strong* to *weak* degrees of evidentiary support for the truth of the conclusion. A strong inductive argument differs from a weak inductive argument to the extent that the evidentiary support for the truth of the conclusion in the case of the former has a greater level of force for compelling an epistemic agent to believe that the conclusion is true than the level of force from the evidentiary support for the truth of the conclusion in case of the latter.<sup>19</sup> A non-exhaustive list of the common applications of invalid inductive reasoning in everyday life include (i) *causal reasoning*, where an epistemic agent speculates about the cause of an observed effect, (ii) *statistical generalisation*, where an epistemic agent draws an inference from a limited set of observed specific instances to a generalisation that exceeds what has been observed, and (iii) *statistical application*, where an epistemic agent predicts what the next observed instance of a specific type of thing will be on the basis of the pattern of past observations.<sup>20</sup>

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<sup>17</sup> According to Peirce, the conclusion inferred in inferential inductive reasoning contains information that *goes beyond* or is an *amplification* of the information in the premise set, a distinctive feature of inferential-inductive reasoning is that it employs an *ampliative inference*. Peirce, *W*, 1, p. 458.

<sup>18</sup> Ian Hacking, *The Emergence of Probability* (Cambridge, England: Cambridge University Press, 1975), pp. 13-4. Also refer to: Greco, *Putting Skeptics in Their Place*, pp. 150.

<sup>19</sup> Gregory Johnson, *Argument and Inference: An Introduction to Inductive Logic* (Cambridge, Massachusetts: MIT Press, 2016), pp. 4-8.

<sup>20</sup> Ian Hacking, *An Introduction to Probability and Inductive Logic* (Cambridge, England: Cambridge University Press, 2001), pp. 11-21.

### 1.3. The Problem of Induction Explained

Having established the context in which the problem of induction is proposed, let us now consider the problem of induction itself. According to the canonical narrative of the Western philosophical tradition, it was David Hume (1711-1776) who first concluded that if we are to be logically consistent we must inevitably be sceptical about the assumption that we know that inductive inferential reasoning is a source of knowledge.<sup>21</sup> However, as Gerhard Schurz points out, what this narrative fails to acknowledge is that Hume in fact proposed a series of arguments that attacked the assumption that we can know that we possess inductive knowledge, which has led to some philosophers to refer to this collection of arguments as a whole as ‘the problem of induction’, and other philosophers to refer to any one of the arguments from this collection of arguments as being ‘the problem of induction’.<sup>22</sup> Before continuing, I want to be clear that in this dissertation by ‘the problem of induction’ I am specifically referring to Hume’s argument that purportedly shows why the *normative structure* of inductive inferential reasoning means that in principle we cannot show how we know that inductive inferential reasoning is a source of knowledge. For the purposes of avoiding confusion about which of Hume’s critiques of inductive knowledge is being referred to, I will henceforth refer to the specific argument I have just referred to as ‘the normative problem of induction’, or more simply as the ‘normative problem’.

As I will show, the normative problem teaches an important lesson, namely, that there is no logical or quasi-logical relation that allows an epistemic agent to reason about unobserved matters of fact on the basis of observed matters of fact. The quasi-logical relation that I am here

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<sup>21</sup> Ruth Weingtraub has offered a compelling challenge to the canonical narrative that Hume was the originator of the problem of induction, and instead suggests that Hume’s argument was influenced by the thought of Sextus Empiricus (c. 160 - 210 CE). Ruth Weingtraub, “What was Hume’s Contribution to the Problem of Induction?,” *The Philosophical Quarterly* 45, n. 181 (1995): pp. 460–70. Sextus Empiricus, *Outlines of Pyrrhonism*, translated by Robert Gregg Bury (London, England: W. Heinemann, 1933), p. 283.

<sup>22</sup> Gerhard Schurz, *Hume’s Problem Solved: The Optimality of Meta-Induction* (Cambridge, Massachusetts: MIT Press, 2019), pp. 6-7. Greco, *Putting Sceptics In Their Place*, pp. 25-34.

referring to is often referred as the principle of regularity (for the purposes of simplicity I will henceforth refer to the principle of regularity as PR) or the principle of the uniformity of nature. In essence, PR maintains that unobserved matters of fact will *resemble* observed matters of fact because nature is *regular* or *uniform*, which permits us to assume that we can inductively infer knowledge about unobserved matters of fact on the basis of observed matters of fact. As Hume explains, PR is a quasi-logical principle to the extent it refers to a type of *causal* relation between observed matters of fact and unobserved matters of fact, which is to say that there is a *necessary connection* between observed matters of fact and unobserved matters of fact.<sup>23</sup>

Now, PR is itself a belief about an unobserved matter of fact and is formed on the *basis* of beliefs about observed matters of fact, which is to say that PR is an inferred belief. But what kind of inferential justification can be provided for PR? As we will see, Hume argues that PR cannot be justified by deductive inference because the evidence for the conclusion that amounts to ‘PR is true’ is inconclusive. After all, the belief that ‘unobserved matters of fact resemble observed matters of fact’ is a generalisation that is based on a limited set of beliefs about specific instances where unobserved matters of fact resembled observed matters of fact. Consequently, the only way in which PR could be justified is on the basis of inductive inferential reasoning from observed matters of fact to an unobserved matter of fact.<sup>24</sup> Herein

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<sup>23</sup> To quote Hume directly, “The first time a man saw the communication of motion by impulse, as by the shock of two billiard balls, he could not pronounce that the one event was *connected*: but only that it was *conjoined* with the other. After he has observed several instances of this nature, he then pronounces them as *connected*. What alteration has happened to give rise to this new idea of *connexion*? Nothing but that he now *feels* these events to be *connected* in his imagination, and can readily foretell the existence of one from the appearance of the other. When we say, therefore, that one object is connected with another, we mean only that they have acquired a connexion in our thought, and give rise to this inference, by which they become proofs of each other’s existence: A conclusion which is somewhat extraordinary, but which seems founded on sufficient evidence.” David Hume, *Enquiries Concerning Human Understanding*, edited by L.A. Selby-Bigge, Third Edition (Oxford, England: Clarendon Press, 1978), pp. 75-6.

<sup>24</sup> It should be noted that I have taken some liberty in re-presenting Hume’s argument for the normative problem. To elaborate, in Hume’s own articulation of the argument he supposes that inductive inference is *predictive* in character, so that to inductively infer is to form beliefs about how types of objects will appear in the future on the basis of beliefs about how such types of objects appeared in the present and the past. Similarly, J. J. C. Smart writes “Hume showed conclusively that our belief that all past, present, and future A’s are B’s cannot depend on a valid deductive argument from the fact that all hitherto A’s have been B’s. We cannot even deduce the much weaker proposition that the next observed A will be a B. His reason is a very simple one: There is no contradiction in asserting the proposition ‘All A’s have been B’s but some not yet observed A’s are not B’s.’” J. J. C. Smart,



lies the problem: the only justificatory support for belief in PR must involve PR itself, which means that such *prima facie* justification involves circular reasoning.

A formalised version of Hume's argument for the normative problem that has been rephrased for a contemporary philosophical audience goes as follows:

- P1. All reasoning is either deductive or inductive in nature.
- P2. PR cannot be justified by a deductive inference, since the support for PR is inconclusive and the conclusion of a deductive inference is conclusive.
- P3. PR cannot be justified by an inductive inference without such a justification being fallaciously circular, since inductive inference presupposes PR.
- SC. Therefore, PR cannot be justified (P1, P2, P3).

- P4 (= SC). PR cannot be justified.
- P5. All of our beliefs about unobserved matters of fact presuppose PR for their justification.
- C. Therefore, all beliefs that presuppose PR for their justification are not justified, since their justification depends on an unjustified supposition (SC, P5).<sup>25</sup>

Let us analyse the argument known as the normative problem in more detail so as to establish its logical plausibility. Beginning with P1, one might wonder whether it is correct to maintain that PR cannot be justified at all if PR cannot be justified by either deductive inference or inductive inference. Intuition, present perceptual states, and the contents of memory are common sources of support from which we infer a conclusion, so why are they not considered as possible sources of justification for PR? Hume never addresses this question directly in any of the versions of the normative problem presented in his writings. However, as John Greco

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*Between Science and Philosophy* (New York, United States: Random House, 1968), p. 177. However, as Leah Henderson correctly notes, “[i]t should also be remarked that Hume's argument applies just to what is known today as *enumerative induction*, based on instances, and primarily to singular predictive inference (including ‘predictions’ about the present or past [...]) but, again, its generalization to other forms of inductive reasoning is straightforward.” Leah Henderson, “The Problem of Induction,” *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, last modified on 26 August 2019, <https://plato.stanford.edu/archives/spr2019/entries/induction-problem/>.

<sup>25</sup> Hume, *Enquiries Concerning Human Understanding*, pp. 35-6.

helpfully remarks, sources of support such as intuition, present perceptual states, and the contents of memory were likely excluded from the argument for the normative problem because their scope of relevance in respect to justification pertains solely to present and past observed matters of fact without then moving inferentially to unobserved matters of fact.<sup>26</sup> Consequently, we should conclude that since PR is an inferred belief it must be justified by a means of inferential justification. Therefore, P1 is well established.

In respect to P2, the reason that deductive reasoning cannot be employed to justify PR is because the different types of inference employed in each of these two forms of reasoning are unable to justify each other. To elaborate, recall that deductive inference involves a relation of entailment between the conclusion and the premises, where the truth of the conclusion is guaranteed by the truth of the premises. If PR is to be justified by deductive reasoning, it follows that, necessarily, *if* the premises are true *then* PR is true. Significantly, *PR is itself inferred from past and present observations*. Thus, since we are never certain about how particular matters of fact will appear in the future, at least *in theoria* it is always possible that PR could have to be amended if our observations in the future do not resemble our past and present observations. Consequently, PR is only probably true. Therefore, since the conclusion of a deductive argument must be true if the premises are true, and PR is only probably true, it follows that PR cannot be justified by deductive reasoning. Or as Gilbert Harman and Sanjeev Kulkarni put it, to justify PR through deduction would be to commit a “category mistake,” since the inference used in deductive arguments means that it is fundamentally incompatible with justifying any proposition that is only probably true.<sup>27</sup>

P3 states that an inductive justification of PR inevitably leads to fallacious circular reasoning. The charge of circularity is based on the fact that an inductive inference assumes

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<sup>26</sup> Greco, *Putting Sceptics In Their Place*, pp. 139-40, 154.

<sup>27</sup> Gilbert Harman and Sanjeev R. Kulkarni, “The Problem of Induction,” *Philosophical and Phenomenological Research* 72, n. 2 (2006): pp. 563-4.

PR, and if we are to justify PR by means of an inductive inference it follows that the justification of PR assumes the very same principle that is to be justified. Circular reasoning is typically classified as fallacious, since it is generally agreed that the quality of the justification of a principle is undermined if the type of justification itself assumes the same principle that is needing to be justified. Or as Wesley Salmon remarks, any justification of PR through inductive reasoning would involve committing the logical fallacy of *petitio principii* – where the point under question is assumed in answering the question – from which the vicious circularity ensues.<sup>28</sup>

Lastly, SC is true if P1, P2, and P3 are true. After all, if the only forms of reasoning are deductive and inductive in nature, and the rules of logic dictate that neither deduction nor induction are able to justify PR, it follows that PR is a principle that is unable to be inferentially justified. Therefore, seeing as inductive inferential reasoning assumes the involvement of PR so as to infer beliefs about unobserved matters of fact from observed matters of facts, as per C, it follows that we cannot know that inductive inferential reasoning is a source of knowledge.

#### **1.4. The Principle of Regularity and Entailment**

Is Hume successful in showing that if we assume that inductive inference involves PR, then it follows that we cannot show that we know that inductive inferential reasoning is a source of knowledge? I am personally persuaded that the normative problem makes no obvious mistake. However, naturally not all philosophers agree with this assessment. For instance, it is common for contemporary epistemologists to argue that the normative problem is only *prima facie* plausible, since, it is claimed, the only reason that Hume assumes that inductive inferential reasoning involves PR is for the purposes of making inductive inference a form of deductive

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<sup>28</sup> Wesley Salmon, *The Foundations of Scientific Inference* (Pittsburgh, Pennsylvania: University of Pittsburgh Press, 1967), p. 6.

inference. Perhaps the most famous proponent of this position is David Stove, who contends that since PR refers to a necessary causal connection between observed matters of fact and unobserved matters of fact it follows that PR is effectively a relation of entailment.<sup>29</sup> Despite Hume making a distinction between what contemporary philosophers would refer to as inductive inference and deductive inference, Stove concludes that the reason that Hume presents PR as a relation of entailment is because he clearly assumes that deductively valid reasoning is the only legitimate form of inferential justification.<sup>30</sup> However, Stove argues, inductive inference does not involve anything like Hume's conception of PR at all, since the relation between the premises and the conclusion in an inductive inference is one of statistical probability, rather than one of entailment.<sup>31</sup> Therefore, the normative problem should be rejected because it is based on a false assumption about the type of relation between observed matters of fact and unobserved matters of fact.<sup>32</sup>

Stove's objection to the normative problem on the basis of Hume being what we might call a 'deductivist' about knowledge is incorrect. It can be clearly shown that in establishing the normative problem Hume does not conceive of PR as an entailment relation between the premises and the conclusion of an inductive argument. To elaborate, it is important to note that Hume only ever defines PR in a *generic* or non-specific way, such as "all our experimental

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<sup>29</sup> D. C. Stove, *Probability and Hume's Deductive Scepticism* (Oxford, England: Clarendon Press, 1973), pp. 43, 51.

<sup>30</sup> Stove, *Probability and Hume's Deductive Scepticism*, pp. 43, 51. Or to quote Stove directly, "Sometimes when we say of an argument from  $p$  to  $q$ , that it presupposes  $r$ , our meaning is as follows: that, as it stands, the argument from  $p$  to  $q$  is not valid, and that, in order to turn it into a valid argument, it would be necessary to add to its premisses the proposition  $r$ . I believe that this is the sense in which "presuppose" occurs in . . . Hume's argument. [...] Hume's argument . . . may therefore be summed up in the following way: from premisses which prove at most the invalidity of predictive-inductive inferences, along with the unstated premiss that an inference is unreasonable if it is invalid, Hume concluded that predictive-inductive inferences are unreasonable." Preeminent Hume scholar Barry Stroud goes so far as to call the interpretation of Hume as a deductivist as the "standard interpretation" of Hume's reasoning. Barry Stroud, *Hume* (London: Routledge and Kegan Paul, 1977), p. 56.

<sup>31</sup> Stove, *Probability and Hume's Deductive Scepticism*, 51.

<sup>32</sup> Robert Audi separately adds that by Hume requiring that all inductions be made into deductions, he is *assuming* that knowledge can only be inferred if the proposition that is known is entailed by the premises, without having actually first proven that we can only infer that we know a proposition if it is entailed by the true premises. Therefore, an additional reason that the normative problem is unsuccessful is because it involves question begging. Robert Audi, *Epistemology: A Contemporary Introduction to the Theory of Knowledge* (London, England: Routledge, 1999), pp. 300-2.

conclusions proceed upon the supposition that the future will be conformable to the past” and “all inferences from experience suppose, as their foundation, that the future will resemble the past, and that similar powers will be conformable with similar sensible qualities.”<sup>33</sup> The generic nature of Hume’s definition of PR is significant because if we assume that PR is involved in inductive inferential reasoning, in and of itself PR is not suitable for making such arguments deductive. Why? To put it simply, the generic nature of PR leaves us with two options: firstly, the future *always* and *perfectly* resembles the past, and secondly, the future *sometimes* and *imperfectly* resembles the past. As I will show, neither of these options make an inductive inference that involves PR into a validly deductive argument.

The reason that the first interpretation of PR is obviously false is because we can all point to occasions in our lives where objects or events from the future do not always resemble objects or events from the past (for instance, for better or worse, most twenty first birthday parties *barely* resemble a person’s first birthday party in any way, shape, or form). But if PR does not involve the future *always* and *perfectly* resembling the past, this brings us to the second possible interpretation of PR, namely, that *sometimes* and *imperfectly* the future will resemble the past. This second interpretation of PR also runs into a problem for Stove’s interpretation of the normative problem, since how does one then know which particular qualities or powers we observe in the future will adequately resemble other particular qualities or powers observed in the past? In answering this question, to put it simply, we cannot know the exact answer to this question. To provide a positive answer to this question PR would have to be defined in a non-generic or *specific* way, so that PR states which particular qualities or powers are connected with which other particular qualities or powers. Nevertheless, PR is defined in a generic or non-specific way. Thus, insofar as Hume clearly defines PR in a generic way it follows that

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<sup>33</sup> For the first quotation, refer to: Hume, *Enquiries Concerning Human Understanding*, p. 35. For the second quotation, refer to: Hume, *Enquiries Concerning Human Understanding*, p. 37.

Stove does not have adequate grounds to conclude that the normative problem is based on a deductivist assumption about the causal relation between observed matters of fact and unobserved matters of fact.<sup>34</sup> Consequently, Stove's critique of the normative problem is unsuccessful.

It is conceivable that someone might here push back against my rejection of Stove's critique of the normative problem by pointing out that I have not clarified what exact purpose PR plays in inductive inferential reasoning if it is not to serve as the means by which an inductive argument implicitly becomes deductive. In responding to such a concern, it seems to me that the reason that Hume assumes that inductive inference involves PR is because without PR we would have no reason to think that the beliefs we inductively infer about unobserved matters of fact are in any way *relevant* to the beliefs we have about observed matters of fact. After all, if we do not assume that nature is regular or uniform the alternative scenario is that nature is chaotic and the laws of nature can change, which would mean that we have no basis for assuming that the objects of belief are not connected in any way to each other. Thus, as Greco explains, if beliefs about observed matters of fact and beliefs about unobserved matters of fact are not connected by PR we would not have adequate grounds to believe that a conclusion that is inferred inductively is *supported* by the premises.<sup>35</sup> Therefore, if we are to maintain that there is a necessary causal connection of probable truth from observed matters of fact to unobserved matters of fact, it follows that we must assume that inductive inference involves PR if inductive inference is to even qualify as a non-deductive source of knowledge.

### **1.5. Induction and its Natural Ground**

Howard Sankey offers an alternative account for why we can assume that inductive inferential

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<sup>34</sup> John Greco, "Agent Reliabilism," *Philosophical Perspectives* 13 (1999): p. 276.

<sup>35</sup> Greco, "Agent Reliabilism," p. 276. For a detailed version of this argument, refer to George Dicker, *Hume's Epistemology and Metaphysics* (London, England: Routledge, 1998), pp. 91-3, 116-9.

reasoning involves PR while still being able to show that we know that inductive inferential reasoning is a source of knowledge. According to Sankey, the reason that the normative problem is *prima facie* plausible is because it assumes that PR is known by purely epistemological means, and in so doing it thus ignores the important role that metaphysics plays as the natural ground of PR. To elaborate, rather than PR being understood in generic terms that assumes an ungrounded “blanket resemblance” between observed matters of fact and unobserved matters of fact, PR is in fact grounded in the fundamental *causal powers* and properties of specific substances that are determined on the basis of the *natural kind* that each specific substance belongs to.<sup>36</sup> Or to be more precise, when we draw a good inductive inference about unobserved matters of fact from observed matters of fact, it is because the truth of the conclusion and the truth of the premises are both grounded in the same reality whereby observed specific substances and unobserved specific substances that bear a sufficiently close resemblance to each other are members of the same natural kind.<sup>37</sup> Therefore, when we infer a conclusion about a specific property or power of an unobserved substance on the basis of that same property or power of an observed substance that is adequately similar in appearance, the conclusion is justified because of the real, nature kind structure of the world.

Sankey recognises that a potential obstacle to incorporating PR into a solution to the normative problem is that it assumes that an epistemic agent must infer from the past uniformity of nature to the future uniformity of nature. Obviously, if inductive inference is grounded in the natural kind structure of the world, and knowledge of natural kinds is inductively inferred, such a justification is circular. In an attempt to avoid the problem of circular reasoning, Sankey proposes that the belief in the existence of natural kinds can be justified by means of drawing

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<sup>36</sup> Howard Sankey, “Induction and Natural Kinds,” *Principia: An International Journal of Epistemology* 1, n. 2 (1997): p. 244.

<sup>37</sup> Sankey, “Induction and Natural Kinds,” pp. 245-6. Again, the resemblance between observed and matters of fact and unobserved matters of fact is caused by the fact that they *necessarily* possess the same essential powers and properties as each other

an *inference to the best explanation* (IBE). According to tenets of IBE, to the extent that a hypothesis best explains what evidence is already known, we are justified in believing that the hypothesis is true. Sankey suggests that the success of science is the best evidence for the hypothesis of the existence of natural kinds, and on this basis he concludes that we are justified in believing that natural kinds exist.<sup>38</sup>

Sankey points out that whereas inductive reasoning is typically thought to involve the practice of *enumeration* – that is, when we infer from the fact that ‘all observed As have been Bs’ to the conclusion ‘all As are Bs’ – IBE is a distinctive form of inductive reasoning to the extent that it involves inferring a hypothesis (natural kinds exist) that best explains what evidence is already known (science is successful). Consequently, insofar as IBE is not a form of induction that involves enumeration, it follows that enumerative induction is not being used to justify enumerative induction. Thus, the metaphysical strategy that he proposes for solving the normative problem avoids the problem of fallacious circular reasoning, since a type of reasoning is not being justified by the *exact same* type of reasoning.<sup>39</sup> Therefore, Sankey concludes, insofar as we can know that PR in a non-fallaciously circular way, the normative problem is successfully solved.

While I am inclined to agree with Sankey that because IBE and enumerative induction are different species of inductive inference the threat of fallacious circular reasoning to justify PR is avoided, ultimately the metaphysical solution to the normative problem that Sankey is proposing is unsuccessful because it can still be shown to require circular reasoning. As Stathis Psillos points out, the reason that circular reasoning ensues in Sankey’s solution despite Sankey’s best efforts to avoid circular reasoning is because if we attempt to justify PR by grounding it in the natural kind structure of the world, given that the uniformity of nature is

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<sup>38</sup> Sankey, “Induction and Natural Kinds,” p. 248.

<sup>39</sup> Sankey, “Induction and Natural Kinds,” pp. 248-9.



known by invalid IBE reasoning, it follows that IBE itself then needs to be justified in such a way that it too is able to avoid fallaciously circular reasoning.<sup>40</sup> Thus, the problem of circularity is simply shifted from the inference employed in enumerative inductive to the inference employed in reasoning by IBE.

### 1.6. An Outline of How to Respond to the Normative Problem

To reiterate an important point that I made earlier, the normative problem makes no obvious mistake. Furthermore, when we combine my analysis of the premises of the argument for the normative problem from **Section 1.3.** with my defence of the adequacy of the normative problem against Stove and Sankey in **Section 1.4.** and **Section 1.5.** respectively, I suggest that for all intents and purposes the argument for the normative problem appears to be both valid and sound. Consequently, since we cannot be justified in believing that inductive inference involves PR it follows that we must take one of two possible pathways forward. Firstly, we could be *sceptical* about the possibility of possessing inductive knowledge, since in principle we cannot be justified in believing PR to begin with. Alternatively, we could explain how it is possible to show that we can know that inductive inference is a means of forming knowledge in a way that does not involve PR. However, if we maintain that inductive inference is a source of knowledge while rejecting the position that PR is involved in inductive inference, we must also explain how it can be a contingent fact about human cognition that inductive inference is a source of knowledge.<sup>41</sup>

Why might someone be inclined to adopt the position of scepticism about the possibility of possessing inductive knowledge? The obvious attraction of scepticism is that it might appear

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<sup>40</sup> Stathis Psillos, "Induction and Natural Necessities," *Journal for General Philosophy of Science* 48, n. 3 (2017): pp. 339-40.

<sup>41</sup> If inductive inference being a source of knowledge is a "contingent fact" about human cognition, what this means is that is true *under the circumstances in which inductive inference is used* that it is a source of knowledge, but if the circumstances were different it is possible that such a fact about human cognition could be false.

that if we are to be logically consistent we must follow our reasoning wherever it may lead us. Thus, if the destination of such reasoning is scepticism, one might simply conclude that “if my love of rationality leads me here, so be it”. Consequently, if the normative problem is correct in showing that we cannot assume that inductive inference involves PR while still being able to show that we know inductive inference is a source of knowledge, we might be inclined to simply accept that we can only possess beliefs *sans* justification about unobserved matters of fact that we assume we know in both everyday life and the natural sciences, but despite our desire to the contrary, such beliefs never qualify as knowledge *per se*.

If one were to accept that the normative problem – or for that matter, any logically plausible sceptical problem – is correct, it might seem that the implication is that one must also accept that a seemingly irreparable chasm exists between philosophical reflection and our common sense assumptions about the nature of knowledge and knowledge formation in the world. The purported success of the normative problem has similar consequences for inquiry in the natural sciences, with Bertrand Russell lamenting that “induction is an independent logical principle, [...] and that *without this principle science is impossible*,” and C.D. Broad pronouncing that a consequence of PR not being able to be justified reveals that “induction is the glory of science and the scandal of philosophy.”<sup>42</sup> As I indicated in **Section 1.1**, I agree with Chisholm that the purpose of epistemological speculation is “to correct and improve our own epistemic situation.” Thus, we can know that any form of epistemological speculation that leads us to an impoverished epistemic situation – such as the normative problem – has not come to an end or is without remedy. Consequently, I suggest that we must reject inductive scepticism, since too much is at stake for us to adopt the position that we should be sceptical about the possibility of possessing inductive knowledge altogether.

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<sup>42</sup> Bertrand Russell, *A History of Western Philosophy*, Second Revised Edition (London, England: Routledge, 2009), p. 674. C. D. Broad, *Ethics and The History of Philosophy* (London, England: Routledge, 1952), pp. 142-3.

Seeing as we have rejected inductive scepticism, this means there are two types of approaches to responding to the normative problem that are available to us, namely: (1) we may simply believe that inductive inference is a source of knowledge without proving that we know that inductive inference is a source of knowledge, or (2) showing that we know that inductive inference is a source of knowledge without assuming it involves PR.<sup>43</sup> In what might admittedly appear to be a counter-intuitive response to the approaches to responding to the success of the normative problem, I will argue throughout the course of this dissertation that we can adopt both (1) *and* (2). Importantly, in adopting (1), I should clarify that I am not endorsing the position that we should withdraw from epistemological speculation specifically so as to *avoid* the sceptic. Rather, I am defending (1) on the basis that such a position can be motivated by philosophically compelling reasons. In respect to (2), such a position is derivative of the reasons for (1) firstly being firmly established. But the basic idea behind (2) is that the influence of scepticism on contemporary epistemologists is undeniably significant and hard for people to free themselves from, so I also want to argue that we can show *how* we know that inductive inference is a source of knowledge by means of inductive inference in case for whatever reason they are disinclined to accept (1).

As I will elaborate upon in greater detail in **Chapter 3**, it is a contingent fact about human cognition that inductive inference is a *reliable, trustworthy, or successful* means of producing true beliefs, and such beliefs are justified on the basis of the reliability of the process that caused them. Here it might be suggested that if it is a contingent fact about human cognition that inductive inference is a source of knowledge then any derivative attempt to

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<sup>43</sup> I am not ignoring the fact that there are many philosophers that also attempt to dismiss the conclusion of a sceptical argument by showing that the sceptical argument is self-refuting instead of seriously engaging with the argument itself. Dismissive responses might also involve a solution to a sceptical problem simply restructuring the method (such as induction) that the sceptic assumes functions as it does because of a given metaphysics, ontology, epistemology, or philosophy of mind. However, as Greco points out, good sceptical arguments are generally dynamic enough that they can be restructured so as to make the same point without the same assumptions. Therefore, dismissive responses are not an effective way of responding to sceptical problems. Greco, *Putting Sceptics In Their Place*, p. 7.

convince fellow epistemologists that the theory of knowledge I adopt is still able to respond directly to the normative problem is misplaced. After all, the normative problem requires that we show how we know that PR is true, and I have already stated that I do not accept that inductive inference involves PR. Although it is technically correct to say if inductive inference does not involve PR, any successful inductive justification of inductive inference would not be responding directly to the normative problem as Hume formulates it, nevertheless it is easy to see how the normative problem can be reformulated so as to pose a threat to the adequacy of the account of induction that I defend. If the reason that inductive inferential reasoning is a source of knowledge is determined on the basis of the *past* success or reliability of inductive inference, then Hume could simply respond that such a justification involves fallaciously circular reasoning since inductive inference is being used to justify inductive inference. Consequently, Hume could conclude, since we do not know that inductive inference is a source of knowledge, it follows that inductive inference is not a source of knowledge. Thus, although we should accept that Hume's formulation of the normative problem is successful at showing that inductive inference does not involve PR, there is still unfinished business that must be taken care of if we are to convince fellow epistemologists that are disinclined to accept that it is simply a contingent fact about human cognition that inductive inference is a source of knowledge.

To show how we know that inductive inference is a contingently reliable source of justification and knowledge I propose that we must adopt a 'particularist' approach to knowledge, which in its simplest form maintains that an epistemic agent can know a particular proposition without first knowing *how* they know that such a proposition.<sup>44</sup> The proponent of

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<sup>44</sup> Roderick M. Chisholm, *The Problem of the Criterion* (Milwaukee, WI: Marquette University Press, 1973), p. 37. Particularism can be contrasted with a methodological approach to sceptical arguments, or what is commonly referred to as 'methodism'. Methodism is the position that we must show *how* we know a particular proposition before we can know that particular proposition. In contrast to particularism, proponents of a methodological approach to knowledge typically respond to sceptical problems by arguing that the apparent success of a sceptical problem depends on a tacit erroneous assumption about the means or method by which we know something, and

particularism assumes that the key to showing that we know *what* we already know is that it is possible for us to elaborate on the means or method of *how* we come to possess such knowledge.<sup>45</sup> Thus, particularism appeals to our intuition that if we are to know a particular proposition it should be possible for us to be “sensitive to the reliability of the evidence” for what we know.<sup>46</sup> Accordingly, from the perspective of a particularist approach to solving a reconstructed version of the normative problem, this means that while we know the proposition ‘inductive inference is a source of knowledge’, it should also be possible for us to show how we can know this proposition without appealing to the involvement of PR in inductive inference.

I want to pre-empt a possible objection to a particularist approach to scepticism. To the extent that we can show *how* we know *what* we know without first showing *that* we know the means *by which* we know is knowledge conducive, it could be argued that the particularist ‘begs the question’ to the extent that they respond to the sceptic that certain propositions can be unconditionally known.<sup>47</sup> While this objection is *prima facie* plausible, it misses an important point. From the perspective of the particularist, no form of inferential reasoning should begin without an epistemic agent *first having an intuitive sense of what is real and rational*, since philosophical speculation cannot begin unless we first assume that there are certain things that we already know. Thus, while particularism does indeed ‘beg the question’ it does not do so in an illegitimate way.

With all of the above in mind, let us recall that I began this chapter by agreeing with Chisholm that the purpose of epistemological speculation is ultimately at the service of

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the solution to the problem at hand is to establish the correct method by which an epistemic agent comes to possess knowledge. For an extensive and clear summary of methodism, refer to: Michael Bergmann, “A Dilemma for Internalism,” in *Knowledge and Reality: Essays in Honor of Alvin Plantinga*, edited by Thomas M. Crisp, Matthew Davidson, and David Vander Laan (Dordrecht, Netherlands: Springer, 2006), pp. 149-51.

<sup>45</sup> Greco, *Putting Sceptics In Their Place*, pp. 20.

<sup>46</sup> Greco, “Agent Reliabilism,” p. 280.

<sup>47</sup> Chisholm, *The Problem of the Criterion*, p. 37.

correcting and improving our own epistemic situation.<sup>48</sup> Seen through the lenses of a particularist, good sceptical arguments can be shown to be compatible with this end. From the perspective of particularism, a good sceptical argument contributes an important service to philosophy, since it highlights why a *prima facie* plausible assumption about how we know something requires more adequate support than has previously been provided for it.<sup>49</sup> To the extent that a good sceptical argument should motivate an epistemologist to develop a more dynamic and defensible theory of how we come to know what we know, scepticism drives *progress* in the philosophy, rather than undermines it.<sup>50</sup> A particularist approach to solving the normative problem will similarly lead to an important advancement in epistemology, since it will show that not only do we correctly assume that inductive inferential reasoning is a source of knowledge, but that in principle we can also show that we know it too.

### **Conclusion**

In this chapter I have introduced the normative problem and concluded that it is successful in establishing that if we assume that inductive inferential reasoning involves PR then in principle we will not be able to show how we know that inductive inferential reasoning is a source of knowledge. Consequently, the possibility of possessing inductive knowledge is under threat. I have proposed that if an adequate theory of knowledge is to be developed that is able to overcome a version of the normative problem, it must be able to show that the reliability of inductive inference is a contingent fact about human cognition. I also introduced the notion of a particularist approach to responding to sceptical concerns. I also suggested that if a successful solution to the normative problem must be able to show that it is a contingent fact about human cognition that inductive inference is a source of knowledge, we can also show how we know it

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<sup>48</sup> Chisholm, *Theory of Knowledge*, Second Edition, p. 1.

<sup>49</sup> Greco, *Putting Sceptics In Their Place*, pp. 20.

<sup>50</sup> Greco, *Putting Sceptics In Their Place*, pp. 22.

too. Let us now proceed to **Chapter 2** where I will first consider why all of the factors that contribute to justification possess an externalist character, and consequently why the adoption of a particularist approach to the normative problem does not necessarily entail that inductive inference is an internalist-type of reason by which we come to know about unobserved matters of fact.

## **Chapter 2. Internalism Rejected**

### **Introduction**

In **Chapter 1** I argued that the normative problem adequately demonstrates that an inductive inference does not involve a quasi-logical relation such as the principle of regularity. In response to the normative problem, I then proposed that inductive inference being a source of knowledge must be a contingent fact about human cognition, but that we could also adopt a particularist approach to sceptical concerns by showing how we know the particular proposition 'inductive inference is a source of knowledge'. In this chapter I will refrain from elaborating upon the sense in which it is a contingent fact about human cognition that inductive inference is a source of knowledge *per se*. Instead, I will respond to the proponent of both particularism and an internalist account of justification by refuting their claim that if we are to know that inductive inference is a source of knowledge it is necessary that we are aware of the basis for knowing this proposition, and for that matter knowing any other proposition as well. Ultimately, I will conclude that an internalist version of particularism should be rejected since the factors that contribute to justification all possess an externalist character, rather than an internalist character.

### **2.1. An Outline of Internalism**

Before I elaborate on the sense in which an internalist account of justification is purported to be congenial to a particularist approach to responding to sceptical concerns, it will prove helpful to examine the distinctive features of an internalist account of justification. When I briefly introduced the notion of justification in **Section 1.1.**, I positioned it in the context of the role that justification plays in a belief counting as knowledge, and I explained that justification brings value to true beliefs, since it means that an epistemic agent possesses a good reason for



being assured that the belief is not formed in error. A popular theory among epistemologists known as ‘internalism’ maintains that an epistemic agent achieves such assurance that a rational belief is not formed in error *iff* the *basis* or *evidence* for justification of a particular belief is *internal* to the subjective perspective of the epistemic agent that holds that belief. An internalist theory of justification is contrasted with its externalist theory of justification, with the latter simply being the rejection of the former. Thus, if a factor that contributes to the justification of a belief is not internal to the subjective perspective of an epistemic agent it possesses an ‘externalist’ character.<sup>51</sup>

The primary reason that one might be inclined to adopt an internalist account of justification is that it seems intuitively plausible to most people that if we are to possess a ‘good reason’ to believe a proposition it follows that we must also be *consciously aware* of the basis or evidence for believing that proposition.<sup>52</sup> Or as Michael Bergmann explains:

“[i]f the subject holding a belief isn't aware of what that belief has going for it, then she isn't aware of how its status is any different from a stray hunch or an arbitrary conviction. From that we may conclude that from her perspective it is an accident that her belief is true. And that implies that it isn't a justified belief.”<sup>53</sup>

Insofar as internalists maintain that an awareness of the reason for belief is required for justification, internalism can also be seen to involve a logically prior commitment about ‘accessibility’. Or to quote Laurence Bonjour, justification is dependent “on elements that are

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<sup>51</sup> William P. Alston, “Internalism and Externalism in Epistemology,” in *Epistemic Justification: Essays in the Theory of Knowledge* (Ithaca, Cornell: Cornell University Press, 1989), p. 192. Also refer to: Alvin Goldman, “Internalism, Externalism, and the Architecture of Justification,” in *Reliabilism and Contemporary Epistemology* (New York: Oxford University Press, 2015), p. 97.

<sup>52</sup> Laurence Bonjour and Ernest Sosa, *Epistemic Justification* (Malden, MA: Blackwell, 2003), p. 7. The commitment to accessibility has led some epistemologists to refer to internalism as ‘accessibilist-internalism’ or ‘accessibilism’, which also serves the purpose of distinguishing accessibilist-internalism from other types of internalism. In this dissertation I am solely considering an accessibilist account of internalism, so for ease of reference I will simply continue to refer to this position as ‘internalism’ and proponents of internalism as ‘internalists’.

<sup>53</sup> Michael Bergmann, *Justification without Awareness: A Defence of Epistemic Externalism* (Oxford, England: Oxford University Press, 2006), p. 12.

internal to the believer's conscious states of mind in a way that makes them *accessible* to his conscious reflection (at least in principle)."<sup>54</sup> For instance, something like a belief or a perceptual experience might serve as the *evidence* for justifiably believing a particular proposition. According to proponents of internalism, a belief or perceptual experience will only qualify as evidence for a rational belief if such a belief or perceptual experience is first accessible to conscious reflection so that an epistemic agent can subsequently become directly aware of it via introspective reflection. Internalism thus conceived clearly has a strong intuitive pull, since a novice mathematician who is not aware that his or her axioms entail a particular theorem is not said to 'know' that theorem on the basis of such axioms.<sup>55</sup>

More formally, internalism maintains that a subject *S* possesses justification *J* for a given proposition *p* at time *t* if and only if the following criteria are met:

- (i) *J* obtains at *t*,
- (ii) *J* is relevant to the justificatory status, whether positive or negative, of *p* for *S* at *t*, and
- (iii) *S* is able to directly access *J* at *t*.<sup>56</sup>

The reason that the factors that justify a belief must obtain at *t* is because of the internalist commitment to the position that we can only justifiably believe a particular proposition if the basis for justification is internal to the subjective perspective of the epistemic agent.<sup>57</sup> If the basis for justification is not internal to the subjective perspective of an epistemic agent at the time *t* that justification is to be supplied, it would imply that the justifier is external to the epistemic agent's subjective perspective at *t*, thus undermining the internalist assumption

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<sup>54</sup> My emphasis added. Bonjour and Ernest Sosa, *Epistemic Justification*, p. 7.

<sup>55</sup> John Greco, *Putting Skeptics in Their Place*, p. 180.

<sup>56</sup> Goldman, "Internalism, Externalism, and the Architecture of Justification," p. 97.

<sup>57</sup> Or to quote Conee and Feldman, "[t]he epistemic justification of anyone's doxastic attitude toward any proposition at any time strongly supervenes on the evidence that the person has *at the time*." My emphasis added. Conee and Feldman, "Afterword to Evidentialism" in *Evidentialism: Essays in Epistemology*, edited by Earl Conee and Richard Feldman (Oxford, England: Oxford University Press, 2004), p.101.

about justification altogether.<sup>58</sup> Additionally, internalism requires that the justifier must be relevant to the justificatory status of the belief. To state the obvious, it would indicate that a belief is poorly-founded if the subject were to consider a belief as being justified on the basis of irrelevant evidence. Thus, in summary, internalism maintains that the relevant basis or evidence for justified belief must be *occurrent* in the subjective perspective of an epistemic agent.<sup>59</sup>

According to proponents of internalism, internalism appeals to two common intuitions that we have about justification and knowledge. In respect to the first of these two intuitions, internalism appears to be well equipped to explain why a plurality of epistemic agents are able to come to some level of inter-subjective agreement about what we can know and what we cannot know. For instance, in maintaining that the justifiers for belief are wholly internal to the subjective perspective of an epistemic agent, it follows that if ‘epistemic agent A’ and ‘epistemic agent B’ possess the same internal states, then if epistemic agent A is justified in believing a particular proposition epistemic agent B is also justified in believing that same proposition. Or to put it another way, if a plurality of epistemic agents each are subjectively aware of the same beliefs, perceptual experiences, and sensations, it follows that then the plurality of epistemic agents each have the same basis for knowledge and thus know these same things.<sup>60</sup>

In respect to the second of these two intuitions, it is sometimes suggested that internalism is a plausible theory of justification because it appeals to a *deontological conception of justification*. To put it simply, the deontological conception of justification is the

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<sup>58</sup> For an explanation of why internalism must maintain the ‘simultaneity requirement’ refer to: Alvin I. Goldman, “Toward a Synthesis of Reliabilism and Evidentialism?” in *Reliabilism and Contemporary Epistemology* (Oxford, England: Oxford University Press, 2012), p. 130. Noah Lemos, *An Introduction to the Theory of Knowledge* (Cambridge, England: Cambridge University Press, 2007), p. 112.

<sup>59</sup> Goldman, *Reliabilism and Contemporary Epistemology*, pp. 108-9.

<sup>60</sup> Earl Conee and Richard Feldman, “Internalism Defended,” in *Evidentialism*, edited by Earl Conee and Richard Feldman (Oxford, England: Oxford University Press, 2004), p. 56.

thesis that an epistemic agent is justified in believing a particular proposition *iff* it is *epistemically responsible* for him or her to believe that proposition. An epistemic agent is epistemically responsible if he or she forms beliefs in such a way that is *praiseworthy*, since that way of forming beliefs tends to produce true beliefs. Conversely, an epistemic agent is epistemically irresponsible if he or she forms beliefs in a way that is *blameworthy*, since that way of forming beliefs tends to produce false beliefs. Proponents of internalism suggest that most epistemic agents correctly intuit that it is epistemically *irresponsible* and blameworthy to believe a particular proposition on the basis of evidence that we have never been aware of, since a belief formed on the basis of evidence that an epistemic agent is not aware of is effectively a belief formed without evidence. Beliefs formed without evidence tend to be false and are thus undesirable. On the other hand, proponents of internalism continue, it is epistemically responsible and praiseworthy if an epistemic agent forms beliefs as a result of being aware of the basis or evidence for a particular belief, since beliefs based on evidence tend to be true.<sup>61</sup>

## 2.2. Internalist Knowledge and Particularism

More could be said about the internalist character of justification, as well as the relationship between evidence and belief, than is included in this brief summary of an internalist account of justification. However, what has been said will suffice for the purposes of explaining how

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<sup>61</sup> For instance, Chisholm writes: “Let us consider the concept of what might be called an “intellectual requirement”. We may assume that every person is subject to a purely intellectual requirement – that of trying his best to bring it about that, for every proposition *h* that he considers, he accepts *h* if and only if *h* is true. One might say that this is the person's responsibility *qua* intellectual being .... One way, then, of reexpressing the locution ‘*p* is more reasonable than *q* for *S* at *t* is to say this: *S* is so situated at *t* that his intellectual requirement, his responsibility as an intellectual being, is better fulfilled by *p* than by *q*.” Chisholm, *Theory of Knowledge*, Second Edition, p. 14. Similarly, Bonjour writes: “[O]ne’s cognitive endeavors are epistemically justified only if and to the extent that they are aimed at this goal, which means very roughly that one accepts all and only those beliefs which one has good reason to think are true. To accept a belief in the absence of such a reason ... is, one might say, epistemically irresponsible. My contention here is that the idea of avoiding such irresponsibility, of being epistemically responsible in one’s believings, is the core of the notion of epistemic justification.” Laurence Bonjour, *The Structure of Empirical Knowledge* (Cambridge, Massachusetts: Harvard University Press, 1995), p. 8.

an internalist conceives of a particularist account of knowledge, and how to respond to sceptical concerns on the basis of possessing such particular knowledge. In fact, if Chisholm is to be believed, the internalist is able to address both of these projects based on the principles of internalism that I have already laid out in the previous section.

Internalists typically convert their commitment to the dual-doctrine about accessibility and awareness into a thesis about knowledge, rather than purely about justification. According to what is sometimes called the internalist ‘Knowing that One Knows Thesis’ or just simply the ‘KK Thesis’, we only know a particular proposition if we ‘know’ that we know it.<sup>62</sup> Put differently, we only know a particular proposition if we are aware of the basis or evidence by which we know it.<sup>63</sup> The effect of being aware of the evidence or basis for a particular rational belief is that it provides an epistemic agent with a *subjectively* or *psychologically* compelling reason or justification for holding that belief, and it also means that an epistemic agent can “see” how or why a particular belief is true or likely to be true. Consequently, an epistemic agent who is aware of the basis for justification for a particular belief possesses the *valuable* assurance that such a belief is not formed in error, thus making such beliefs count as knowledge.<sup>64</sup>

In what sense can it be shown that internalism is compatible with particularism? Let us recall that according to the particularist approach to knowledge introduced in **Section 1.6.**, we must simply assume that we know certain particular propositions, and *ex post facto* we show

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<sup>62</sup> Proponents of ‘accessibilist-internalism’ such as Chisholm, Bonjour, and Carl Ginet either explicitly or implicitly support some version of the KK thesis in the following works: Roderick M. Chisholm, “Knowing That One Knows,” in *The Foundations of Knowing* (Brighton, Sussex: The Harvester Press, 1982), pp. 50-8. Bonjour, *The Structure of Empirical Knowledge*, pp 41-4. Carl Ginet, *Knowledge, Perception, and Memory* (Dordrecht, Netherlands: Reidel, 1975), p. 34.

<sup>63</sup> Ernest Sosa, “Skepticism and the Internal/External Divide,” in *The Blackwell Guide to Epistemology*, edited by John Greco and Ernest Sosa (Oxford, England: Blackwell, 1999), p. 147.

<sup>64</sup> Laurence Bonjour, “Externalist Theories of Empirical Knowledge,” *Midwest Studies in Philosophy* 5 (1980): p. 55. Also refer to: Robert Audi, “An Internalist Theory of Normative Grounds,” *Philosophical Topics* 1, ns. 1 and 2 (2001): pp. 20-1.

*how* we know *what* we already know.<sup>65</sup> As Chisholm explains when discussing the compatibility of particularism and internalism, internalism appears to perfectly fit with the structure that a particularist response to scepticism must take, since:

“[T]he things we know are justified for us in the following sense: we can know what it is, on any occasion, that constitutes our grounds, or reason, or evidence for thinking that we know. If I think that I know that there is now snow on the top of the mountain, then . . . I am in a position to say what ground or reason I have for thinking that there is now snow on the top of the mountain.”<sup>66</sup>

To summarise Chisholm’s point, the internalist can respond to the particularist requirement of showing how we know what we know by claiming that to know a particular proposition in the first place simply *is* to be aware of the knowledge basis for that particular proposition. Or to use the terminology of Chisholm, knowledge consists of “luminous judgments” or judgments about “self-presenting states,” which we can understand as occurrent beliefs in the consciousness of an epistemic agent. Insofar as such self-presenting states or beliefs “cannot occur unless it is *evident* that they occur,” it follows that to be conscious of an occurrent belief we also come to possess evidence for *how* we know that belief is true as well.<sup>67</sup> In this way, not only is the internalist theory of justification a *prima facie* plausible account of what it is to possess a good reason for belief, but it can seemingly also be incorporated into a particularist approach to responding to sceptical concerns (such as the normative problem).<sup>68</sup>

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<sup>65</sup> Or to quote Chisholm directly, “there is something we know and we adopt the working hypothesis that what we know is pretty much that which, on reflection, we think we know.” Chisholm, *Theory of Knowledge*, Second Edition, p. 16.

<sup>66</sup> Chisholm, *Theory of Knowledge*, Second Edition, p. 17. Chisholm similarly writes: “The internalist assumes that, merely by reflecting upon his own conscious state, he can formulate a set of epistemic principles that will enable him to find out, with respect to any possible belief he has, whether he is justified in having that belief. The epistemic principles that he formulates are principles that one may come upon and apply merely by sitting in one’s armchair, so to speak, and without calling for any outside assistance.” Roderick M. Chisholm, “The Indispensability of Internal Justification,” *Synthese* 74, n. 3 (1988): pp. 285-6.

<sup>67</sup> Roderick M. Chisholm, “Keith Lehrer and Thomas Reid,” *Philosophical Studies* 60, n. 1 (1990): pp. 35.

<sup>68</sup> To reiterate, the limited scope of this dissertation does not allow me to examine what an internalist-particularist solution to the normative problem would look like. However, to be clear, in showing that internalism is *prima facie* compatible with particularism, I am not claiming that the normative problem and all sceptical problems are

### 2.3. Epistemic Responsibility and Justification

If Chisholm is correct in maintaining that knowledge possession requires that an epistemic agent is aware of the basis for what he or she knows, then it also follows that I am incorrect in proposing that it is a contingent fact about human cognition that inductive inference is a source of knowledge, which we can subsequently show that we know in accordance with the tenets of particularism. Fortunately, the proponent of an externalist account of justification can take solace in the fact that neither the internalist account of what we should do to achieve knowledge, nor the purported compatibility of internalism with a particularist account of knowledge, are able to survive serious scrutiny. Let us first focus on the internalist account of what we should do so as to achieve knowledge.

I contend that despite the assumption of the internalist to the contrary, no connection exists between justification and epistemic responsibility. As William Alston explains, in much the same way that a moral agent can only *act* responsibly if he or she has *voluntary* control over his or her actions, it follows that if an epistemic agent is to be epistemically responsible then he or she must have voluntary control over what beliefs he or she possesses.<sup>69</sup> However, at least some of our beliefs are not the result of our voluntarily believing in an epistemically responsible way. For example, an epistemic agent might believe propositions such as “I exist” or “ $1 + 1 = 2$ ” without it being possible for that epistemic agent to voluntarily withhold belief that such propositions are true. Thus, rather than belief in such truisms being the result of a

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solved, only that it is philosophically consistent to permit that a particularist-type solution may begin to be developed in accordance with the principles of an internalist theory of knowledge. For examples of plausible internalist solutions to the problem of induction (which are not necessarily particularist in their approach) refer to the following works: Richard Feldman, “Authoritarian Epistemology,” in *Evidentialism: Essays in Epistemology*, edited by Earl Conee and Richard Feldman (Oxford, England: Clarendon Press, 2004), pp. 111-34., Timothy McGrew, “Direct Inference and the Problem of Induction,” in *Probability is the Very Guide of Life: The Philosophical Uses of Chance*, edited by Henry E. Kyburg Junior and Mariam Thalos (Chicago, Illinois: Open Court, 2003), pp. 33-60.

<sup>69</sup> William P. Alston, “The Deontological Conception of Epistemic Justification,” *Philosophical Perspectives* 2 (1989): pp. 260-1.

voluntary decision, the epistemic agent believes such propositions because he or she is *compelled* to do so in virtue of their being true. But insofar as there are certain propositions that an epistemic agent cannot voluntarily disbelieve, it follows that an epistemic agent cannot be held responsible for holding these beliefs, and consequently such beliefs are not justified. However, intuitively such propositions as “I exist” or “ $1 + 1 = 2$ ” are among our most justified beliefs. Therefore, Alston concludes, internalism should be rejected because the deontological conception of justification that it presupposes leads to absurd consequences.<sup>70</sup>

In response to Alston’s objection to the compatibility of epistemic responsibility and epistemic justification, the internalists Richard Feldman and John Heil have contended that it is not necessarily the case that epistemic responsibility implies doxastic voluntarism. In everyday life it is common for many people to possess a sense of responsibility that they are unable to act on, whether or not they could choose to do so. For example, a person may feel a sense of responsibility to repay a debt, but despite their intentions to the contrary, the debt still cannot be paid. Perhaps, Feldman and Heil suggest, an analogue of this non-voluntary sense of responsibility could be developed for justification, so that an epistemic agent might feel a sense of responsibility to believe such propositions as “I exist” and “ $1 + 1 = 2$ ” without it being implied that the belief in such propositions must be the result of a voluntary act.<sup>71</sup>

Feldman and Heil’s attempt to reconcile justification and epistemic responsibility is unsuccessful. Firstly, it is not at all clear to me why feeling a sense of responsibility that does not compel action should be relevant to the belief formation process to begin with. What possible reason could we have for positing that a sense of responsibility that does not compel action is able to contribute to the justification of a belief, rather than the more likely scenario

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<sup>70</sup> Alston, “The Deontological Conception of Epistemic Justification,” p. 290.

<sup>71</sup> Richard Feldman and John Heil, “Doxastic Agency,” *Philosophical Studies* 40, n. 3 (1983): pp. 355-64. It should be noted that Feldman does not consider himself to be an accessibilist-internalist, but rather a ‘mentalist-internalist’ about justification and knowledge. Nevertheless, it is not obvious to me that the accessibilist cannot readily take up Feldman and Heil’s argument in defence of their commitment to the relationship between epistemic responsibility and justification.



that it is simply inert? Furthermore, as Goldman adds, even if an account of non-voluntary epistemic responsibility could be formulated, such an account would be incompatible with an internalist approach to justification, since it would inevitably undermine the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows.<sup>72</sup> To elaborate, if an epistemic agent is incapable of choosing how to fulfil his or her epistemic responsibilities, it follows that there is no reason why it should be necessary that the epistemic agent is aware of his or her epistemic responsibilities to begin with. However, if these non-voluntary epistemic responsibilities are in some way related to justification, and *ipso facto* the formation of knowledge, since it is not necessary for an epistemic agent to be aware of these epistemic responsibilities, it follows that the epistemic agent can possess knowledge without it being necessary for him or her to be aware of the basis for what he or she knows.<sup>73</sup> Consequently, if an internalist is to maintain that we have an epistemic responsibility to be aware of the basis or evidence for our respective beliefs while also arguing that such a responsibility does not imply doxastic voluntarism, it follows that the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows is violated. Therefore, seeing as the internalist account of what we should do so as to achieve knowledge either leads to absurd conclusions or is self-undermining it follows that it should be rejected.

#### **2.4. Rejecting the Internalist Account of Particularism**

Seeing as internalism rests on a deontological conception of justification, and it has been demonstrated that the deontological conception of justification is philosophically inadequate, we now have sufficient grounds for rejecting Chisholm's claim that an internalist theory of knowledge fits perfectly with a particularist approach to responding to sceptical concerns.

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<sup>72</sup> Alvin I. Goldman, "Internalism Exposed," *Journal of Philosophy* 96, n. 6 (1999): pp. 274-7, 287.

<sup>73</sup> Goldman, "Internalism Exposed," pp. 274-7.

Nevertheless, for the sake of the argument, if it could be shown that a deontological conception of justification is philosophically adequate, there are still independent reasons that should compel us to reject an internalist account of particularism, namely, that it can be shown that the factors that contribute to justification and ultimately the formation of knowledge are not internalist in character. Put differently, even if for the sake of the argument the notion of epistemic responsibility can be defended, internalism should still be rejected since it can be shown that the factors that contribute to justification are externalist in character, which is to say that an epistemic agent is not necessarily going to be aware of basis for every proposition that he or she knows. After all, seeing as inductive reasoning plays such a significant role in knowledge formation in everyday life and the natural sciences, it is important that the theory of justification and knowledge that we adopt in developing a theory of inductive reasoning is established on decisively adequate grounds.

Before proceeding to show why an internalist account of particularism should be rejected, it is important to note that an adequate internalist theory of justification requires that *all* of the relevant factors that contribute to justification must possess an internalist character. As Chisholm explains, “[a] consequence of our ‘internalistic’ theory of knowledge is that, if one is subject to an epistemic requirement at any time, then this requirement is imposed by the *conscious state* in which one finds oneself at that time.”<sup>74</sup> Or to put it another way, if we adopt the position that each epistemic agent forms beliefs in accordance with a sense of an “epistemic requirement” (or what I have previously referred to as an “epistemic responsibility”) to ensure that he or she is aware of the basis for justification if he or she is to be justified in believing a particular proposition, if we permit that the basis for belief is the type of thing that an epistemic agent does not need to be aware of for that belief to be justified, it follows that we have essentially rejected the notion that epistemic requirements or responsibilities are in fact

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<sup>74</sup> Chisholm, *Theory of Knowledge*, Third Edition, pp. 55-60.

necessary for justification. Consequently, a proponent of internalism must defend a *complete justifier* version of internalism, whereby *all* of the factors that contribute to justification are internalist in character. Thus, for the sake of the argument, if one were able to show that a type of justifier such as inference rules possess an internalist character, at that point in our inquiry we would not have adequate grounds to conclude that belief forming processes such as inductive inference is an example of internalist justification. Due to the fact that a process such as inductive inference involves reasoning from *observed* matters of fact to unobserved matters of fact, we would first need to explain how other relevant types of justifiers to inductive inference such as the inferential antecedents that refer to justified beliefs stored in memory and beliefs based on present perception are also internalist in character.

In contrast, externalism places far less rigorous demands on its proponents. If at least *some* of the types of justifiers are not internalist in character, a theory of justification qualifies as being externalist.<sup>75</sup> Accordingly, in showing that inference rules, justified beliefs stored in memory, and present perceptual states are externalist in character, we can conclude that a complete justifier account cannot be achieved by the internalist, and consequently an adequate theory of justification must be externalist in character. As I will show, the externalist character of justification will also have significant ramifications for how we conceive of a particularist response to sceptical concerns, and how we should go about solving the normative problem.

## **2.5. The Externalist Character of Inference Rules**

Inference rules are a prime example of why the internalist claim that knowledge possession requires that an epistemic agent is aware of the basis for what he or she knows is incorrect. Both the inferential rule of entailment (deductive inference) and the inferential rule of probable

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<sup>75</sup> Goldman, "Internalism, Externalism, and the Architecture of Justification," p. 96. Naturally, if *all* of the types of justifiers are not internalist in character, the theory of justification also qualifies as being externalist.

support (inductive inference) are the type of factors that contribute to the justification status of an inferred belief, even if an epistemic agent is not aware of the inferential rule between the premise set and the conclusion when he or she infers deductively or inductively. To illustrate this point, let us return to the previously used example of deductive entailment: P1. Socrates is a man, P2. All men are mortal. C. Therefore, all men are mortal. As we can see, this argument contains a rule of entailment between the conjunction of “Socrates is a man” and “All men are mortal” and the conclusion “Socrates is a mortal” which obtains whether or not any epistemic agent has a belief about how entailment works. All inference rules between propositions ‘work’ in roughly the same way, in the sense that inference rules of entailment or probability justify an output belief independently of whether an epistemic agent is aware of how the inference rule that formed a given belief justifies that output belief or not.<sup>76</sup> Or to be more precise, the conclusion of an argument will be *objectively* justified not because an epistemic agent is *subjectively* aware of the efficacy of the inference rule by which a belief was inferred, but because it is either entailed from the premises (deductive inference) or because it is statistically probable given the level of support that the premises provide for the conclusion (inductive inference).<sup>77</sup> Consequently, since an inferred belief can be justified and count as knowledge even if an epistemic agent is neither aware of the inference rule that caused the output belief nor aware of how that inference rule functions, inference rules are an example of why the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows is incorrect.

There are certain internalists such as Earl Conee and Feldman who accept that inferential rules are external factors that are *potential candidates* for justification. However, for Conee and Feldman the *caveat* to this admission to the externalist is that inference rules (as

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<sup>76</sup> For a more detailed account of how logical, inductive, and probabilistic inference relations are externalist in character, refer to: Goldman, “Internalism Exposed,” pp. 282-3.

<sup>77</sup> Juan Comesaña, “We Are (Almost) All Externalists Now,” *Philosophical Perspectives* 19 (2005): pp. 61-3.

well as other external facts) can be *internalised* so that they *become* internal facts, and thus become an *actual* basis for justification. To elaborate, the internalisation of an inferential rule takes place after an epistemic agent becomes aware of how that inference rule functions between the antecedent beliefs and the consequent belief, and realises that a given inference rule is a good candidate for explaining why the output beliefs are true. Such a realisation makes an “internal difference” in the mind of the epistemic agent so that he or she can now “see” how the nature of the inference rule is good evidence for believing that the beliefs inferred by this rule are true.<sup>78</sup> As a result of the epistemic agent now possessing a belief about the nature of the inference rule, it follows that the epistemic agent is now aware of the basis by which knowledge inferred by that rule is formed. Therefore, Conee and Feldman conclude, the role that inference rules play in justification and knowledge formation is compatible with the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows.<sup>79</sup>

Conee and Feldman’s thesis about internalisation of external facts is problematic. If external facts such as inference rules must be first internalised before they become relevant to the justification of beliefs, the absurd consequence follows that the vast majority of epistemic agents never come to possess justified beliefs or knowledge, since the *vast majority* of epistemic agents never come to know or be aware of how inference rules actually function.<sup>80</sup> Insofar as the internalisation thesis leads to such an intolerable consequence, it is too strong in its requirements about what is involved in achieving knowledge and it should be rejected. Therefore, despite Conee and Feldman’s best efforts to the contrary, the proponent of internalism still cannot show how the externalist character of inference rules can be reconciled with the internalist doctrine that an epistemic agent must be aware of the basis for what he or

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<sup>78</sup> Conee and Feldman, “Internalism Defended,” p. 60.

<sup>79</sup> Conee and Feldman, “Internalism Defended,” p. 60.

<sup>80</sup> Goldman, “Internalism, Externalism, and the Architecture of Justification,” p. 104.

she knows.

## 2.6. The Externalist Character of Beliefs Stored in Memory

In a certain sense it might be argued that we already have sufficient grounds for adopting an externalist approach of justification and knowledge in the development of a solution to the normative problem, since inductive inference has been shown to possess an externalist character. But as I explained in **Section 2.4.**, internalism is a complete justifier account of justification. Thus, even if it could be shown that inference rules are compatible with internalism, since inductive inferential reasoning is a process that can also involve such factors as beliefs stored in memory and present perceptual states, it follows that if these factors are externalist in character then the process of inductive inferential reasoning still confers justification with an externalist character on its output beliefs. I will now proceed to show why beliefs stored in memory possess an externalist character.

Epistemologists are largely in agreement that no matter what type of inference is employed in the formation of justified beliefs and knowledge, an old belief must itself first be justified before justification can be *transmitted* via the inference rule to a newly inferred belief.<sup>81</sup> However, a fact of life is that we each often forget the source of justification for our old beliefs, so that instead of the source of justification remaining occurrent in one's conscious awareness it is stored in the deep recesses of memory where it remains inaccessible by reflection. The fact that we are *unconscious* of beliefs that are stored in our respective memories at the very least poses a *lacuna* for the plausibility of internalism. On the one hand internalism maintains that an epistemic agent only knows something if he or she is aware of the basis for what he or she knows. On the other hand, the reality of memory means that we might possess

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<sup>81</sup> As Goldman explains, “[i]f initial beliefs lack justificational ‘juice,’ no such juice can be transmitted to a new belief. Thus, subjects starting with unjustified beliefs as premises cannot arrive at a new justified belief by *any* form of inference, no matter how impeccable.” Goldman, “Internalism, Externalism, and the Architecture of Justification,” p. 106.

a new justified belief or knowledge as a result of inferring from old justified beliefs or knowledge, but the basis of justification for those old beliefs or knowledge could exist in the deep recesses of memory and remain inaccessible to reflection.<sup>82</sup> If an internalist is to reconcile these two positions they have the task of showing how the internalist condition “*j* obtains at *t*” can be compatible with the consequences of the reality of memory where *j* obtains at *t1* but then *S* is no longer aware of the basis for the justification of that belief at *t2*.

It might be argued that the internalist can solve this puzzle by following John Pollock and Joseph Cruz in adopting what we might call a “foundational” theory of memory. According to the foundational theory of memory, if an epistemic agent *recalls* a past event so that it becomes occurrent in his or her consciousness, he or she appears to possess foundational justification for believing the event as it has been recalled.<sup>83</sup> The foundational theory of memory has close parallels with a foundational theory of perception, since in much the same way that a perceptual experience that *P* appears to make an epistemic agent justified in believing *P*, a *prima facie* memorised experience *Q* appears to make an epistemic agent justified in believing *Q*.<sup>84</sup>

The foundational account of memory is controversial to the extent that it maintains that recalling an apparent memorised experience leads to the *generation* of justification for a new belief, since it eschews the traditional assumption that a newly inferred belief is justified *iff* justification is transmitted to it via the inference rule from *old justified beliefs*. Thus, the adoption of the foundational theory of memory might appear to be an attractive proposition for internalists, because an implication of the generative nature of memory is that once a new belief is formed about the contents of a recalled event at *t*, *j* is simultaneously generated for that belief

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<sup>82</sup> Goldman, “Internalism, Externalism, and the Architecture of Justification,” p. 107.

<sup>83</sup> John Pollock and Joseph Cruz, *Contemporary Theories of Knowledge*, Second Edition (Lanham, MD: Rowman and Littlefield, 1999), 46-7.

<sup>84</sup> John Pollock, *Contemporary Theories of Knowledge*, First Edition (Totowa, NJ: Rowman & Littlefield, 1987), pp. 50-2.

at  $t$ . Consequently, the foundational theory of memory is *prima facie* compatible with the internalist condition “ $j$  obtains at  $t$ .” Insofar as recalling events simultaneously generates an occurrent belief in the consciousness of an epistemic agent as well as justification for that belief, internalists could thus argue that a foundational theory of memory is compatible with the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows.<sup>85</sup>

As Michael Huemer explains, the foundational theory of memory is problematic for two reasons. Firstly, a foundational theory of memory leaves open the possibility that an epistemic agent may adopt a belief at  $t1$  without good reason, such as if the belief was formed by wishful thinking or a lucky hunch. The next day – at  $t2$  – the same epistemic agent seems to recall that same belief. According to a foundational theory of memory, as a result of the epistemic agent recalling that belief at  $t2$  that belief is justified, even though at  $t1$  that same belief was unjustified. Such a possibility depends on the assumption that the passage of time can make an unjustified belief to be justified, which is absurd.<sup>86</sup>

Huemer suggests that the second reason that we should reject the foundational theory of memory is that it allows for the possibility that an epistemic agent could recall the actual justifier that the belief was originally based on (such as an inferential proof) at  $t1$  after he or she recalls the *prima facie* memorised experience so as to form a justified belief at  $t2$ . Thus, according to a foundational theory of memory, it follows that we could have two justifications for a belief – the first inferential and the second foundational – thereby increasing the degree of justification for holding that belief. Again, it seems absurd that the degree of justification for a belief should increase over time.<sup>87</sup>

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<sup>85</sup> Thomas D. Senor, “Internalistic Foundationalism and the Justification of Memory Belief,” *Synthese* 94, n. 3 (1993): p. 457.

<sup>86</sup> Michael Huemer, “The Problem of Memory Knowledge,” *Pacific Philosophical Quarterly* 80 (1999): pp. 348-9.

<sup>87</sup> Huemer, “The Problem of Memory Knowledge,” pp. 348-9.



For the sake of the argument, the internalist might here respond that all is not lost in showing that the reality of forgotten beliefs is compatible with internalism, since any theory of memory must capture the capacity of memory to *preserve* the justification status of a belief stored in memory. According to the ‘preservative memory thesis’, if an epistemic agent possesses a justified belief at  $t1$ , and he or she holds that same belief at  $t2$  despite no longer being aware of the original basis for the justification of that belief at  $t1$ , then that belief is still justified at  $t2$ . Unlike the foundational account of memory that attempts to explain how justification is generated for new beliefs, the preservative memory thesis is compatible with the traditional expectation that justification can be transmitted from old (preserved) justified beliefs to new beliefs, since if an old belief remains accessible to reflection, even if an epistemic agent has forgotten the basis or evidence for the justification for that old belief it continues to count as a justified belief or knowledge.<sup>88</sup> Insofar as the justification of the old belief is preserved, as long as the old belief remains accessible to reflection the internalist could argue that the epistemic agent is aware – albeit, indirectly – of the basis for the justification of that belief simply because the epistemic agent continues to hold that belief.<sup>89</sup>

Preservative memory is also ultimately incompatible with internalism. Again, the problem resides in the internalist condition of justification that “ $j$  obtains at  $t$ .” As Goldman suggests, it is easy for us to imagine a scenario where an epistemic agent could undergo the following cognitive history: ( $t1$ ) the epistemic agent is justified in believing  $P$ , ( $t5$ ) the epistemic agent receives defeating evidence of belief in  $P$  so that  $P$  is actually unjustified, only for the epistemic agent to *ignore* or *misunderstand* the defeating evidence and to continue believing  $P$ , then ( $t20$ ) the epistemic continues to believe  $P$ , despite unjustifiably doing so since  $t5$ , and at  $t20$  forgets the defeating evidence from  $t5$  for not believing  $P$ .<sup>90</sup> Now, at  $t20$  the epistemic agent is

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<sup>88</sup> Jerome Dokic, “Is Memory Purely Preservative?” in *Time and Memory*, edited by Christoph Hoerl and Teresa McCormack (Oxford, England: Oxford University Press, 2001), p. 216.

<sup>89</sup> Goldman, “Internalism, Externalism, and the Architecture of Justification,” p. 109.

<sup>90</sup> Goldman, “Internalism, Externalism, and the Architecture of Justification,” p. 109.

requested to supply justification for belief in  $P$ . Is the epistemic agent able to answer correctly whether “ $j$  obtains at  $t$ ” at  $t20$  in such a way that is compatible with the tenets of internalism?

To put it simply, the answer is “no”. As per the example, at  $t20$  the epistemic agent incorrectly assumes that belief in  $P$  is justified, and the belief of the defeating evidence from  $t5$  is forgotten and no longer accessible to reflection. But an underlying assumption of the internalist account of justification is that an epistemic agent must be able to access the basis for the justification of a belief if that belief is to be justified.<sup>91</sup> Therefore, at  $t20$  the epistemic agent is not aware of the basis of justification for what he or she believes to correctly answer the question “does  $j$  obtain at  $t$ ?” The lesson that should be learnt from this example is that if we attempt to synthesise internalism with a theory of preservative memory such an account will be inadequate. Therefore, justified beliefs stored in memory are external facts.

## 2.7. The Externalist Character of Perceptual States

A further reason to maintain inductive inferential reasoning confers justification which possess an externalist character to its output beliefs is because perceptual states are external facts. Now, from the perspective of the internalist, there are two reasons why perceptual experience might appear to be an obvious candidate for the type of justifier that is at one and the same time both internalist in character and is relevant to inductive inference. Firstly, since being in a perceptual state is *prima facie* synonymous with an epistemic agent “being conscious of” or “being aware of” the basis for justification of a belief about an object of perception, beliefs based on perception are seemingly compatible the the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows. Secondly, insofar as beliefs based on perception are non-inferential or ‘basic’, it follows that they do not depend on external facts such as

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<sup>91</sup> Goldman, “Internalism, Externalism, and the Architecture of Justification,” pp. 109-11.

inference rules or justified beliefs stored in memory that could otherwise undermine the supposed internalist character of perceptual states.<sup>92</sup>

Despite these considerations for favouring an internalist understanding of perceptual experience, once we examine the causes of perceptual states in more detail it becomes apparent that perceptual states must also be considered an external fact. For instance, many epistemic agents would be able to relate to the experience of how internal factors like emotions or being in a psychologically destabilising state can distort one's perception of the events unfolding before them that then leads to the formation of a belief that is not objectively justified once the facts of the matter are brought to the fore. To give an example, a person who is feeling insecure or frightened might have the perceptual experience of the door creaking and then form the belief that a malicious and not-so-conspicuous assailant is moving the door. The actual fact of the matter is that the door is creaking because it is being moved by the wind. If perceptual states are to serve as relevant justifiers for belief, we must be able to give a good reason for why beliefs based on perceptual states are rightly formed and not held in error. Evidently, if perceptual states possess an internalist character, such a desire cannot be fulfilled.<sup>93</sup> Consequently, if perceptual states are to serve as relevant justifiers of belief, it follows that they must possess an externalist character.

Jack Lyons adds that a further reason that present perceptual states are external facts is because the reason that we should believe that perceptual-based-beliefs are true should be attributed to the operation of the modules and processes that function in the sense organs that make perception possible to begin with (our eyes for visual perception, our ears for audio perception, and so on).<sup>94</sup> For example, beliefs based on visual perception are justified on the basis that factors such as *binocular disparity* – that is, the sense of the distance between

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<sup>92</sup> Goldman, "Internalism, Externalism, and the Architecture of Justification," pp. 114-5.

<sup>93</sup> Goldman, *Reliabilism and Contemporary Epistemology*, pp. 114-5.

<sup>94</sup> Jack Lyons, *Perception and Basic Beliefs: Zombies, Modules, and the Problem of the External World* (Oxford, England: Oxford University Press, 2009), pp. 62-8.

ourselves and the object of our vision - and *eye convergence* – that is, the angle in which both eyes are turned towards each other to focus on an object – make it right or justifiable to hold such beliefs.<sup>95</sup> The problem for the internalist is that an epistemic agent can never be aware of binocular disparity or eye convergence, since the cues associated with the performance of these modules and micro-processes that make vision possible are on the external periphery of the sense organs that cause perceptual states to be occurrent in our consciousness to begin with.<sup>96</sup> Therefore, despite the *prima facie* internalist character of perceptual states, we cannot be aware of the basis for our knowledge about perceptual objects. Accordingly, perceptual states are external facts.

## 2.8. An Externalist Account of Particularism

I have now demonstrated that inference rules, justified beliefs stored in memory, and present perceptual states are all factors that contribute to justification that are externalist in character. Consequently, insofar as internalism requires a complete justifier account so that all of the relevant justifiers for a belief are internalist in character, it follows that justification cannot be understood in internalist terms.<sup>97</sup> As a result, two things follows: (1) we should be externalists about justification, and (2) we now possess a decisive reason to adopt an externalist account of

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<sup>95</sup> Jack Lyons, “Unencapsulated Modules and Perceptual Judgment,” in *The Cognitive Penetrability of Perception*, edited by J. Zeimbekis and A. Raftopoulos (Oxford, England: Oxford University Press, 2015), pp. 118-20. Also refer to: Jesse J. Prinz, “The Content of Sensation and Perception,” in *Perceptual Experience*, edited by Tamar Gender and John P. Hawthorne (New York, United States: Oxford University Press, 2006), pp. 453-4.

<sup>96</sup> Lyons, “Unencapsulated Modules and Perceptual Judgment,” pp. 118-20.

<sup>97</sup> It should be noted that a theory of internalist justification referred to as ‘mentalism’ by its proponents is purported to overcome the difficulties that an accessibilist account of justification has with the critiques proposed by externalists. Conee and Feldman explain that mentalism is the thesis that a belief is ultimately justified by some mental state of the epistemic agent that holds that belief, which is to say that beliefs are justified by factors that are internal to an epistemic agent’s mental life but do not need to be accessible to that epistemic agent. Conee and Feldman, “Internalism Defended,” pp. 53-80. Conee and Feldman also reject Chisholm’s commitment to particularism, and instead argue the internalist is better served by adopting something similar to a methodist approach to responding to the sceptical concerns. Richard Feldman, “Having Evidence,” in *Evidentialism*, edited by Earl Conee and Richard Feldman (Oxford, England: Oxford University Press, 2004), pp. 219-40. For a critique of mentalism, refer to the previously cited paper: Goldman, “Internalism, Externalism, and the Architecture of Justification.” Also refer to: Juan Comesana, “Conservatism, Preservationism, Conservationism, and Mentalism,” *Analysis* 71, n. 3 (2011): pp. 489-92.

justification in developing a solution to the normative problem.

Obviously, as a result of rejecting internalism we must also reject an internalist account of particularism. An implication of the rejection of internalism is that an epistemic agent can know a particular proposition without it being necessary for him or her to be aware of knowledge basis for that proposition. As I will elaborate upon in **Chapter 3**, the externalist character of justification has significant consequences for establishing what is exactly required to solve the normative problem. But before considering the role that an externalist account of justification plays in solving the normative problem specifically, it will prove helpful to first consider the immediate consequences of externalism for a particularist approach to responding to sceptical concerns in general. Recall that I contended in **Section 1.6** that if the normative problem is to be solved we must show that it is a contingent fact about human cognition that inductive inference is a source of knowledge. In that section I also explained that I want to show how we know that inductive inference is a source of knowledge so as to attempt to free those epistemologists who are not persuaded by my first solution to the normative problem from the heavy burden that is inductive scepticism. Now, since the externalist character of justification means that we must also adopt an externalist account of particularism, the obvious question remains: is an externalist account of particularism an oxymoron? After all, on the one hand the externalist rejects the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows. On the other hand, the particularist maintains that we know certain particular propositions prior to philosophical speculation but it must also be possible to show how we can know these particular propositions are true. It might further be asked: how can the externalist *possibly* satisfy the commitments of particularism in responding to the sceptic?

If such a concern about the compatibility of externalism and particularism were to arise, it would be misplaced. Let us assume for present purposes that an adequate theory of

knowledge that is both foundationalist and externalist in character can be developed. As I have already discussed, externalism stipulates that we do not need to be aware of the basis for what we know. Thus, according to the tenets of externalism, while it may be *possible* that we are aware of the basis for what we know, it is not *necessary* for us to do so if we are to possess knowledge. As James Van Cleve explains, an implication of the externalist character of justification is that the particularist doctrine that we have knowledge of particular propositions prior to philosophical reflection should simply be understood as a commitment to the position that “some propositions are self-evident,” rather than necessarily involving the additional commitment to the internalist addendum so that “some propositions *ascribing evidence* to particular propositions are self-evident.”<sup>98</sup>

A further consequence of the externalist character of justification is that since an awareness of the basis for what we know is not a necessary condition of knowledge possession, it follows that a particularist is well within his or her rights to respond to the inductive sceptic that their demands to show how we know what we know is what Van Cleve has referred to as an “external condition” to the nature of inductive knowledge.<sup>99</sup> Again, it may be *possible* that we know or are aware of the basis or evidence for belief, but it is not *necessary* for us to do so if we are to possess knowledge. Accordingly, it is not necessary for us to fulfil the sceptic’s demands that we show how we know what we know, but if we so please it is possible for us to do so.<sup>100</sup> If the externalist who also adopts a particularist approach to scepticism does choose to respond to the sceptic’s concerns, by showing how we know what we know the externalist

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<sup>98</sup> James Van Cleve, “Reid on the First Principles of Contingent Truths,” *Reid Studies* 3, n. 1 (1999): fn. 26 on p. 28. Van Cleve specifically argues for the externalist character of present perceptual states to draw the conclusion that an internalist account of particularism must be rejected, but given the complete justifier requirement for internalism the same conclusion can be reached by showing the externalist character of any one type of justifier such as justified beliefs stored in memory and present perceptual states. Van Cleve, “Reid on the First Principles of Contingent Truth,” p. 10.

<sup>99</sup> James Van Cleve, “Reliability, Justification, and the Problem of Induction,” *Midwest Studies in Philosophy* 9 (1984): pp. 558-9.

<sup>100</sup> James Van Cleve, “Foundationalism, Epistemic Principles, and the Cartesian Circle,” *The Philosophical Review* 88, n. 1 (1979): pp. 70-1.

will have taken full advantage of the non-compulsory opportunity that has presented itself to drive progress in philosophy. Thus, when responding to the normative problem, rather than an epistemologist having to choose between (1) simply assuming or believing that inductive inference is a source of knowledge, and (2) showing how we know that inductive inference is a source of knowledge without assuming it involves PR, it is possible to adopt both positions if one adopts an externalist account of particularism.

### **Conclusion**

In this chapter I have examined the internalist account of justification and Chisholm's claim of its purported congeniality with particularism. I then demonstrated that the types of factors such as inference rules, justified beliefs stored in memory, and present perceptual states each possess an externalist character, rather than an internalist character. As a result, I concluded that an internalist account of particularism must be rejected, and that particularism should instead be understood in externalist terms. Let us now proceed to **Chapter 3**, where I will develop and defend the externalist account of justification and knowledge referred to as simple reliabilism so as to show how inductive inference can both confer justification on its output beliefs, and its capacity to be a source of knowledge can be understood as a contingent fact about human cognition.

## **Chapter 3. An Externalist Solution to the Normative Problem**

### **Introduction**

So far I have argued that the normative problem is successful at showing that we cannot possess inductive knowledge if inductive inference involves a quasi-logical relation such as the principle of regularity. As a result, it must be a contingent fact about human cognition that inductive inference is a source of knowledge. I have further argued that the externalist character of justification means that it is possible for an epistemic agent to know a particular proposition without it being necessary for him or her to be aware of the basis for such knowledge. In this chapter I will draw on these two lessons to develop the epistemological theory of justification and knowledge referred to as ‘simple reliabilism’ to explain how inductive inference being a source of knowledge can be understood as a contingent fact about human cognition. I will also respond to common objections against both the reliabilist account of justification and knowledge to show that simple reliabilism is defensible in its own right, such as the ‘necessity problem’, the ‘sufficiency problem,’ the ‘value problem’, and the ‘generality problem’. After having shown that simple reliabilism is defensible in its own right, I will close this chapter but explaining how the proponent of simple reliabilism is able to solve the normative problem.

### **3.1. Simple Reliabilism**

If it is to be shown that it is a contingent fact about human cognition that inductive inference is a source of knowledge, I propose that we must adopt a ‘simple reliabilist’ theory of justification and knowledge. ‘Simple reliabilism’ is a theory of justification and knowledge that is perhaps most famously defended by Alvin Goldman in his landmark works “What is Justified Belief?” (1979) and *Epistemology and Cognition* (1986). According to Goldman, a belief is (*prima facie*) justified if it is *caused* by a cognitive process that *reliably* produces true



beliefs, and a belief counts as knowledge if it is true and caused by a cognitive process that reliably produces true beliefs.<sup>101</sup> Proponents of simple reliabilism contend that when we reflect on the central difference between unjustified beliefs and justified beliefs we realise that unjustified beliefs are *the result* of an epistemic agent reasoning poorly or in an erroneous way, and justified beliefs are *the result* of an epistemic agent reasoning well or in a way that is truth-conducive. On the basis of this simple distinction between unjustified beliefs and justified beliefs it becomes apparent that the way to establish whether we have a good reason to believe a particular proposition is to go back to the *cause* or *source* of that belief – that is, the *process* by which that belief was formed – so as to ensure that it is the type of process that is *reliable* or *dependable* at producing true beliefs.<sup>102</sup> If a belief is formed by a type of process that is reliable or dependable at producing true beliefs, an epistemic agent possesses justification for that belief.<sup>103</sup>

The types of processes that are capable of producing true beliefs can vary greatly, ranging from wishful thinking and lucky hunches on the one hand, to perception, memory, reasoning well, and introspection on the other hand. However, while all of these types of processes are capable of producing true beliefs, this does not mean that all of these types of

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<sup>101</sup> Alvin I. Goldman, “What Is Justified Belief?” in *Justification and Knowledge*, edited by George S. Pappas (Dordrecht, Netherlands: Springer, 1979), pp. 8-9.

<sup>102</sup> Importantly, while simple reliabilism maintains that a reliable cognitive process *gives rise* to knowledge, it is incorrect to surmise that to be “reliable” in an epistemological sense is equivalent to “being reliable at producing knowledge.” If the latter were the case, simple reliabilism would be a circular account of knowledge. The correct way to understand what it is to be “reliable” in an epistemological sense is equivalent to “being reliable at producing *truth*.” Thus, it should be noted that whenever I refer to a reliable process “giving rise” to knowledge or being a “source” of knowledge what I intend to mean by this phrase is that a given process is justification conferring upon its output beliefs because it is reliable. Greco, *Putting Sceptics in Their Place*, p. 165. But here one might ask of the reliabilist the famous question of Pontius Pilate: *quid est veritas?* What is truth? Although most reliabilists adopt a *correspondence* theory of truth, a reliabilist theory of knowledge need not necessarily adopt this specific theory of truth. *In theoria*, a reliabilist could adopt a *verificationist* theory of truth, or they could refrain from establishing a notion of truth altogether and just assume that certain propositions are true, while still remaining within the bounds of a reliabilist theory of knowledge. As Greco explains, “[t]he main idea is that knowledge is produced by cognitive processes that “get things right” or are “accurate” a good deal of the time.” Greco, *Putting Sceptics in Their Place*, p. 166.

<sup>103</sup> Or to quote David Papineau, if we attempt to understand the nature of justification by beginning with the beliefs that we already possess, “[i]nsofar as you are prone to error, the damage will already have been done.” David Papineau, “Reliabilism, Induction, and Scepticism,” *The Philosophical Quarterly* 42, n. 166 (1992): p. 1.

processes can be considered sources of knowledge. For instance, while wishful thinking and lucky hunches do occasionally lead to an epistemic agent producing true beliefs, empirical observation reveals that *most of the time* that an epistemic agent forms beliefs that are caused solely by these types of processes such beliefs are not true. Consequently, types of processes like wishful thinking and lucky hunches are *unreliable* at producing true beliefs, and we do not have a good reason or justification to maintain that a belief caused by either of these types of processes is true. On the other hand, empirical observation reveals that types of processes like perception, memory, reasoning well by either deductive inference or inductive inference, and introspection do produce true beliefs *most of the time*. Consequently, types of processes like perception, memory, reasoning well by either deductive inference or inductive inference, and introspection are *reliable* at producing true beliefs, and we do have a good reason or justification to believe that a belief caused by one of these types of processes is true.<sup>104</sup>

It should be noted that simple reliabilism is one of the many theories of justification and knowledge that is classified by epistemologists as being ‘reliabilist’ in its orientation. While every proponent of any variety of reliabilism will be in agreement that a reliable process is a *necessary condition* of fulfilling the justification condition of knowledge, in respect to the question of whether a reliable process is a *sufficient condition* of fulfilling the justification condition of knowledge it should be noted that the same level of agreement has not been reached.<sup>105</sup> The limited scope of this dissertation does not allow me to expound on the nature of the differences between distinctive reliabilist theories of what factors are sufficient for justification.<sup>106</sup> Suffice it to say, simple reliabilism maintains that a necessary and sufficient

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<sup>104</sup> Goldman, “What Is Justified Belief?” pp. 9-10. I will refrain from elaborating on exactly *how reliable* a process must be for an output belief to be justified until **Part 2** of this chapter.

<sup>105</sup> If we consider reliabilism simply in terms of a theory of justification, I maintain that a reliable process is both a necessary and sufficient condition for (*prima facie*) justification.

<sup>106</sup> Perhaps the main reliabilist rival to a ‘simple reliabilist’ theory of knowledge is known as virtue-reliabilism, which introduces the requirement that a belief must be formed not only by a reliable process but as a result of a process that is performed as a result of competence, skill, virtue, or ability. For a virtue-reliabilist account of knowledge, refer to: Duncan Pritchard, “Anti-Luck Virtue Epistemology,” *Journal of Philosophy* 109, n. 3 (2012):

condition for justification is that a belief is caused by a reliable process.<sup>107</sup>

An obvious question that must be addressed by the proponent of simple reliabilism is *how reliable* a process must be for it to confer justification on its output beliefs? As Goldman explains, in answering this question to a certain extent the reliabilist should be content to simply respond that the degree of reliability required of a process for it to confer justification to its output beliefs should be left “vague,” although infallible or perfect reliability is not desirable since we need to maintain that a belief can be both (*prima facie*) justified and false at one and the same time.<sup>108</sup> Ultimately, if a reliable process has a “tendency” to produce true beliefs or sustain sufficient confidence about the truth of pre-existing beliefs, it is able to confer justification on its output beliefs. However, Goldman adds, the greater the degree of reliability that could be attributed to a process, the greater the degree of justification that is conferred from the process to the output belief.<sup>109</sup> Although Goldman himself never explicitly says as much, as I will elaborate upon in greater detail in **Chapter 4**, seeing as a belief counts as knowledge if an epistemic agent possesses assurance that a belief is not formed in error, it seems reasonable to conclude that a process must be highly reliable – albeit, still imperfectly so – if its output beliefs are to count as knowledge.

Proponents of simple reliabilism distinguish between different types of reliable processes. For instance, a process can be either belief-dependent or belief-independent. *Belief-dependent* processes take other beliefs as inputs and include such types of processes as deductive inference and inductive inference, whereas *belief-independent* processes take

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p. 250. John Greco, *Achieving Knowledge: A Virtue-Theoretic Account of Epistemic Normativity* (Cambridge, England: Cambridge University Press, 2010), pp. 3-16.

<sup>107</sup> I should add that I think it is important that a defensible ‘anti-Gettier problem’ type clause should be introduced to suitably demonstrate that the reliability of a process is sufficient for justification. While I will not expound on the nature of this clause due to the limited scope of this dissertation, for a helpful summary of different reliabilist approaches to introducing an anti-Gettier problem clause, refer to: Rodrigo Borges, “The Gettier Problem and Externalism,” in *The Gettier Problem*, edited by Stephen Hetherington (Cambridge, England: Cambridge University Press, 2019), pp. 72-6.

<sup>108</sup> Goldman, “What Is Justified Belief?,” p. 11.

<sup>109</sup> Goldman, “What Is Justified Belief?,” p. 10.

various types of present perceptual states – rather than beliefs – as inputs, and include such types of processes as perception and introspection. Furthermore, a given process can be either conditionally reliable or unconditionally reliable. A belief-dependent process is *conditionally reliable* if its inputs are all true beliefs and it produces true beliefs all of the time (valid and sound deductive inferential reasoning) or most of the time (inductive inferential reasoning). On the other hand, a belief-independent process is *unconditionally reliable* if the inputs of the process are all non-beliefs and it produces true beliefs most of the time (perception and introspection).<sup>110</sup>

Insofar as a belief is justified on the basis of the *past* reliability or unreliability of the process that caused it, simple reliabilism is best understood as a *historical* or *genetic* theory of justification and knowledge.<sup>111</sup> Furthermore, simple reliabilism is an externalist account of justification because the justificational status of a belief is simply determined by whether or not it was caused by a reliable process, rather than the possession of knowledge requiring that an epistemic agent first knows or is aware of the basis or evidence (perhaps the reliability of the process that produced the belief) for what he or she knows.<sup>112</sup> As I will show in **Section 3.5.**, the commitment of the proponent of simple reliabilism to the historical nature of justification makes it an externalist account of justification that is compatible with the notion that justification is a contingent fact of an epistemic agent's cognitive system, which also allows a proponent of simple reliabilism to solve the normative problem. But since a simple

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<sup>110</sup> William P. Alston, *Beyond "Justification": Dimensions of Epistemic Evaluation* (New York, United States: Cornell University Press, 2005), p. 137.

<sup>111</sup> Alvin I. Goldman, "Reliabilism," in *Reliabilism in Contemporary Epistemology* (Oxford, England: Oxford University Press, 2012), p. 72. To the extent that reliability is a mind-independent *statistical property* of a *cognitive or psychological process* it also follows that the primary factor that determines whether a belief is justified or not – that is, the reliability of the process that caused it – is non-epistemic.

<sup>112</sup> Goldman, "What Is Justified Belief?," p. 14. There are a few proponents of reliabilism who maintain that justification possesses an internalist character, although this is certainly a minority position and non-typical in the current literature among proponents of reliabilism. I specifically have in mind here the work of Matthias Steup who attempts to synthesise reliabilism and internalism so as to achieve an 'internalist-reliabilist' theory of knowledge. For more details, refer to: Matthias Steup, "Internalist Reliabilism," *Philosophical Issues* 14 (2004): pp. 403-25. I do not subscribe to Steup's internalist-reliabilist theory of knowledge for the same reasons that I rejected internalism in **Chapter 2** of this dissertation.

reliabilist solution to the normative problem will mean nothing if simple reliabilism is not defensible in its own right, it is imperative that I first respond to a number of popular objections to simple reliabilism that has unfortunately disposed many epistemologists to be dismissive of this theory of justification and knowledge as being capable of providing an adequate response to the sceptic.

### **3.2. Justification, an Evil Demon, and a Clairvoyant**

Opponents of simple reliabilism commonly object that it can be shown that a reliable process is neither necessary nor sufficient for justification. Let us begin with Stewart Cohen's objection that a reliable process is not necessary for justification. Cohen asks us to imagine a possible world where the beliefs we form by perception are manipulated by an evil demon so that such beliefs are false most of the time. Consequently, in this 'evil demon' possible world the perceptual processes that produced these beliefs are unreliable. In the actual world, beliefs formed by perception are true most of the time so that in the actual world perception is a reliable process. Importantly, all things otherwise being equal between the evil demon world and the actual world, the quality of the perceptual experience of (i) an epistemic agent who *is not* deceived by an evil demon and (ii) the perceptual experience of an epistemic agent who *is* being deceived by an evil demon are *completely identical*, as are their beliefs. Seeing as the perceptual experiences and beliefs possessed by an epistemic agent in the actual world and an epistemic agent in the evil demon possible world are completely identical, and the beliefs possessed by an epistemic agent in the actual world are justified, it seemingly follows that our beliefs in the evil demon world must also be justified. However, since the exact same processes that reliably produce true beliefs in the actual world instead produce false beliefs in the evil demon world, it follows that from the perspective of an epistemic agent in the evil demon world the reliability of a given process in the actual world is not a good reason to believe that the

beliefs formed by that same process in the evil demon world are true. Therefore, Cohen concludes, the reliability of a process is not a necessary condition for justification.<sup>113</sup>

An additional objection that is often aimed specifically at the simple reliabilist variety of reliabilism is that a reliable process is not sufficient for justification. For instance, BonJour asks us to imagine a hypothetical scenario where an epistemic agent named Norman possesses beliefs as a result of the reliable process of clairvoyance.<sup>114</sup> Norman is not aware that he possesses the ability of clairvoyance. One day Norman comes to believe ‘the President is in New York City’ as a result of the spontaneous performance of the reliable process of clairvoyance – again, which he is unaware that he possesses – and this belief also happens to be true. According to reliabilism, since the belief ‘the President is in New York City’ is both true and is produced by a reliable process it qualifies as knowledge. BonJour contends that the example of Norman the Clairvoyant demonstrates that a reliable process is not a sufficient condition for the output belief to be justified, since otherwise it follows that *irrational knowledge* – or, to put it another way, knowledge *without reasons* – is possible, and such a notion involves an internal contradiction at a definitional level.<sup>115</sup> Therefore, BonJour concludes, insofar as reliabilism permits irrational knowledge, a reliable process is not sufficient for justification.<sup>116</sup>

In responding to both Cohen and BonJour’s respective objections to the necessity and sufficiency of a reliable process for justification, I want to specifically focus on the important

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<sup>113</sup> Stewart Cohen, “Justification and Truth,” *Philosophical Studies* 46, n. 3 (1984): p. 281.

<sup>114</sup> BonJour, “Externalist Theories of Empirical Knowledge,” pp. 53-73. There are similar examples to BonJour’s ‘Norman the Clairvoyant’ example that use non-supernatural processes to attempt to demonstrate that reliability is insufficient for justification that some scholars might find more persuasive. For instance, Keith Lehrer asks us to imagine a scenario where Mr Trutemp unknowingly possesses a temperature-detecting advice implanted in his brain which leads him to reliably form true beliefs about the temperature. Again, the epistemic agent, who in this case is Mr Trutemp, possesses irrational knowledge. Therefore, since irrational knowledge does not constitute actual knowledge due to the justification condition remaining unfulfilled, reliability is insufficient for justification. Keith Lehrer, *Theory of Knowledge* (London, England: Routledge, 1990), pp. 163-4.

<sup>115</sup> By definition knowledge is composed of justified, true, belief (*JTB*), and the justification condition of knowledge is not fulfilled if there is no reason for an epistemic agent to believe a particular proposition.

<sup>116</sup> BonJour, “Externalist Theories of Empirical Knowledge,” p. 62.

role that the *domain of inquiry* plays in establishing the simple reliabilist theory of justification and knowledge.<sup>117</sup> In respect to Cohen's 'evil demon world' objection that attempts to show that a reliable process is not necessary for justification, Goldman points out that it mistakenly assumes that if the performance of processes within "the world of the example" – that is, the evil demon world – and the performance of processes in the actual world are completely identical, this would also mean that they are equally relevant to the justificational status of belief.<sup>118</sup> But to the contrary, a possible world where an evil demon is manipulating the results of our belief-forming processes is one which is *irrelevant* to the justificational status of beliefs formed in the actual world.

Again, I follow Goldman in maintaining that we can determine what possible factors are relevant to justification by reflecting on our respective beliefs about what *can* and *does* happen in the actual world, after which a conception of a set of 'normal worlds' is generated.<sup>119</sup> A world is considered 'normal' if the circumstances in that world conform with our beliefs about what circumstances are realistic in the actual world. Insofar as our beliefs about what can and does happen in the actual world contribute to our respective conceptions of justification, it follows that our respective conceptions of the set of normal worlds determines which counter-factual scenarios are relevant to the justification status of a particular belief. Insofar as no credible epistemic agent in the actual world believes that an evil demon is manipulating the results of our belief forming processes, Cohen's counter-factual scenario should be considered unrealistic and thus outside the set of normal worlds that are relevant to the justification status

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<sup>117</sup> An alternative approach to responding to Cohen and Bonjour's respective objections against the necessity and sufficiency of reliable processes for justification that I am also supportive of involves positing that the justificational status of a belief can be recognised after completing a two-stage attribution process. For further details on this solution to both the 'necessity problem' and the 'sufficiency problem', refer to: Alvin I. Goldman, "Epistemic Folkways and Scientific Epistemology," in *Liasons: Philosophy Meets the Cognitive and Social Sciences*, edited by Alvin I. Goldman (Cambridge, MA: MIT Press, 1992), pp. 155-75. Edward Craig, "The Practical Explication of Knowledge," *Proceedings of the Aristotelian Society* 87 (1986): pp. 218-21.

<sup>118</sup> Goldman, *Epistemology and Cognition*, pp. 107-9.

<sup>119</sup> Goldman, *Epistemology and Cognition*, p. 107

of a particular belief.<sup>120</sup> As a result, Cohen's objection to a reliable process being necessary for justification is solved.<sup>121</sup>

By understanding the domain of inquiry in which we form beliefs, we can also adequately address Bonjour's sufficiency problem that purportedly undermines simple reliabilism. Goldman explains that the apparent effectiveness of Bonjour's example of Norman the Clairvoyant possessing 'irrational knowledge' rests on the assumption that clairvoyance operates like any other reliable process in the actual world. However, in the actual world processes that reliably produce true beliefs do not exhibit the trait of being able to produce 'irrational knowledge' in the same way as Norman's clairvoyant belief-forming process permits. The possibility of 'irrational knowledge' is not a realistic one in the actual world because, unlike clairvoyance, processes that reliably produce true beliefs in the actual world can fulfil what Goldman refers to as an 'epistemic ascent requirement'.

The epistemic ascent requirement stipulates that a belief is justified *iff* (1) it is produced by a reliable process, and (2) the epistemic agent can have a 'second-order belief' *about* the reliability of the type of process which was specifically used in the formation of the 'first-order belief' that is having its justificational status assessed.<sup>122</sup> Importantly, the second-order belief about the reliability of the type of process employed *does not* require that the epistemic agent must have first shown that he or she knows or is aware that *every* first-order belief formed by

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<sup>120</sup> Goldman, *Epistemology and Cognition*, pp. 107-9. I wish to add that from our vantage point in the actual world, while the beliefs and the performance of the processes that formed such beliefs of epistemic agents in the evil demon world will contribute to *their* own conception of justification, for those of us who form beliefs in the actual world *our* conception of justification would still be based on the beliefs and the performance of the processes that formed such beliefs in the actual world. Consequently, *our* beliefs and belief-forming processes in the actual world are *relevant* to the assessment of the justificational status of beliefs in the actual world in a way that beliefs and belief-forming processes in the evil demon world are not.<sup>120</sup> In much the same way, the beliefs and belief-forming processes in the evil demon world are *relevant* to the assessment of the justificational status of beliefs in the evil demon world in a way that beliefs and belief-forming processes in the actual world are not.

<sup>121</sup> Goldman, *Epistemology and Cognition*, pp. 107-9. For other variations of this argument against possible-world scepticism, refer to: Alvin I. Goldman, "Discrimination and Perceptual Knowledge," *The Journal of Philosophy* 73, n. 20 (1976): pp. 771-91. Alvin I. Goldman, "A Causal Theory of Knowing," *The Journal of Philosophy* 64, n. 12 (1967): pp. 357-72.

<sup>122</sup> Goldman, *Epistemology and Cognition* (1986), pp. 111-2.



an instantiation of that process is reliably produced. If we were required to first show that every first-order belief produced by a specific type of process is reliably produced so as to have a second-order belief that the type of process in question is reliable, it would mean that epistemic agents who either possess few or no second-order beliefs (such as small children) would not be able to possess knowledge, which is clearly wrong. Instead, the account of a second-order belief that should be adopted is one which involves a *negative* higher order condition, such as a “non-undermining (or “anti-defeater”) condition.”<sup>123</sup> According to the non-undermining condition of second-order belief, a first-order belief that is produced by a reliable process is justified on the condition that the epistemic agent is not aware of any mitigating circumstances that would prevent him or her from having a second-order belief about the relevant type of process being reliable.<sup>124</sup>

By using the epistemic ascent requirement, we can demonstrate that Bonjour’s objection to a reliable process being sufficient for justification is unsuccessful. In the case of Norman the Clairvoyant, Bonjour has given us no reason to doubt that Norman is like any other epistemic agent except for his clairvoyance. But in the actual world if we unexpectedly begin to believe something for no discernible reason, we have reason to believe that such a process of forming a belief is unreliable and that the belief is probably false. Consequently,

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<sup>123</sup> Goldman, *Epistemology and Cognition* (1986), pp. 111-2.

<sup>124</sup> Goldman, *Epistemology and Cognition* (1986), pp. 111-2. Jack Lyons proposes a similar solution to the sufficiency problem that also draws on the principle that the relevant possible worlds to the justificational status of a belief is determined on the beliefs and belief-forming processes that are possessed in that world. Lyons articulates his position in terms of processes belonging or not belonging to the *primal system* of an epistemic agent, where a primal system is: (i) “inferentially opaque”, which is to say that a process that does not require internal warrants to confer justification to its belief outputs, and (ii) it develops as an epistemic agent learns how to innately employ a process in an effective way. For Lyons the *model exemplar* of a primal system that meets these conditions is our perceptual systems. If Norman is in the actual world, at best we could imagine that clairvoyance must be a ‘non-primal’ process that is the result of “a recent encounter with radioactive waste” or a “neurosurgical prank”, if we even consider clairvoyance to be a reliable belief process at all (obviously, we should not). Consequently, since clairvoyance is not the type of process that is native to our primal system, it is not sufficient for justification. Thus, Bonjour’s objection to the sufficiency of reliability for justification misses the target, and can be dismissed by the reliabilists. On the other hand, if Norman is a member of an alien race where clairvoyance is native to their primal system, for epistemic agents in *that* possible world it follows that clairvoyance is a reliable process that is sufficient for justification. Consequently, in such a possible where clairvoyance is native to the cognitive system is true, *contra* Bonjour, reliability is sufficient for justification. Lyons, *Perception and Basic Beliefs*, pp. 118-9, 144.

when we observe the epistemic ascent requirement it follows that just like every other epistemic agent in the actual world, Norman should be sceptical about the truth of any belief that he begins to hold for no discernible reason, such as his belief that ‘the President is in New York’. Thus, insofar as Norman is oblivious to how he began to believe ‘the President is in New York’, he has mitigating circumstances available to him to form the second-order belief that the process that produced the first-order belief ‘the President is in New York’ is unreliable.<sup>125</sup> Therefore, since processes like clairvoyance are unable to fulfil the epistemic ascent requirement that is a precondition of the justification, Bonjour’s objection against a reliable process being sufficient for justification is unsuccessful.

In solving the necessity problem and the sufficiency problem for simple reliabilism, we can extract a number of important lessons. Firstly, by the simple reliabilist maintaining that a reliable process is a necessary condition of justification, this is not to say that a process has to be necessarily reliable in *every possible world*. Secondly, the simple reliabilist commitment to the position that justification is externalist in character does not lead to absurd consequences once we properly demarcate what exact domains of inquiry or possible worlds a process should be expected to reliably produce true beliefs. As long as a process is reliable in the world in which it is *really* used or could *realistically* be used – which is to say, so long as the process is *contingently* reliable – this is an adequate reason or justification for belief in the actual world. Expressed differently, from the perspective of simple reliabilism, so long as a process possesses *de facto* reliability in the real world, a reliable process can serve as a necessary and sufficient condition for justification.<sup>126</sup>

### 3.2. The Value Problem

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<sup>125</sup> Goldman, *Epistemology and Cognition*, pp. 111-2.

<sup>126</sup> Greco, *Putting Sceptics in Their Place*, p. 172.

Whereas the necessity problem and the sufficiency problem target simple reliabilism as a theory of justification, it is also common for opponents to object that simple reliabilism leads to an inadequate theory of knowledge on the basis of the ‘value problem’ or what is sometimes referred to as the ‘*Meno* problem’. The basis of this objection derives from Plato’s famous proposal in the *Meno* that knowledge possesses a certain value that is lacking from mere true belief, and that a theory of knowledge is inadequate if it is unable to distinguish between the knowledge and mere true belief.<sup>127</sup> With this principle in mind, opponents of a reliabilist theory of knowledge often argue that although reliability is valuable because reliably produced beliefs are going to be true most of the time, *once a true belief is formed* that belief does not possess any extra value as an effect of being produced by a reliable source. Or to quote Ward Jones, “[...] We value the better method because we value truth, but it does not tell us why we value the true beliefs brought about by that method over true beliefs brought about by less reliable ones.”<sup>128</sup> To the extent that reliably formed true beliefs do not possess any extra value than is possessed by a mere true belief, Jones concludes that whatever reliably formed beliefs are, they do not qualify as knowledge.<sup>129</sup>

Erik Olson offers a persuasive two-pronged defence of reliabilism against the value problem. The first point Olson makes is that the value problem focusses on the value of the *output belief* of a given process, rather than on the value reliable processes bring to the *overall position* that an epistemic agent finds himself or herself in once it is apparent that the process

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<sup>127</sup> Plato, *Meno*, translated by W. K. C. Guthrie, in *The Collected Dialogues of Plato, Including the Letters*, edited by Edith Hamilton and Huntington Cairns, (New York: Pantheon, 1961), 97a–d. For a history of the value problem, refer to: Jonathan L. Kvanvig, “Why Should Inquiring Minds Want to Know?: *Meno* Problems and Epistemological Axiology,” *The Monist* 81, n. 3 (1998): pp. 426–51

<sup>128</sup> Ward Jones, “Why Do We Value Knowledge?” *American Philosophical Quarterly* 34, n. 4 (1997): p. 426.

<sup>129</sup> Jones, “Why Do We Value Knowledge?,” p. 426. To highlight the thrust of the value problem for reliabilism Linda Zagzebski compares reliably formed true beliefs to an espresso coffee being produced by a reliable espresso maker. In much the same way that if an espresso tastes good it is insignificant whether it was produced by a reliable espresso machine or an unreliable espresso machine, if a belief is true it is insignificant whether it is produced by a reliable process or an unreliable process. Zagzebski concludes that “[t]he good of the product makes the reliability of the source that produces it good, but the reliability of the source does not then give the product an additional boost of value.” Linda Zagzebski, “The Search for the Source of Epistemic Good,” *Metaphilosophy* 34, ns. 1 and 2 (2003): p. 13.

that produced a true belief has a history of reliably producing true beliefs. For the sake of the argument, let us grant that a true belief *itself* does not gain extra value as a result of being produced by a reliable process. The fact that the process that produced that belief is recognised as being reliable should provide us with greater confidence that the process will produce more true beliefs in the future than if a process is recognised as being unreliable at producing true beliefs. The increased likelihood of the acquisition of future true beliefs is obviously significant if we consider the project of the pursuit of knowledge as an *ongoing activity*, rather than it simply involving the analysis of a single belief. Thus, while the value of a true belief is not impacted by whether the process that produced it is reliable or unreliable, the *state of affairs* where a true belief is recognised as being produced by a reliable process is more desirable or valuable than the state of affairs where a true belief is recognised as being produced by an unreliable process. *Prima facie*, it does not appear that either way of conceiving of value is more plausible or fundamental to the knowledge than the other.<sup>130</sup> While this first solution to the problem of value is not definitive, it is nevertheless significant because what it does show is that the value problem itself is not a definitive objection to reliabilism.

Olson suggests that not only should we doubt that the value problem successfully defeats a reliabilist theory of knowledge, but that reliabilism can offer a positive account of why a reliably formed belief possesses a value that is lacking from a mere true belief. To elaborate, a distinctive feature of a reliably formed belief is that it is *stable*, which is to say that an epistemic agent should *remain* confident that a belief is true if the process that produced it continues to consistently and repeatedly produce beliefs that are true. Thus, if a belief is produced by a reliable process an epistemic agent has no reason to doubt whether belief in the truth of a proposition is justified, and his or her belief is unwavering. Conversely, a distinctive

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<sup>130</sup> Erik J. Olsson, "Reliabilism, Stability, and the Value of Knowledge," *American Philosophical Quarterly* 44, n. 4 (2007): p. 345. Also refer to: Alvin Goldman and Erik J. Olsson, "Reliabilism and the Value of Knowledge," in *Epistemic Value*, edited by D. Pritchard, A. Millar, and A. Haddock (Oxford: Oxford University Press, 2008), pp. 163-5.

feature of a belief that is produced by a process that is unreliable is that it is *unstable*, in the sense that an epistemic agent should become doubtful that a belief is true because the process that produced it consistently and repeatedly produces beliefs that are false. Thus, if a belief is produced by an unreliable process then an epistemic agent has sufficient reason to doubt whether belief in the truth of a proposition is justified, and his or her belief should waver. Stability is an important property for a belief to possess because if a belief is unstable this means that an epistemic agent has sufficient reason to withdraw belief in the truth of a proposition. Belief is a necessary condition for knowledge, so a belief that possesses the property of stability is of great value to an epistemic agent that desires knowledge. Therefore, insofar as stability is a valuable property for belief and reliably formed beliefs possess the property of stability, reliably formed true beliefs possess a value that is absent from mere true beliefs that are produced by unreliable processes.<sup>131</sup>

### 3.3. The Generality Problem

Perhaps the greatest obstacle to the defensibility of reliabilism is presented by Conee and Feldman in what has infamously become known as the ‘generality problem’. The generality problem arises when an epistemic agent reflects on his or beliefs and realises that each belief is formed by a process that is an instantiation or ‘token’ of many different ‘types’ of processes. As a consequence of this realisation, an epistemic agent will naturally begin to question which process type is relevant to establishing the reliability of the process token that produced a given belief, since some of the process types that the process token instantiates may be reliable and other process types that the process token instantiates may be unreliable.<sup>132</sup> Or to quote Feldman:

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<sup>131</sup> Olsson, “Reliabilism, Stability, and the Value of Knowledge,” p. 346.

<sup>132</sup> Earl Conee and Richard Feldman, “The Generality Problem for Reliabilism,” *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 89, n. 1 (1998): pp. 2-3.

“For example, the process token leading to my current belief that it is sunny today is an instance of all the following types: the perceptual process, the visual process, processes that occur on Wednesday, processes that lead to true beliefs, etc. Note that these process types are not equally reliable. Obviously, then, one of these types must be the one whose reliability is relevant to the assessment of my belief.”<sup>133</sup>

Conee and Feldman suggests that one problem with reliabilism is it often presents processes in an overly-simplified way that fails to account for the fact that a singular process can be classified into a multitude of different types of processes. Consequently, unless the reliabilist can explain the means by which we can identify what process type a given process token instantiates, it follows that a reliabilist theory of knowledge is insufficiently informative to qualify as an adequate theory of either justification or knowledge.<sup>134</sup>

The problem posed by this request for the proponent of reliabilism to identify the process type of a particular process token goes much deeper than it might first appear. As Conee and Feldman rightly point out, the process types that the process token instantiates each have varying degrees of breadth in the number of process tokens that they cover.<sup>135</sup> Unfortunately for the reliabilist, both “narrow” and “broad” process types have their own attendant issues. For instance, if a process token instantiates a narrow process type that is specified by the exact sequence of concrete events leading up to the formation of a belief, seeing as a concrete sequence of events happens only once, that process type is destined to only ever produce one belief. Consequently, if the belief is true the process type is reliable, and if the belief is false the process type is unreliable. But then this would mean that all true beliefs formed by narrow types of processes are justified and all false beliefs formed by narrow types

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<sup>133</sup> Richard Feldman, “Reliability and Justification,” *The Monist* 68 (1985): pp. 159-60.

<sup>134</sup> Conee and Feldman, “The Generality Problem for Reliabilism,” p. 3.

<sup>135</sup> Conee and Feldman, “The Generality Problem for Reliabilism,” p. 7.

of processes are unjustified. Intuitively, the result of a process that is performed one time is inadequate for determining whether an epistemic agent is justified or unjustified in believing some proposition.<sup>136</sup>

On the other hand, if a process token instantiates a broad process type, an epistemic agent has a problem with making necessary distinctions among beliefs. Feldman gives the example of the process type of brief and hasty visual scanning of objects to demonstrate this point. Sometimes an epistemic agent will perform the process of brief and hasty scanning to form justified beliefs such as “it is raining outside,” while on other occasions he or she may perform the process of brief and hasty scanning to form unjustified beliefs about such matters as how many grains of sand there are on this beach or how many raindrops have fallen from the sky within the proximity of my vision.<sup>137</sup> Consequently, if the reliabilist claims that a process token instantiates a narrow process type it follows that the reliable process token will be inadequate for justification. On the other hand, if the reliabilist claims that a process token instantiates a broad process type it follows that the process token will be unable to make necessary epistemic distinctions between justified beliefs and unjustified beliefs.

Perhaps more than any other objection to reliabilism, the generality problem has garnered the greatest array of responses from proponents of reliabilism.<sup>138</sup> Unfortunately, once again the limited scope of this dissertation does not allow me to analyse the strengths and weaknesses of this vast multitude of solutions. Suffice it to say, among the multitude of

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<sup>136</sup> Conee and Feldman, “The Generality Problem for Reliabilism,” p. 2.

<sup>137</sup> Feldman, “Reliability and Justification,” pp. 160-1.

<sup>138</sup> For instance, Alston proposes that a process token instantiates a reliable process type in natural kind terms that means that an epistemic agent does not have to choose what reliable process type is relevant to the reliable process token. William P. Alston, “How to Think About Reliability,” *Philosophical Topics* 23, n. 1 (1995): pp. 1-29. Mark Wunderlich instead develops a methodology for ordering the contents of “the primordial soup” that is the culmination of all of the reliability information from the process types relating to the process token. Mark Wunderlich, “Vector Reliability: A New Approach to Justification,” *Synthese* 136, n. 2 (2003): pp. 237-62. Mark Heller combines contextualism with reliabilism in an attempt to solve the generality problem. Mark Heller, “The Simple Solution to the Generality Problem,” *Nous* 29, n. 4 (1995): pp. 501-15. James Beebe proposes that the key to solving the generality problem is to identify the partitions that exist between sub-classes of process types and then narrow down which process type the process token belongs to on the basis of statistics. James Beebe, “The Generality Problem, Statistical Relevance and the Tri-Level Hypothesis,” *Nous* 38, n. 1 (2004): pp. 177-95.

attempts by reliabilists to solve the generality problem, Juan Comesana's response to the generality problem stands out for its persuasive force. According to Comesana, the generality problem is not a specific problem that is limited to reliabilism, but it is instead a problem that is faced by *all* theories of justification and knowledge, since they all employ a *basing relation* in their account of justification. By 'basing relation' what is being referred to is the relation between a specific reason and rational belief, which allows us to distinguish between good reasons an epistemic agent possesses that did not cause a belief to be held from the good reasons he or she possesses which did cause the belief to be held.<sup>139</sup>

Basing relations are present in both reliabilist and non-reliabilist theories of justification and knowledge. To give one pertinent example of a non-reliabilist theory of justification and knowledge employing a basing relation, in developing their own version of an internalist theory of knowledge Conee and Feldman themselves propose that a necessary condition of justification is that a belief is held "on the *basis* of some body of evidence".<sup>140</sup> Now, much like a reliable process, an internalist basing relation is an example of a *causal relation*, since to state that a belief is justified if it is based on some body of evidence is just another way of articulating the notion of causation: *if x then y*. A causal relation token can also instantiate a multitude of different causal relation types, in much the same way as a process token can instantiate a multitude of different process types.<sup>141</sup> Consequently, the reliabilist can turn the generality problem back on the internalist by requiring clarification on what causal relation type a causal relation token instantiates. Further still, the reliabilist can then point out that if the causal relation token instantiates either a "broad" causal relation type or "narrow" causal relation type the internalist has a new set of problems to solve, namely, the 'no distinction problem' and the

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<sup>139</sup> Juan Comesana, "A Well-Founded Solution to the Generality Problem," *Philosophical Studies* 129, n. 1 (2006): pp. 32-3. Also refer to: Michael Bishop, "Why the Generality Problem is Everybody's Problem," *Philosophical Studies* 151 (2010): pp. 285-98.

<sup>140</sup> Conee and Feldman, *Evidentialism*, p. 93.

<sup>141</sup> Juan Comesana, "A Well-Founded Solution to the Generality Problem," *Philosophical Studies*, 129: pp. 33-4.



‘single case problem’ that the internalist purports leads to the defeat of reliabilism.<sup>142</sup>

What are the implications of the proposed *tu quoque* rebuttal of the generality problem for reliabilism? It might appear that the solution I have proposed to the generality problem is a non-solution, and if anything, it could be argued that it is counter-productive to the goal of developing an adequate theory of knowledge since it shows that we cannot develop a plausible account of how to fulfil the justification condition of knowledge. If such a concern were to arise, it is important to remember that if the generality problem must be solved for a theory of justification to be considered plausible, the absurd possibility follows that it is impossible to establish adequate theory of justification, and consequently, that it is impossible to develop an adequate theory of knowledge. Given my stated support for a particularist approach to responding to scepticism, obviously absurd conclusions such as the theoretical impossibility of knowledge should be rejected without further question. However, a viable solution to the generality problem notwithstanding, an alternative way that we can understand the proposed *tu quoque* rebuttal of the generality problem is to maintain that the pervasiveness of this problem means that the absence of a positive solution to it by the reliabilist should not be taken as a sign of some unique weakness that should be held against the adequacy of a reliabilist theory of justification or knowledge.<sup>143</sup> With the above solutions to popular objections to simple reliabilism in mind, I propose that even prior to considering how a proponent of simple reliabilism can respond to the normative problem, there are adequate grounds to conclude that simple reliabilism is a defensible theory of justification and knowledge in its own right.

### **3.4. Externalism, Reliabilism, and the Normative Problem**

In the previous two chapters I have drawn a number of conclusions about what is required if

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<sup>142</sup> Comesana, “A Well-Founded Solution to the Generality Problem,” pp. 32-3.

<sup>143</sup> Comesana, “A Well-Founded Solution to the Generality Problem,” pp. 42-44.

we are to develop an adequate theory of knowledge that is not undermined by the normative problem. For instance, in **Chapter 1**, I concluded that the normative problem teaches us that if inductive inference is in fact a source of knowledge it must be a contingent fact about human cognition. Then in **Chapter 2** I argued the externalist character of justification means that we should reject the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows. I further contended that, *contra* the concerns of the sceptic that motivated the proposal of internalism, we can know a particular proposition without it being necessary for us to first show how we know that proposition. As I will now show, simple reliabilism is perfectly positioned to explain how we can understand how it can be a contingent fact about human cognition that inductive inference is a source of knowledge, while still being compatible with the notion that justification possesses an externalist character.

As I indicated in **Section 3.1.**, the reason that simple reliabilism qualifies as an externalist account of justification is because a reliable process can have a history or track record of being truth-conducive whether or not an epistemic is aware of that process being reliable or not. For instance, an inference rule is able to confer justification on its output beliefs because reasoning in accordance with an inference rule is a type of reliable process, rather than because an epistemic agent is aware of how the inference rule works in forming a true or probably true conclusion on the basis of true premises. Thus, from the perspective of the proponent of simple reliabilism, one possible way to understand inferential movements is in terms of an epistemic agent reasoning to a conclusion by a conditionally reliable process from true – or at least, apparently true – propositions in the premise set.<sup>144</sup> Similarly, when an epistemic agent forms a belief on the basis of justified beliefs stored in memory where the cause of justification of the old belief is forgotten and inaccessible to reflection, the reason that

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<sup>144</sup> Alvin I. Goldman, *Epistemology and Cognition* (Cambridge, MA: Harvard University Press, 1986), pp. 82-5.

such inferred beliefs are justified is because his or her faculty of memory is a reliable process.<sup>145</sup> Likewise, if an epistemic agent forms a basic belief about an object of perception on the basis of being in a particular perceptual state, such beliefs are justified if the perceptual organ that he or she is using is an unconditionally reliable process, rather than because the epistemic agent knows or is aware of the multitude of factors that contribute to perception.<sup>146</sup> Thus, a reliabilist account of knowledge is entirely consistent with the conclusion that I drew in **Section 2.8.** that inference rules, justified beliefs stored in memory, and present perceptual states are all factors that contribute to the justification of belief and all also possess an externalist character.

Turning now to a reliabilist response to the normative problem, in what sense is it a contingent fact about human cognition that inductive inference is a source of knowledge? According to proponents of simple reliabilism, a cognitive process confers justification on its output beliefs if that process has a history of reliably producing true beliefs. As I have already explained, the reliabilist does not want to say that a process must be “infallibly” or *necessarily* reliable if it is to confer justification upon its output beliefs, since the reality of the fallibility of knowledge formation means that it is important to maintain that a belief can be both (*prima facie*) justified and false at one and the same time. But if justification can be conferred to beliefs produced by a process that is not necessarily reliable, it follows that such a process is only *contingently* reliable. Insofar as inductive inference is a contingently reliable process that involves an act of reason in the cognitive system of an epistemic agent, it follows that it is a contingent fact about human cognition that inductive inference is a source of knowledge.<sup>147</sup>

Seeing as simple reliabilism is a theory of justification and knowledge that is defensible in its own right, insofar as it is a contingent fact about human cognition that inductive inference

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<sup>145</sup> Goldman, *Epistemology and Cognition*, pp. 199-200.

<sup>146</sup> Goldman, “Toward a Synthesis of Reliabilism and Evidentialism?,” p. 149.

<sup>147</sup> Papineau, “Reliabilism, Induction, and Scepticism,” pp. 11-2. For additional work that I found particularly helpful on clarifying the relationship between the inductive inference and reliabilism, refer to: Hilary Kornblith, *Inductive Inference and Its Natural Ground* (Cambridge, MA: MIT Press, 1993).

is a source of knowledge it follows that the proponent of simple reliabilism has already effectively solved the normative problem. To elaborate, recall back to **Section 1.3.** where I accepted that the normative problem as Hume proposed it is successful at showing that we cannot in principle possess inductive knowledge if we assume that inductive inference involves the principle of regularity (PR). But after introducing the notion that inductive inference is a reliable process in **Section 1.6.**, I also indicated that the normative problem could be reformulated to deal with the simple reliabilist theory of inductive inference which does not depend on the involvement of PR, since if we know that inference is a source of knowledge on the basis of the past reliability of inductive inference we once again *seemingly* fall into the problem of fallaciously circular reasoning. Consequently, I suggested that Hume could conclude that inductive inference is not a source of knowledge whether or not inductive inference involves PR, since we cannot show that we know that inductive inference is a source of knowledge without appealing to fallaciously circular reasoning. But because an externalist account of justification is true, *contra* Hume, the reliabilist does not need to show how they know inductive inference is a source of knowledge as a precondition of inductive inference being a source of knowledge. Instead, by the very fact that inductive inference *is* a reliable process for producing true beliefs in the world in which it is used – which is to say, inductive inference is a contingently reliable process – it follows that inductive inference confers justification upon its output beliefs, and if such beliefs are true then those beliefs thus count as knowledge.<sup>148</sup>

### **3.5. Simple Reliabilism and the Achievement of Knowledge**

It is conceivable that someone might object that due to the externalist character of justification it follows that the simple reliabilist solution to the normative problem is unable to account for

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<sup>148</sup> Van Cleve, “Reliability, Justification, and the Problem of Induction,” pp. 561-2.

the intuition that the possession of knowledge is an *achievement* or the result of an epistemic agent *doing* whatever it is that *should* be done to ensure a belief is not formed in error. As I explained in **Section 2.2.**, from the perspective of the internalist, the requirement that an epistemic agent must be aware of the basis for what he or she knows adequately accounts for the intuition that knowledge formation involves an epistemic agent doing something to ensure that a belief is not formed in error. But as I have shown in **Chapter 2** and as I have further argued in this chapter, the factors that contribute to the justification status of beliefs are all externalist in character, so the proponent of simple reliabilism must offer an alternative account of how to explain the basis of the intuition that knowledge is an achievement without reference to the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows.<sup>149</sup> As David Papineau rightly recognises, if the reliabilist fails to account for the intuition that knowledge is an achievement, the reliabilist would be open to the charge of “changing the subject” by fellow epistemologists, and reliabilism would fail to qualify as an adequate theory of knowledge.<sup>150</sup>

Papineau explains that while the externalist character of justification might incline an opponent of simple reliabilism to conclude that the formation of knowledge appears to be “at the mercy of nature” rather than being the result of any actions taken by the epistemic agent to ensure that a belief is not formed in error, such a conclusion does not follow from the tenets of externalism.<sup>151</sup> As I indicated in **Section 2.8.**, while any externalist must reject the internalist doctrine that an epistemic agent must be aware of the basis for what he or she knows, this does not mean that it is not *possible* for an epistemic agent to know or be aware of the basis or evidence for what he or she knows. In respect to the question of what an epistemic agent should do to achieve knowledge the proponent of simple reliabilism can simply respond that *if* any

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<sup>149</sup> Greco, *Putting Skeptics in Their Place*, pp. 176-7.

<sup>150</sup> Papineau, “Reliabilism, Induction, and Scepticism,” p. 3.

<sup>151</sup> Papineau, “Reliabilism, Induction, and Scepticism,” p. 5.

such action is required to ensure a belief is not formed in error then an epistemic agent *should do* whatever is required to ensure that his or her beliefs are formed by reliable processes.<sup>152</sup> Thus, according to the proponent of simple reliabilism, it might well be the case that an epistemic agent should take *active* steps to ensure that a belief is formed by a reliable process that would lead to the effect of either enhancing or preserving the reliability of a given process.<sup>153</sup> Examples of actions that epistemic agents can potentially take to enhance the reliability of certain processes abound: an epistemic agent might use spectacles to enhance the reliability of their vision, put effort into being attentive to the evidence at hand and avoid distractions when forming beliefs about perceived objects, consider questions from different perspectives to generate an insightful answer, and so on. Therefore, simple reliabilism is able to account for the intuition that knowledge is an achievement by making reference to the possibility that an epistemic agent can enhance the reliability of a process that produced a belief.<sup>154</sup> Or more precisely, the simple reliabilist solution to the normative problem is compatible with the intuition that knowledge is an achievement.

### Conclusion

In this chapter I have argued that a reformulated version of the normative problem can be solved if we adopt a simple reliabilist account of justification and knowledge. In essence, I demonstrated that the reliabilist is able to solve the normative problem by showing that since

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<sup>152</sup> Papineau, "Reliabilism, Scepticism, and Induction," p. 4.

<sup>153</sup> Papineau, "Reliabilism, Induction, and Scepticism," pp. 4-5. Papineau notes that an epistemic agent may either consciously or unconsciously take actions to ensure that a belief-forming process is reliable. For a detailed account of the difference between conscious and unconscious actions that can be taken to ensure the reliability of a process, refer to: David Papineau, *Reality and Representation* (Oxford, England: John Wiley & Sons, 1987), pp. 136-8.

<sup>154</sup> Papineau posits that even a true belief that is formed by a reliable process that did not have its reliability either consciously or unconsciously enhanced – what he calls 'passive knowledge – could, in a certain sense, be considered an achievement. To quote Papineau directly: "[p]erhaps passive knowers should have at least this much in common with concerned enquirers: their belief-forming processes should not just *happen* to be reliable, but should be present *because* they are reliable. This suggestion will rule out purely fortuitous reliability, but will allow in reliability due to evolution, learning, and education [...]" Papineau, "Reliabilism, Induction, and Scepticism," fn. 4. on p. 5. Also refer to: Papineau, *Reality and Representation*, pp. 136-8.

inductive inference is a contingently reliable cognitive process that confers justification to its output beliefs it follows that inductive inference being a source of knowledge is a contingent fact about human cognition. I further argued that the externalist character of justification means that we do not first need to show how we know the particular proposition 'inductive inference is a source of knowledge' for inductive inference to be a source of knowledge. Importantly, I also established that simple reliabilism is a defensible theory of justification and knowledge in its own right by solving the necessity problem, the sufficiency problem, the value problem, and the generality problem that all purportedly undermine simple reliabilism. Let us now proceed to **Chapter 4**, where I will demonstrate that while the reliabilist does not need to directly respond to the normative problem, they can still show how it is possible for us to know that inductive inference is a source of knowledge if they want to persuade epistemologists not convinced by the solution to the normative problem I have offered in this chapter.

## **Chapter 4. Responding to the Sceptic on Their Terms**

### **Introduction**

Simple reliabilism contains the resources to successfully solve the normative problem. Whereas the normative problem requires that we show how we can possess inductive knowledge while maintaining that inductive inference involves a quasi-logical relation such as the principle of regularity, simple reliabilism explains how it can be a contingent fact about human cognition that inductive inference is a source of knowledge without that epistemic agent also being required to know it to be so if he or she is to possess inductive knowledge. In this chapter I will provide a second solution to the normative problem that derives from the explanation of why inductive inference being a source of knowledge is a contingent fact about human cognition, but which should also be persuasive to epistemologists who insist that we can only possess inductive knowledge if we can show how we know that inductive inference is a source of knowledge. After having shown how simple reliabilism contains the required resources for us to show how we know that inductive inference is a source of knowledge, I will explain how the proponent of simple reliabilism can resolve the ‘problem of easy knowledge’ and the ‘problem of counter-induction’.

#### **4.1. A Supplementary Reliabilist Solution to the Normative Problem**

Before explaining how we can draw on the principles of simple reliabilism to offer a particularist account of how we can know that inductive inference is a source of knowledge, it will prove useful to briefly restate the conclusions that I have drawn so far throughout this dissertation that have brought us to this point in the thesis. Recall that in **Chapter 1** I argued that the normative problem is successful in showing that we cannot possess inductive knowledge if we assume that inductive inference involves a quasi-logical relation such as the



principle of regularity (PR). I also proposed that rather than our response amounting to the adoption of the intolerably heavy burden that is inductive scepticism, I would both explain how what we might now call the ‘reliability’ of inductive inference to give rise to knowledge is not the type of thing that we need to show how we know, but as per the particularist approach to scepticism, we can. In **Chapter 2** I focussed on demonstrating why we should reject the internalist claim that justification is an internal fact of the subjective perspective of an epistemic agent, and if we are to show how we know a particular proposition it must be compatible with an internalist account of justification. I then concluded that the externalist character of justification should lead us to adopt an externalist account of particularism. And of course, as I have just argued in **Chapter 3**, I have also contended that the normative problem has been effectively solved as a result of the defensibility of simple reliabilism, since inductive inference is a contingently reliable cognitive process – or put differently, inductive inference being a source of knowledge is a contingent fact about human cognition – and its externalist character means that we can possess inductive knowledge without needing to show how we know that inductive inference is a source of knowledge.

If the normative problem has already been solved, what is the purpose of providing a supplementary solution to the same problem? In answering this question, while I am confident that the solution to the normative problem that I have already offered is *philosophically* compelling, I also acknowledge that it might not be *psychologically* compelling for some epistemologists. The influence of scepticism has been prevalent in epistemology since the late Middle Ages, so it is somewhat understandable why some epistemologists might find the habit of obliging the sceptic by responding to his or demands a hard one to break.<sup>155</sup> Thus, while I must stress that no further proof is necessarily required to solve the normative problem, by

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<sup>155</sup> Stathis Psillos, “Induction and Natural Necessity in the Middle Ages,” *Philosophical Inquiry* 39, n.1 (2015): pp. 120-7. Also refer to: Henrik Lagerlund, *Rethinking the History of Skepticism: The Missing Medieval Background* (Leiden, Netherlands: Brill, 2010).

offering a solution to the normative problem that involves showing how we know that inductive inference is a source of knowledge it is hoped that a solution that is compelling in both a philosophical sense and a psychological sense is now available for certain epistemologists that are not persuaded by the first solution to the normative problem that the proponent of simple reliabilism can offer.

#### **4.2. An Inductive Justification of Inductive Inference**

As I have already affirmed, the normative problem is successful in showing that we do not possess inductive knowledge if inductive inference *involves a quasi-logical relation such as PR*, since any attempt to justify PR by inductive inference will involve fallaciously circular reasoning where the conclusion is a repetition of one of the premises that it is based on. Thus, seeing as the reliabilist contends that inductive inference being a source of knowledge is a contingent fact about human cognition, if the reliabilist is to provide an explanation of how we know that inductive inference is a source of knowledge it would be technically incorrect to conclude that the reliabilist has solved the normative problem as Hume conceived of it. But the normative problem can be easily reformulated to challenge the reliabilist who thinks that we can show how inductive inference is a source of knowledge, since the inductive sceptic can simply ask the reliabilist the following question: how can we know that inductive inference is reliable without reasoning in a circle by appealing to past reliability of inductive inference?

The proponent of simple reliabilism can respond to the inductive sceptic that *because* inductive inference is a contingent fact about human cognition a pathway is now available for us to provide an inductive justification of inductive inference that would not be otherwise available if we were to assume that inductive inference involves PR. Or more specifically, seeing as the proponent of simple reliabilism is not committed to the position that inductive inference involves PR, it is now logically possible for us to reason *directly* from observed

matters of fact to unobserved matters of fact. Consequently, seeing as we can reason from observed matters of fact to unobserved matters of fact without assuming inductive inference involves PR, it follows that we are freed from the inevitable problem of not being able to show how we know PR is true without assuming PR in one of the premises.<sup>156</sup>

Van Cleve proposes that if we are to show how we know that inductive inference is a source of knowledge on the basis of the reliability of inductive inference we must first distinguish between fallacious ‘premise-circular’ reasoning on the one hand, and non-fallacious ‘rule-circular’ reasoning on the other hand.<sup>157</sup> As I have already implicitly explained in **Section 1.3.**, an argument is premise-circular if the conclusion is merely a repetition of a proposition in the premise set. The fallaciousness of this form of reasoning derives from the fact that no new information is inferred so the conclusion lacks persuasive force. On the other hand, an argument is rule-circular if the conclusion is about an inference rule that supports the movement from the premise set to the conclusion. The non-fallaciousness of this form of reasoning derives from the fact that the conclusion includes information that is not present in the premise set, and is thus not a repetition of any one of the premises. Let the inference rule that governs inductive inference be “whenever someone infers inductively, the conclusion is true,” which can easily be translated into reliabilist terms to mean “to infer inductively is a reliable process”. The following argument shows how the inference rule that governs inductive inference can be established by appealing to inductive inference as a reliable process in a completely legitimate way:

P1. Renee inferred through induction that since all *As* have been *Bs* so far that “All *As* are *Bs*”, and this conclusion was true.

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<sup>156</sup> Van Cleve, “Reliability, Justification, and the Problem of Induction,” pp 556-8.

<sup>157</sup> Van Cleve, “Reliability, Justification, and the Problem of Induction,” p. 558. For a similar early account of the difference between premise-circularity and rule-circularity see: Richard Braithwaite, *Scientific Explanation: A Study of the Function of Theory, Probability and Law in Science* (Cambridge, UK: Cambridge University Press, 1953), pp. 276-7.

P2. Josephina inferred through induction that since all *Cs* have been *Ds* so far that “All *Cs* are *Ds*”, and this conclusion was true.

P3. Leo inferred through induction that since all *Es* have been *Fs* so far that “All *Es* are *Fs*”, and this conclusion was true.

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P99. April inferred through induction that since all *Ys* have been *Zs* so far that “All *Ys* are *Zs*”, and this conclusion was true.

C. Therefore, whenever someone infers inductively, the conclusion is true.

For present purposes let us disregard the fact that inductive inferential reasoning is not always successful at producing true beliefs, although I will return to this point momentarily. What I presently want to highlight is that the above inductive argument is not premise-circular since the conclusion is not a repetition of any one of the premises. Instead, each of the premises are statements about *specific instances* of inductive inference being reliable, whereas the conclusion is a statement about inductive inference being reliable *in general*.<sup>158</sup> Significantly, because the goal of inferring inductively is to reason from true beliefs about observed matters of fact to true beliefs about unobserved matters of fact, the conclusion of the argument is now identical to the inference rule that governs inductive inferential reasoning. Thus, while the argument is not premise-circular, it is rule-circular, and it is thus a non-fallacious form of reasoning to a conclusion.<sup>159</sup> But because reliable processes confer justification on their output

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<sup>158</sup> Van Cleve, “Reliability, Justification, and the Problem of Induction,” pp. 557-8. For other examples of process-reliabilist rule-circular solutions to the normative problem, refer to: Papineau, “Reliabilism, Induction, and Scepticism,” pp. 14-5. William P. Alston, “Epistemic Circularity,” *Philosophy and Phenomenological Research* 47, n. 1 (1986): pp. 1-30. William P. Alston, *The Reliability of Sense Perception* (New York, U.S.: Cornell University Press, 1993). Max Black, “Self-Supporting Inductive Arguments,” *Journal of Philosophy* 55, n. 17 (1958): pp. 718-25

<sup>159</sup> Papineau, “Reliabilism, Induction, and Scepticism,” pp. 14-15. As Papineau explains, an additional reason that rule-circular reasoning is non-fallacious is that if the contrary were true, it would lead to the absurd consequence that no inference rules are justification conferring upon their output beliefs. To elaborate, rule-circularity reasoning is fundamental to not only showing how we know that inductive inference is a source of knowledge but also for showing how we know that deductive inference is a source of knowledge as well, since the necessary reliability of deduction can only be demonstrated by proving the soundness of a deductive argument, and such soundness demonstrations themselves employ deduction. Obviously, if inductive inference and deductive

beliefs, and inductive inference is a reliable process, it follows that the conclusion is justified. Therefore, while it is not necessary that we are aware that inductive inference is reliable if we are to possess inductive knowledge, we *can* know that we possess inductive knowledge by appealing to the reliability of inductive inference.<sup>160</sup> Accordingly, if someone is not convinced that the normative problem is solved purely on the basis that it can be shown it is a contingent fact about human cognition that inductive inference is a source of knowledge, they now have a philosophically and psychologically compelling reason by which they can know that inductive inference is a source of knowledge.

### **4.3. The Invalidity of an Inductive Justification of Inductive Inference**

As I indicated in the above section, the argument that I used to illustrate how we can know that inductive inference is a source of knowledge without assuming that inductive inference involves PR does not address the fact that inductive inference is an invalid form of reasoning. As I explained in **Section 1.2.**, an essential characteristic of inductive justification is that it provides us an *inconclusive* reason for believing that the conclusion is true. It might be thought by opponents of simple reliabilism that a failure to acknowledge the invalidity of inductive inference is an omission that has the potential to undermine the success of the reliabilist account of how we can know that inductive inference is a source of knowledge. After all, if all of the specific instances where a person inferred inductively and the conclusion was false are included into the premise set not only do we have an inconclusive reason to believe the conclusion “whenever someone infers inductively, the conclusion is true,” but we also have *actual* evidence that does not support such a conclusion. It seems reasonable that the proponent of

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inference can only qualify as sources of knowledge if we can first show how we know it to be so, the absurd possibility would follow that inferential knowledge in general would be impossible. Consequently, it is important that the possibility of rule-circular reasoning is preserved. Papineau, “Reliabilism, Induction, and Scepticism,” pp. 16-7.

<sup>160</sup> Alston, “Epistemic Circularity,” pp. 326-8.

simple reliabilism answer the following question: does the reliabilist account of how we can know that inductive inference is a source of knowledge by invalid inductive justification really give us a good enough reason to conclude that we know how inductive inference is a source of knowledge?<sup>161</sup>

A brief excursus on the nature of the relationship between rational belief and justification is first required if we are to appreciate why the invalidity of inductive inference does not undermine the reliabilist account of how we can know that inductive inference is a source of knowledge. As I explained in **Section 1.1.**, rational belief is a propositional attitude that is a reflection of the fact that an epistemic agent possesses *adequate rational grounds* to be sufficiently confident about the truth of a given proposition. Thus, from the perspective of the proponent of simple reliabilism, seeing as the reliability of a process is what grounds the reasonability of belief, a process confers justification on its output beliefs if the process is *adequately* reliable for an epistemic agent to be sufficiently confident about the truth of a particular proposition. Consequently, in respect to the question of whether the invalidity of inductive inference undermines the self-justification of inductive inference, if a reliabilist is to be justified in affirming that an invalid inductive justification of inductive inference is successful then they must explain both why an inductive inference is adequately reliable for us to be sufficiently confident about the truth of the inferred proposition “whenever someone infers inductively, the conclusion is true” for it to count as a belief.

But just *how reliable* must a process be to qualify as ‘adequately reliable’ for an epistemic agent to be sufficiently confident about a particular proposition being true, and thus count as a belief? In answering this question, it is helpful to recall the point that was made in **Section 3.1.** that the reliabilist should remain “vague” about how reliable process must be for it to be justification conferring upon its output beliefs but that “perfect reliability” is

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<sup>161</sup> Papineau, “Reliabilism, Induction, and Scepticism,” p. 18.

undesirable. It is my contention that how we understand notions such as vagueness about the degree of reliability of a process on the one hand, and imperfect reliability on the other hand, is derivative of whether we are evaluating rational belief in either a *qualitative* sense or a *quantitative* sense.

Let us begin with the evaluation of a belief in a qualitative sense. To evaluate rational belief in a qualitative sense is to conceive of it in terms of ‘belief *simpliciter*’, whereby the rational responses to the apparent truth of a proposition that are available to an epistemic agent can be simply categorised in terms of ‘belief’, ‘disbelief’, and ‘the suspension of judgment’. If an epistemic agent has adequate rational grounds for being fully confident that a particular proposition is true then the appropriate rational response is *belief*. On the other hand, if an epistemic agent has adequate rational grounds for being fully confident that a purportedly true proposition is actually false then the appropriate rational response is *disbelief*. Lastly, if an epistemic agent has inadequate rational grounds for being fully confident that a proposition is either true or false then the appropriate rational response is the *suspension of judgment*.<sup>162</sup>

Alternatively, we can evaluate belief in a quantitative sense. To evaluate belief in a quantitative sense is to conceive of it in terms of *degrees*, and is a reflection of the fact that different domains of inquiry have different requirements or thresholds about the degree of confidence an epistemic agent must have about the truth of a relevant proposition for it to constitute a belief. A quantitative sense of belief is often considered appealing because in both everyday life and scientific inquiry we commonly refer to possessing a belief *simpliciter* when in actual fact we might only possess a high – albeit, less than full – degree of confidence that a particular proposition is true. In essence, a quantitative evaluation of belief differs from a qualitative one in that the former assumes that different domains of inquiry have different

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<sup>162</sup> Hannes Leitgeb, “Reducing Belief Simpliciter to Degrees of Belief,” *Annals of Pure and Applied Logic* 164, n. 12 (2013): pp. 1340-42.

thresholds for belief. While the degree of belief is a reflection of the degree of confidence that an epistemic agent has about the truth of a proposition, when we evaluate belief in a quantitative sense the degree of confidence that an epistemic agent possesses is typically understood to correspond with the perceived probability of a given proposition being true.<sup>163</sup> To the extent that rational belief comes in degrees, it follows that justification and knowledge similarly come in degrees.<sup>164</sup>

With the distinction between a qualitative sense of belief and a quantitative sense of belief now in mind, we can firstly answer the question of how reliable a process must be to confer justification upon its output beliefs, and then answer the question of whether inductive inference is sufficiently reliable for us to know that inductive inference is a source of knowledge. As I explained in **Section 3.2.**, let us assume that the domain of inquiry that is relevant to the justificational status of a belief is the world in which the process that produced a given belief is used. Now, if the proponent of simple reliabilism is evaluating belief in a qualitative sense – that is, in terms of belief *simpliciter* – seeing as belief *simpliciter* assumes that an epistemic agent is fully confident about the truth of the proposition, the process that produced that belief must be maximally reliable in the world in which it is used.<sup>165</sup> As Papineau points out, the notion of maximal reliability is not identical to the notion of perfect reliability that the proponent of simple reliabilism must reject. Whereas as the notion of perfect reliability can be understood as necessarily being fully reliable in every possible world, the notion of maximal reliability only requires that a process is maximally reliable in the actual world in

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<sup>163</sup> Leitgeb, “Reducing Belief *Simpliciter* to Degrees of Belief,” pp. 1340-42.

<sup>164</sup> Papineau, “Reliabilism, Induction, and Scepticism,” p. 11.

<sup>165</sup> Or to quote Papineau, if a process is going to be reliable enough for an epistemic agent to be fully confident that a particular proposition is true it follows that “this in itself seems to call for belief-forming processes which deliver truths with 100 % reliability”. Papineau, “Reliabilism, Induction, and Scepticism,” p. 7. Papineau also gives the following helpful example of why less than 100 % reliable processes are unable to provide a rational basis for belief *simpliciter*: “Suppose a given belief-forming process delivers beliefs which are true 95 per cent of the time. Then the appropriate output from that would not be a *full* belief in the first place, but a 0.95 *degree* of belief. After all, if you believe it is going to rain tomorrow on the basis of a 95 per cent reliable method of forecasting, you would be ill-advised to be a million pounds to a penny, or indeed to stake anything more than nineteen to win one, on its raining tomorrow.”



which it is used.<sup>166</sup>

Alternatively, if the reliabilist is evaluating belief in a quantitative sense – that is, in terms of degrees of belief – it is possible to arrive at a different conclusion about how reliable a process must be for its output beliefs to be justified than if we evaluate belief in a qualitative sense. If the proponent of simple reliabilism is to evaluate belief in a quantitative sense a process must possess a degree of reliability that is proportionate to the degree of confidence that an epistemic agent must possess about the truth of a proposition arrived at by that process for it to constitute a belief.<sup>167</sup> Seeing as the threshold for belief will differ between some domains of inquiry that we inquire in within the actual world, it is appropriate for the proponent of simple reliabilism to maintain that we must be vague about the degree of reliability that a process must possess for it to be justification conferring. For the sake of the argument, if the threshold for rational belief in the domain of inquiry such as ‘everyday life’ is that an epistemic agent is, hypothetically, required to be 90 % confident about the truth of a particular proposition, it follows that the processes in that domain of inquiry must perform with 90 % reliability. Similarly, if the threshold for rational belief in the natural science of chemistry is that an epistemic agent is, hypothetically, required to be 97 % confident about the truth of a particular proposition, it follows that the process in that domain of inquiry must perform with 97 % reliability.

Given the invalidity of inductive inference, we might be inclined to conclude that if the reliabilist account of how to inductively justify inductive inference is to be successful then we must first assume that we must evaluate rational belief in a quantitative sense. I myself adopt

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<sup>166</sup> Papineau, *Reliabilism, Induction, and Scepticism*, pp. 2-3. Or to quote Papineau when he begins to set up the notion of a process being maximally reliable in the actual world: “[t]hat such processes *would* lead us astray if things were different does not mean that they *will* lead us astray, as things are.”

<sup>167</sup> Papineau, “Reliabilism, Induction, and Scepticism,” p. 8. In recent literature on reliabilism, a popular topic of discussion is the matter of what type of ‘credence scoring’ system can be used to supplement reliabilism so as to explain how differing degrees of reliability affect the justification status of different degrees of belief. For examples of two competing scoring rules, refer to the following: Jeff Dunn, “Reliability for Degrees of Belief,” *Philosophical Studies* 172, n. 7 (2015): pp. 1929–52. Weng Hong Tang, “Reliability Theories of Justified Credence,” *Mind* 125, n. 497 (2016): pp. 63-94.

this position, although it must be stressed that the choice is not as obvious as it might first appear. In deciding what account of belief evaluation we should adopt if we are to answer how reliable a process must be if it is to be justification conferring, we must also keep in mind that justification should ultimately be considered in respect to the role that it plays in the formation of *knowledge*. As I explained in **Section 1.1.**, knowledge is desirable because it provides an epistemic agent with assurance that a belief is not formed in error. Insofar as a belief *simpliciter* requires that the process that produced it is 100 % reliable it is clear how a belief *simpliciter* can serve a role in possessing knowledge, since an epistemic agent will possess a belief in a state whereby he or she should be maximally assured in the actual world that a belief is not formed in error. However, if we evaluate belief in a quantitative sense, how should we understand (1) the position that reliably formed beliefs that do not require that an epistemic agent is fully confident about the truth of the proposition, in light of (ii) the conception of knowledge as an epistemic agent possessing assurance that a given belief is not formed in error?

An attractive feature of understanding belief in degrees is that in permitting a lower threshold of the degree of confidence required for belief, the costs associated with meeting that lower threshold are lower than the costs that are associated with an epistemic agent being required to possess 100 % confidence for belief.<sup>168</sup> Although we should maintain that an epistemic agent can possess knowledge as a result of possessing a belief formed by a process that is not reliable 100 % of the time in the actual world, it would also be a mistake to conclude that the required reliability of a process should not be informed, at least in part, by the notion of belief *simpliciter*. This point can be illustrated in quite a straightforward way. If we compare a belief that is formed by a process that performs with 100 % reliability to a belief that is formed by a process that performs with 100 % reliability, it is *less probable* that actions that are the

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<sup>168</sup> Papineau, "Reliabilism, Induction, and Scepticism," p. 8.

result of decisions based on the latter type of belief will succeed compared to the actions that are the result of decisions based on the former type of belief, which will succeed with the highest degree of probability. Thus, all things being equal, beliefs formed by 100 % reliable processes are still preferable to beliefs formed by processes with a lower degree of reliability.<sup>169</sup> Therefore, even if we evaluate belief in a quantitative sense and admit that knowledge comes in degrees, the notion of belief *simpliciter* is still relevant, and should in fact be the goal of every epistemic agent in the pursuit of knowledge.

With the above excursus on the relationship between rational belief and justification in mind, I can now explain why the reliabilist account of how to inductively justify inductive inference is not undermined by the invalidity of inductive inference. The first point that needs to be made is that although it is more than likely the case that every epistemic agent can point to empirical evidence where specific instances of inferring inductively led to the formation of false beliefs, all things being equal, there is no epistemic agent who can deny that inductive inference is *generally* successful at producing true beliefs. In support of this claim, it can be helpful to recall that the context in which Hume proposed the normative problem is in response to the widely held assumption that inductive inference is a source of knowledge. It seems plausible to posit that the reason that this universally held assumption is formed in the first place is that we each possess empirical evidence about specific instances of inductive inference

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<sup>169</sup> Papineau, "Reliabilism, Induction, and Scepticism," p. 8. It should be noted that Papineau is here specifically considering non-chance related scenarios. If we are to evaluate belief in a quantitative sense, one might argue that it is unrealistic to even attempt to achieve beliefs that are produced by processes that are 100 % reliable, since it will often be the case that there are realistic possible circumstances – that is, non-actual possible worlds in the set of normal worlds – that an epistemic agent is able to conceive of that could mitigate a process from performing at 100 % reliability. Papineau offers an interesting response to this concern when he suggests that if it is highly improbable that a possible world within the set of normal worlds is unlikely to become actualised (at least given the information about the actual world at our disposal), an epistemic agent should bracket it out of their current assessment on the reliability of a process since such mitigating circumstances do not in and of themselves give an epistemic agent sufficient reason to doubt the reliability of a process, and in turn question whether he or she possesses sufficient confidence for belief. Conversely, if it is highly probable that the circumstances of that same possible world will become actualised – that is, it is a "nearby" possible world to the actual world – it is incumbent on the epistemic agent to as to improve the reliability of the process so as to account for such possible mitigating circumstances. Papineau, "Reliabilism, Induction, and Scepticism," pp. 10-11.

producing true beliefs *enough of the time* for us to each be sufficiently confident about the truth of the inferred proposition “whenever someone infers inductively, the conclusion is true,” and to consequently believe it.<sup>170</sup> Therefore, while inductive inference is invalid, it produces true beliefs enough of the time for us to know that inductive inference is a source of knowledge on the basis of an inductive justification of inductive inference.

Simple reliabilism is well equipped to explain why specific instances of inductive inference being unsuccessful at producing true beliefs does not undermine the universally held assumption that “whenever someone infers inductively, the conclusion is true.” A process that successfully produces true beliefs *most of the time* is reliable. But as I explained in **Section 3.2.**, a reliable process is justification conferring so long as it fulfils the epistemic ascent requirement. Recall that the epistemic ascent requirement stipulates that a belief is justified *iff* (1) it is produced by a reliable process, and (2) the epistemic agent can have a second-order belief *about* the reliability of the type of process which was specifically used in the formation of the first-order belief. Here it was also explained that the second-order belief about the reliability of the type of process employed does not require that the epistemic agent is able to show that he or she knows or is aware that *every* first-order belief formed by an instantiation of that process is reliably produced, but rather that the epistemic agent must not have reason to believe that the process that produced the first-order belief is not reliable.

Let us apply the epistemic ascent requirement to beliefs formed by inductive inference. For the sake of argument, let us imagine that we each possessed evidence that suggested that the performance of our respective instantiations of inductive inferential reasoning were unsuccessful at producing true beliefs *most of the time* in the actual world. By being in possession of such evidence, it would then become apparent to us that we have a good reason to doubt that the inductive inference is reliable, thus failing the second stage of the epistemic

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<sup>170</sup> Papineau, “Reliabilism, Induction, and Scepticism,” p. 19.

ascent requirement. But this hypothetical scenario is not based in reality. Instead, in the actual world in which inductive inference is used nobody lives as if it is impossible to form inductive knowledge in general, even if when it comes to philosophical speculation they consider themselves to be an inductive sceptic.<sup>171</sup> Or put differently, we ‘assume’ or believe that inductive inference is adequately reliable in the world in which it is used to produce justified beliefs. Thus, the proponent of simple reliabilism can argue, we do not possess adequate evidence of specific inductive inferences being unreliable to defeat our sufficient confidence about the truth of the proposition that inductive inference in general is reliable to cease believing it.<sup>172</sup> Consequently, inductive inference passes the epistemic ascent requirement, and qualifies as a reliable process that is justification conferring upon its output beliefs.

Admittedly, the sufficient confidence we have for believing that inductive inference is a reliable type of process is not the level of confidence required for a belief *simpliciter* that inductive inference is a reliable type of process. Nevertheless, such a state of affairs is not a cause for concern. As I explained in **Section 3.5.**, if we believe that a type process is generally reliable – as we do in the case of inductive inference – and we do become aware of specific instances of that type of process being unreliable, it is then incumbent upon us to intervene in the process and make the necessary adjustments to increase its reliability. As a result of such amendments to the process, we are working towards increasing the probability of the output beliefs being true, or put differently, we are working towards achieving belief *simpliciter* and ultimately knowledge. Thus, by striving to be attentive, careful, reflective, and nuanced throughout the formation of beliefs by inductive inference, we can come to increase our confidence about inductive inference being a reliable type of process beyond the minimum threshold that many of us will otherwise meet but be left more open to the (still unwarranted)

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<sup>171</sup> Greco, “Putting Sceptics in Their Place,” p. 22.

<sup>172</sup> Papineau, “Reliabilism, Induction, and Scepticism,” pp. 12, 19.

ridicule of the inductive sceptic.

#### 4.4. The Problem of Easy Knowledge

According to the simple reliabilist account of how we can know that inductive inference is a source of knowledge, we know that inductive inference is a reliable type of process on the basis of our observation of the instantiations of this type of process being a reliable source of knowledge. Proponents of simple reliabilism tend to use this exact same strategy of showing that they possess knowledge about *any* type of process being reliable on the basis of the reliability of the instantiations of that type of process. The reliabilist approach to showing *how* we know that a type of process is reliable has been met with considerable opposition, perhaps most famously on the basis that this approach seemingly permits ‘easy knowledge’.

To understand the thrust of this objection, let us first distinguish between (1) ‘first-order knowledge’, which is knowledge that is formed by an instantiation of a type of reliable process, and (2) ‘second-order knowledge’, which is knowledge *about* the reliability of the given type of process that the specific process that formed the first order knowledge instantiates. Cohen argues that the reliabilist strategy of using circular reasoning – or what he refers to as “bootstrapping” – to show that we can possess (2) on the basis of (1) is illegitimate, because we are only permitted to use a process for the formation of first-order knowledge if we *first* possess second-order knowledge that the type of process instantiated is a reliable process.<sup>173</sup> Consequently, the reliabilist strategy to show that we know that a type of process is reliable by means of the reliability of instantiations of that process makes the possession of second-order knowledge “too easy” it follows that any strategy that employs bootstrapping will be unsuccessful. If Cohen’s objection obtains, insofar as the solution to the normative problem

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<sup>173</sup> Stewart Cohen, “Basic Knowledge and the Problem of Easy Knowledge,” *Philosophy and Phenomenological Research* 65, n. 2 (2002): p. 311.

that I have proposed employs bootstrapping, it too will also be unsuccessful.<sup>174</sup>

I do not wish to dispute that the reliabilist strategy of using bootstrapping to show that we can know that a type of process is a reliable permits easy knowledge. However, what I do wish to dispute is Cohen's implication that bootstrapping is an *illegitimate* practice. Bootstrapping is not a *problem* for a reliabilist theory of knowledge, at least if we consider the practice of bootstrapping in the wider context of the epistemological landscape as a whole. As I will show momentarily, opponents of reliabilism should be mindful that if the practice of bootstrapping serves as a conclusive reason for rejecting the reliabilist strategy of showing how we can know that a type of process is reliable, it also serves as a conclusive reason to reject any and all theories of knowledge, since they each assume the practice of bootstrapping in some shape or form.<sup>175</sup>

In fairness to Cohen, he at least agrees that bootstrapping is not solely a problem for reliabilism, but it is also something that any internalist who defends a *foundationalist* account of knowledge will have to contend with. To elaborate, if a foundationalist is an internalist about knowledge, they must assume that we form first-order knowledge by reliable processes such as perception and introspection. However, the beliefs we form by means of the processes of perception and introspection that first-order knowledge rests on are *basic*, which means that we cannot have second-order knowledge about the reliability of the types of processes that formed such beliefs *prior* to the formation of the basic beliefs that our first-order knowledge rests on. Consequently, we only possess second-order knowledge that types of processes like perception and introspection are reliable *after* we have observed that we have formed first-

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<sup>174</sup> It should be noted that sometimes the bootstrapping problem is presented as a problem for a reliabilist theory of justification and other times it is presented as a problem for a reliabilist theory of knowledge. For a related example of the bootstrapping objection that targets a reliabilist theory of justification, refer to: Jonathon Vogel, "Reliabilism Levelled," *The Journal of Philosophy* 97, n. 11 (2000): pp. 602-23. For an example of reliabilist objection to a reliabilist rule-circular solution to the normative problem on the grounds of bootstrapping, refer to: Michael Levin, "Reliabilism and Induction," *Synthese* 97, n. 3 (1993): pp. 318-20.

<sup>175</sup> Cohen, "Basic Knowledge and the Problem of Easy Knowledge," p. 311.

order knowledge as a result of instantiations of these types of processes being reliable. Therefore, if Cohen is correct that bootstrapping is an illegitimate practice, we should reject both a reliabilist theory of knowledge and all other foundationalist theories of knowledge as well.<sup>176</sup>

Cohen proposes that the problem of bootstrapping can be resolved if we instead adopt a ‘holistic-coherentist’ theory of inferential knowledge. According to holistic-coherentism, there are no basic beliefs. Instead, when an epistemic agent uses an instantiation of a type of process (such as perception or introspection) to form a specific ‘first-order’ belief that happens to be true he or she simultaneously forms a “meta-belief” or ‘second-order’ belief about the reliability of the relevant type of process.<sup>177</sup> Seeing as the first-order belief is not basic, the possession of the simultaneously generated second-order belief can be understood in terms of mutual dependence rather than in terms of temporal and logical priority. Now, once an epistemic agent has expanded his or her system of first-order beliefs to the point that there is a sufficient amount of support for the second-order belief that a given type of process is reliable, the epistemic agent will have a sufficiently coherent reason for the second-order belief that the relevant type of process that was instantiated and produced the first-order beliefs is reliable. As a result, justification is simultaneously and mutually conferred upon both the first-order beliefs and the second-order belief, and all of these beliefs simultaneously convert into knowledge.<sup>178</sup> Consequently, neither first-order knowledge nor second-order knowledge is possessed prior to the other, since the beliefs formed by instantiations of types of processes

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<sup>176</sup> Cohen, “Basic Knowledge and the Problem of Easy Knowledge,” pp. 311-2.

<sup>177</sup> Cohen, “Basic Knowledge and the Problem of Easy Knowledge,” p. 323.

<sup>178</sup> Or to quote Cohen directly: “According to this view, in the initial stages of cognitive development, our perceptual beliefs do not count as knowledge, nor does any belief we may have regarding the reliability of our faculties. Gradually, as we acquire more and more sensory evidence, thereby accumulating a relatively large and coherent set of beliefs, those beliefs, including the belief that our cognitive faculties (perception, memory, reasoning) are reliable become knowledge.” Cohen adds that holistic coherentism can be distinguished from other versions of coherentism in that “...unlike a pure coherence theory, the mutual support relations among beliefs are not by themselves sufficient for those beliefs to be knowledge. In order to be knowledge these beliefs in the coherent set must be supported by sensory evidence.” Cohen, “Basic Knowledge and the Problem of Easy Knowledge,” p. 322.



such as perception and introspection count as first-order knowledge *at the exact same time* as our belief about the relevant type of process being reliable is converted into second-order knowledge. Therefore, Cohen concludes, since bootstrapping is problematic to the extent that we require second-order knowledge about the reliability of a type of process *prior* to the use of that type of process to achieve knowledge, it follows that coherentism does not face the attendant issues that foundationalist theories of knowledge have from the practice of bootstrapping.<sup>179</sup>

Despite Cohen's conclusion to the contrary, the holistic-coherentist theory of knowledge is no more successful at showing how we know that a type of process is a reliable source of knowledge than the foundationalist is, since at the very least both the foundationalist and the holistic-coherentist equally permit the formation of 'easy knowledge'. To demonstrate this point, let us refer to an epistemic agent who knows that perception is reliable as a result of the simple reliabilist account of how the reliability of perception in general can be justified on the basis of the reliability of specific perceptions as *S1*, and an epistemic agent who knows that perception is reliable as a result of Cohen's holistic coherentist theory of knowledge as *S2*. As Van Cleve points out, since the simple reliabilist has accepted the premise of the internalist that we only know a particular proposition if we can show how we know that proposition, it follows that both *S1* and *S2* only possess first-order perceptual knowledge if they possess second-order knowledge that perception in general is reliable. Or to quote Van Cleve directly:

“But where is the extra toil [for *S2*]? [...] the knower as envisioned by the externalist and the knower as envisioned by the coherentist go through exactly the same steps, coming to believe all the same things at all the same times and concluding in the end that their belief-forming processes are reliable [...]”<sup>180</sup>

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<sup>179</sup> Cohen, “Basic Knowledge and the Problem of Easy Knowledge,” p. 323.

<sup>180</sup> James Van Cleve, “Is Knowledge Easy--or Impossible? Externalism as the Only Alternative to Skepticism,” in *The Sceptics: Contemporary Essays*, edited by Steven Luper (Hampshire: Ashgate, 2003), pp. 55-7.

But if *S1* and *S2* are identical in all non-epistemic respects at all times during the process of coming to know that inductive inference is a reliable type of process, it seemingly follows that both *S1* and *S2* both know that their respective perceptual faculties are reliable, or neither of them do. Consequently, the problem of easy knowledge affects both foundationalist and coherentist accounts of knowledge equally.<sup>181</sup>

Seeing as the alternative to foundationalism and coherentism is scepticism,<sup>182</sup> and I have already explained why scepticism is an intolerably heavy burden to accept, we must conclude that although we cannot solve the problem of ‘easy knowledge’ this should not be considered a cause for despair. To the contrary, I follow Robert Nozick in thinking that the fact that we have arrived at a problem that cannot be solved should be considered a ‘success’ or a ‘triumph’ of philosophy. After all, as Nozick explains “[i]t seems plausible that philosophy should seek to uncover the deepest truths, to find [...] justificatory principles so deep that nothing else yields them, yet deep enough to subsume themselves.”<sup>183</sup> As a result of the problem of easy knowledge not being a ‘problem’ in the traditional sense of the world, it follows that bootstrapping should be considered a legitimate practice. Accordingly, the fact that a simple reliabilist account of how we can know that inductive inference is a source of

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<sup>181</sup> Van Cleve, "Is Knowledge Easy -- or Impossible?," p. 56. As Van Cleve correctly remarks, it could even be argued that a coherentism permits the formation of knowledge that is even more ‘easy’ than the knowledge that the proponent of simple reliabilism permits, since the coherentist also needs all of their other beliefs in the cognitive system of an epistemic agent to cohere with the first-order perceptual beliefs and the second-order belief about the reliability of perception before justification is generated through such first-order beliefs and such a second-order belief.

<sup>182</sup> Peter Klein has argued that an alternative account of the structure of justification and knowledge to foundationalism, coherentism, and scepticism is ‘infitism’ in: Peter Klein, “Infitism is the Solution to the Regress Problem,” in *Contemporary Debates in Epistemology*, Second Edition, edited by Matthias Setup, John Turri, and Ernest Sosa, pp. 274-82 (Blackwell England: Blackwell, 2005). If one is disposed to accepting infitism as a *prima facie* plausible alternative to foundationalism, coherentism, or even scepticism, I propose that infitism should be rejected largely for the reasons outlined by Carl Ginet in his article in the same collection of works: Carl Ginet, “Infitism Is Not the Solution to the Regress Problem,” in *Contemporary Debates in Epistemology*, Second Edition, edited by Matthias Setup, John Turri, and Ernest Sosa, pp. 283-91. (Blackwell England: Blackwell, 2005).

<sup>183</sup> Robert Nozick, *Philosophical Explanations* (Cambridge, Massachusetts: Harvard University Press, 1981), pp. 137-8.

knowledge involves bootstrapping does not give one an adequate philosophical reason to reject the reliabilist solution to the normative problem that shows that an inductive justification of inductive inference is possible.<sup>184</sup>

#### 4.5. The Problem of Counter-Induction

A common objection to the reliabilist account of how we can show how we know that inductive inference is a source of knowledge is that it proves *too much*. For instance, contends Wesley Salmon, in much the same way that a rule-circular argument can be used to justify the reliability of inductive inference, a rule-circular argument can also be used to justify the unreliability of inductive inference, or what is commonly referred to as ‘counter-induction’.<sup>185</sup> Salmon proposes that we let  $R'$  be the counter-inductive inference rule “To argue from Most instances of  $A$ 's examined in a wide variety of conditions have not been  $B$  to (probably) The next  $A$  to be encountered will be  $B$ .”<sup>186</sup> To illustrate how the inference rule  $R'$  works, let us consider the following argument:

“[P1] In most instances of the use of  $R'$  in arguments with true premises in a wide variety of conditions,  $R'$  has been unsuccessful.

Hence (probably)

[C] In the next instance to be encountered of the use of  $R'$  in an argument with a true premise,  $R'$  will be successful.”<sup>187</sup>

In essence, the counter-inductive argument states that *if* observed  $A$ 's have been  $B$ 's so far *then* the opposite state of affairs is true, that is,  $A$ s are not  $B$ s. Or put differently, the inference rule

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<sup>184</sup> Van Cleve, "Is Knowledge Easy -- or Impossible?," pp. 56-7.

<sup>185</sup> Wesley C. Salmon, "Should We Attempt to Justify Induction," *Philosophical Studies* 8, n. 3 (1957): p. 45.

<sup>186</sup> Salmon, "Should We Attempt to Justify Induction," p. 46.

<sup>187</sup> Salmon, "Should We Attempt to Justify Induction," p. 46.

states that counter-induction is an unreliable type of process. Thus, the inference rule that governs counter-induction is the exact opposite of the inference rule that governs inductive inference, which effectively amounts to '*if observed A's so far have been B's, then all A's are B's*'. But if inductive arguments and counter-inductive arguments are both rule-circular it follows that the same premises will lead to contrary conclusions. Therefore, Salmon concludes, rule-circular justifications allow for absurd conclusions, and as a result should be dismissed.<sup>188</sup> Obviously if Salmon's conclusion is correct it has ramifications for the second reliabilist solution to the normative problem I defend, since it incorporates a rule-circular justification of inductive inference and as a result it will be undermined by the possibility of counter-induction.

Fortunately for the proponent of simple reliabilism, the problem of counter-induction is itself problematic. As Max Black points out, we should refrain from treating counter-induction and induction as if they are equally legitimate processes to each other, since the inference rule that governs inductive inference is evidently a more *correct* rule than the one that governs counter-inductive inference.<sup>189</sup> The reliabilist account of the inferential rule that governs inductive inference is a correct rule because when an epistemic agent infers inductively from true premises *the conclusion will also be true most of the time*. On the other hand, the irregularity principle cannot be understood to be a correct rule in the same sense of the word, since when an epistemic agent infers counter-inductively from true beliefs *the conclusion will be false most of the time*.<sup>190</sup> Or to put it differently, seeing as knowledge is the ultimate goal of epistemological reflection and knowledge has the basic shape of *JTB*, processes that give us a good reason for believing an inferred proposition is true put us on the 'correct course' to our end (knowledge), whereas processes that give us a good reason for believing an inferred proposition is false put us on the 'incorrect course' to such an end. Consequently, to the extent

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<sup>188</sup> Salmon, "Should We Attempt to Justify Induction," pp. 46-7.

<sup>189</sup> Black, "Self-Supporting Inductive Arguments," pp. 721, 725.

<sup>190</sup> Black, "Self-Supporting Inductive Arguments," p. 725.

that the reliabilist assumes a correct inferential rule in their rule-circular justification of inductive inference but the counter-inductivist does not, it follows that counter-inductivism is not an authentic threat to the reliabilist account of how we can know that inductive inference is a source of knowledge. Therefore, *contra* Salmon, the rule-circular justification of counter-induction does not show that a rule-circular justification of induction leads to an absurd conclusion.

For the sake of the argument, despite my objection to the contrary, what if induction and counter-induction were in fact a perfect mirror of each other? As Papineau explains, such a state of affairs would be of little consequence for the simple reliabilist account of inductive inference, since the purpose of their offering a rule-circular justification of inductive inference is not to persuade every epistemic agent into supporting the position that inductive inference reasoning is a reliable process for producing knowledge. The only *prima facie* plausible reason that I can conceive of for why anyone would expect that either of the simple reliabilist solutions to the normative problem considered between the last chapter and this chapter will persuade *every* epistemic agent is if we assume that it is a *necessary* fact of human cognition that inductive inference is a source of knowledge. But as I have already explained at great length in **Section 3.2.**, inductive inference being a source of knowledge is only a contingent fact about human cognition, and once we realise that the relevant domain of inquiry to establish the justificational status of a belief is the world in which the process is used we can readily dismiss such a desire for a solution that will be able to be universally persuasive. As I have tried to be clear through the last two chapters, in attempting to solve the normative problem I have the more modest goal of persuading *only* those philosophers that are striving for knowledge – rather than its rejection – and who are looking for a philosophically compelling reason to believe that we possess inductive knowledge. Besides, if an inductive sceptic is persuaded that counter-induction is reliable without empirical evidence but is not persuaded that induction is

reliable despite the empirical evidence, I can do nothing further to help them know that inductive inference is reliable.<sup>191</sup>

If the audience I am trying to persuade already use induction and trust that it produces knowledge, what does the reliabilist account of how we can know that inductive inference is a source of knowledge actually achieve? The answer to this question is that the simple reliabilist account of how we can know that inductive inference is a source of knowledge is not intended to achieve a whole lot for normal people, but importantly, *it does prove enough*. As Papineau explains, the reliabilist explanation of why the invalidity of inductive inferential reasoning is compatible with the assumption that we can infer inductive knowledge is an important development in how epistemologists can think about inductive inferential reasoning. Additionally, the rule-circular justification of the regularity principle serves as an adequate basis for showing that we can know that inductive inferential reasoning is a reliable source of knowledge.<sup>192</sup> Seeing as the natural sciences and everyday life both assume that we can possess inductive knowledge, in establishing a theoretical grounding for such an assumption, the reliabilist strategy of solving the normative problem that I have defended in this chapter marks an important development in the relationship between philosophical reasoning on the one hand, and reasoning in everyday life and the natural sciences on the other hand.

### **Conclusion**

In this chapter I have argued that while it is not necessary for the proponent of simple reliabilism to respond to the normative problem by showing how we know that inductive inference is a source of knowledge, simple reliabilism is a theory of justification and knowledge that does possess the required resources to successfully show how we know that

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<sup>191</sup> Papineau, "Reliabilism, Induction, and Scepticism," p. 18.

<sup>192</sup> Papineau, "Reliabilism, Induction, and Scepticism," p. 19.

inductive inference is a source of knowledge. In so doing, I have also shown why the reliabilist inductive justification of inductive inference is not undermined by the invalidity of inductive inference, as well as the fact that neither the ‘problem of easy knowledge’ nor the ‘problem of counter-induction’ is successful in demonstrating that such rule-circular reasoning is illegitimate. Consequently, simple reliabilism offers two philosophically compelling solutions to the normative problem. Furthermore, for those who are only convinced of a conclusion being true if it is also psychologically compelling, the second of these solutions which I have been arguing for in this chapter should provide such a person with rational adequate grounds to believe that in principle inductive inference is a source of knowledge, and *ipso facto*, that in principle they possess inductive knowledge.

### **Concluding Remarks**

In closing this dissertation, I will briefly summarise the reliabilist strategy for solving the normative problem. I will also suggest one area where I think the simple reliabilist account of justification and knowledge can be further enhanced by future research. Lastly, I will indicate what important lessons should be drawn from the success of the reliabilist strategy that I have proposed for solving the normative problem.

To summarise my thesis, in this dissertation I have explained that if we assume that inductive inference involves a quasi-logical relation such as the principle of regularity, then Hume is correct in concluding that in principle inductive inference is not a source of knowledge, and by extension that we do not possess inductive knowledge. I have also explained that rather than succumbing to inductive scepticism as a result of the success of the normative problem, we should instead adopt a particularist approach to responding to sceptical problems, so long as we understand particularism in externalist justification terms. The strategy I have employed for solving the normative problem involves adopting a simple reliabilist account of justification and knowledge to firstly show that inductive inference being a source of knowledge is a contingent fact of human cognition. An important part of this solution to the normative problem is that despite the normative problem requiring that we show how we know that inductive inference is a source of knowledge, due to the externalist character of justification it follows that we do not need to be aware of the basis for knowing that inductive inference is a source of knowledge if we are to possess inductive knowledge. I also acknowledged that while the first solution to the normative problem is philosophically compelling, there may be people who still will not be convinced unless the proponent of simple reliabilism can show how we know that inductive inference is a source of knowledge. In the hope of persuading such people, I then proceeded to establish a rule-circular justification of inductive inference, in so doing showing how we can know that inductive inference is a source



of knowledge.

In respect to areas of future research, I am presently inclined to think that a simple reliabilist account of inductive inference would be enhanced by clarifying the exact nature of the type of inference that is employed in inductive inferential reasoning. For the purposes of this dissertation I assumed that inductive inference involves enumeration, which in essence means that inductive inference is a form of arithmetic where we count the number of premises referring to particular instances to establish the strength of the support that is provided for the conclusion. But as Nelson Goodman convincingly argues in what is often referred to as ‘the new problem of induction’ or ‘Goodman’s paradox’, not only do we have actual experience of the invalidity of inductive inference, but perhaps more significantly, we cannot show how we know *in theoria* that enumerative induction is a reliable form of inference *in the world in which it is used*.<sup>193</sup> To summarise Goodman’s point, we cannot know that inductive inference is a source of knowledge because there are too many ways of categorising events for all generalisations to be confirmed by their instances, and no way of confirming which classifications of these events are correct and which ones are not. Obviously if we cannot show how we know that inductive inference is reliable in the world in which it is used, this will become a problem for the second solution to the normative problem that I have provided that shows that we possess inductive knowledge because we can show how we know that inductive inference is a source of knowledge. In the interest of preserving the second simple reliabilist solution to the normative problem for the purposes of persuading those people who will not be convinced that they possess inductive knowledge unless they can show how they know an inductively inferred proposition, it is imperative that the proponent of simple reliabilism also establish an account of inductive inference that is not susceptible to Goodman’s new problem of induction.

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<sup>193</sup> Nelson Goodman, *Fact, Fiction, and Forecast* (London, England: Athlone Press, 1954).

Before ending this dissertation, I propose that there are primarily two reasons why the two-pronged simple reliabilist strategy to solving the normative problem can be understood as being significant to epistemology specifically, and the quest for knowledge as a whole. Firstly, the success of the simple reliabilist strategy of solving the normative problem has significant implications for the relationship between reasoning in practice and the epistemological theory that underpins such practical reasoning. The defensibility of simple reliabilism means now have a good reason to believe that our pre-philosophical intuitions about whether we know a particular proposition or not is supported by philosophy, rather than undermined by it. Thus, the universally held assumption or belief by epistemic agents reasoning in the real world that we can possess inductive knowledge in everyday life and the natural sciences as a result of inferring from observed matters of fact to unobserved matters of fact is supported by adequate rational grounds to warrant such a belief.

But could it not be the case that another argument could take the place of the normative problem and lead us to being sceptical that we know what we assume we know? In answering this question, this brings me to the second point about why the reliabilist strategy for responding to the normative problem is significant. If the point of any sceptical objection is that we do not possess conclusive reasons for belief, so that if circumstances were different from what they have been we would have a good reason to doubt the truth of a particular proposition, then from the perspective of simple reliabilism, in and of itself such an objection does not give us a good reason to challenge the justification status of belief in that proposition. So long as a belief is formed by a contingently reliable process then that belief is justified, and we will be well-positioned to conclude that the process that formed that belief gives rise to knowledge. As I close this dissertation, it should be noted that in showing that we possess inductive knowledge in everyday life and the natural sciences, and now possess a philosophically sound strategy for responding to sceptical problems in general, we have come

full-circle from one of the very first points I made in this dissertation. As I explained in **Section 1.1.**, to quote Chisholm, the purpose of epistemology is “to correct and improve our own epistemic situation,” and the simple reliabilist theory of justification and knowledge well and truly achieves this end.

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