

**INFERENCEALIST RELIABILISM AND PROPER FUNCTIONALISM:
A COMPARATIVE ANALYSIS AS DEFENSES OF EXTERNALISM**

by

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ABSTRACT

The specific question this thesis aims to answer is this: does Jack Lyons' inferentialist reliabilism or Alvin Plantinga's proper functionalism provide a more plausible defence of externalism? This thesis compares inferentialist reliabilism and proper functionalism as external epistemic theories and evaluates them on how plausibly they answer the main objections that have been raised against externalism. The superior theory is the one that best deals with three of the most powerful objections against externalism. This thesis begins by outlining these objections: The Generality Problem, the New Evil Demon Problem, and the Clairvoyance and Mr. Truetemp Objections. I list and defend the criteria that each theory must meet in order to provide successful solutions to these objections. Next I give an overview of inferentialist reliabilism, highlighting Lyons' responses to each of the objections, and evaluate which criteria his responses meet in solving the objections. After this I summarize proper functionalism, the answers it gives to the objections, and evaluate what criteria Plantinga's responses meet. Finally, I conclude after a comparison of the solutions Lyons and Plantinga give to the objections that inferentialist reliabilism provides a more plausible defence of externalism than proper functionalism does.

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INTRODUCTION

I. GENERAL INTRODUCTION

Externalist theories of justification and knowledge claim that in order for beliefs to have justification or be instances of knowledge, one does not need to be able to reflect upon the factors that give one's beliefs these positive epistemic statuses.¹ According to externalism, justification and knowledge depend at least partly on external factors we may know nothing about, such as the reliability or proper functioning of the belief-forming processes that cause our beliefs. Externalist theories oppose internalist theories. Internalist theories "hold that the epistemic justification of a subject's belief depends solely on factors internal to the subject's perspective, factors directly accessible to him through reflection."² Externalism is the denial of this view.³

Because externalist theories do not require that one be aware of the factors that make one's beliefs justified or instances of knowledge, externalism avoids René Descartes' evil demon sceptical scenario. Descartes supposes that unknown to him a malicious demon could deceive him with hallucinations about an external world. From Descartes' perspective, his experiences are identical to those of a non-victim. Internalist theories face a problem here because they claim one must be able to reflect upon the reasons that make one's beliefs justified or instances of knowledge. How then can anyone have justified belief or knowledge about the external world if they cannot provide evidence or reasons that there is no demon deceiving them? Externalism denies the internalist dogma that it is only factors internal to the subject's perspective that determine whether a given belief is justified. Externalists can therefore avoid this problem for internalists for there is no need to demonstrate that this Cartesian scenario is false in order for us to have knowledge or justified beliefs; it just must

¹ Dan O'Brien, *An Introduction to the Theory of Knowledge* (Cambridge: Polity Press,

² Noah Lemos, *An Introduction to the Theory of Knowledge* (Cambridge: Cambridge University Press, 2007), 109.

³ *Ibid.*, 109.

not be true. Externalist theories also satisfy our intuitions that the beliefs of young children and animals can be instances of knowledge, as well as the beliefs a normal adult forms due to memory, perception, and other faculties that produce beliefs non-reflectively. These points motivate externalism, but externalist theories face many objections of their own.

A. Overview of Reliabilism

Reliabilism is a type of externalist theory. Most objections to externalism were first raised against reliabilism, and later extended to other externalist theories. David Armstrong, Fred Dretske, and Alvin Goldman were the first to develop reliabilist theories, but it is Goldman's reliable process theory of justification that has created the most interest and has had the most influence on epistemologists.⁴

Before formulating his process reliabilist theory, Goldman first published "A Causal Theory of Knowing"⁵ as a response to the famous attack of Edmund L. Gettier on the traditional internalist analysis of knowledge as justified true belief. Gettier provided several scenarios in which these three conditions of justified true belief were met but the subject in each case did not have knowledge, demonstrating that truth, belief and justification are insufficient for knowledge.⁶ In response, Goldman stated that in some Gettier scenarios a causal connection between the subject's belief and the fact that made that belief true was missing, and thus added a causal requirement in his own causal theory of knowing.

⁴ See David Malet Armstrong, *Belief Truth and Knowledge* (Cambridge: Cambridge University Press, 1973), Fred I. Dretske, *Knowledge and the Flow of Information*, (Cambridge: The MIT Press, 1981), Alvin Goldman, "What is Justified Belief?" in *Justification and Knowledge*, ed. G. S. Pappas (Dordrecht, Holland: D. Reidel Publishing, 1979).

⁵ Alvin Goldman, "A Causal Theory of Knowing," *The Journal of Philosophy* 64, no. 12 (June 1967): 357-373.

⁶ Edmund L. Gettier, "Is Justified True Belief Knowledge?" *Analysis* 23 (1963): 121-123.

In his 1979 “What is Justified Belief?” Goldman argued that traditional theories of justification lack a causal requirement.⁷ From this point he developed his first formulation of process reliabilism. First, Goldman considers what kinds of causes confer justification; certainly not belief forming processes like wishful thinking, guesswork, or confused reasoning, but surely processes such as perception, remembering, good reasoning, and introspection. Goldman then suggests that the common factor in the latter processes is reliability, and gives an initial formulation of his early reliabilist theory as follows:

The justificational status of a belief is a function of the reliability of the process or processes that cause it, where (as a first approximation) *reliability* consists in the tendency of a process to produce beliefs that are true rather than false.⁸

Goldman develops this provisional definition into a complete theory of justified belief, but the former is adequate to provide us with a general concept of reliabilism.

Since Goldman’s early formulation of process reliabilism several other epistemologists have developed theories that require the right external relationship between belief forming processes or cognitive faculties and the beliefs they produce in order for those beliefs to enjoy positive epistemic status.⁹

B. Motivation for Externalism

The increasing popularity of externalism among philosophers was no doubt due to its ability to handle many of the Gettier examples by adding a causal requirement between the subject’s belief and the fact that makes it true. By adding an external component externalism has the advantage over internalist theories in Gettier cases. A situation in which a justified true belief is a matter of luck is not considered a case of knowledge to the externalist as the proper causal requirement is missing. Externalist theories, if successful, are therefore

⁷ Goldman, “What is Justified Belief?” 7.

⁸ *Ibid.*, 95.

⁹ For example, see Armstrong, *Belief Truth and Knowledge*, Fred I. Dretske, *Knowledge and the Flow of Information*, and Jack C. Lyons, *Perception and Basic Beliefs: Zombies, Modules, and the Problem of the External World* (Oxford: Oxford University Press, 2009).

important epistemic theories as they purports to handle Gettier as well as other significant problems in epistemology.

For example, externalist forms of foundationalism also avoid the regress problem of justification that cripples internalist accounts. This regress problem arises out of the internalist requirement for a subject to provide satisfactory reasons for their beliefs in order for them to be epistemically justified. The infinite regress that results from the requirement that any premise used to support a belief itself requires inferential justification produces skepticism: “So long as each new step of justification is inferential, it appears that justification can never be completed, indeed can never really even get started, and hence that there is no justification and no knowledge.”¹⁰ Externalists avoid this vicious regress and the resulting skepticism. Externalist foundationalists argue that not all beliefs are inferentially justified; some, “basic beliefs”, are immediately justified if they are formed non-inferentially and by a reliable process or properly functioning faculty; as such their justification doesn’t rely on factors accessible to the subject. All non-basic beliefs ultimately derive their justification from basic beliefs, thus terminating the regressive search for justification.

The externalist also claims to escape the skepticism that results from Descartes’ evil demon hypothesis. Admittedly there is no way to distinguish our experience of the external world from the experience we would have if it were really an evil demon creating hallucinations, tricking us into thinking the external world is real. However, the externalist does not require that we are able to make this distinction in order for our beliefs to have justification or be instances of knowledge. What the externalist requires instead is that our belief forming processes are objectively reliable or properly functioning and that there is no evil demon causing them to be otherwise.

¹⁰ Laurence Bonjour, “Externalist Theories of Empirical Knowledge,” *Midwest Studies in Philosophy* 5, no. 1 (Sept. 1980): 54.

Many internalists argue that this move is a departure from the traditional concepts of epistemic justification and knowledge, and therefore even though it can solve some traditional problems, externalism should not be taken seriously as it simply changes the subject. Laurence Bonjour argues: “It seems safe to say that until very recent times, no serious philosopher of knowledge would have dreamed of suggesting that a person’s beliefs might be epistemically justified simply in virtue of facts or relations that were external to his subjective conception.”¹¹ He then mentions that Descartes’ concept along with that of “generations of philosophers who followed” is internalist, and would therefore regard externalist theories as “simply irrelevant to the main epistemological issue.”¹² This easy write-off of externalism may be safely ignored. As Alvin Plantinga has noted, it is really internalism that is the newer epistemic theory: “Externalism goes a long way back, to Thomas Reid, to Thomas Aquinas – back, in fact, all the way to Aristotle.”¹³ It is externalism that has been the dominant tradition, he argues, and “we may therefore see present-day externalists as calling us back to our first epistemological love, after a brief and ill-starred fling with the seductive siren of internalism.”¹⁴ While externalism departs from the internalist tradition put in motion by Descartes, the charge that it departs from traditional epistemic questions does not stand.

C. Objections to Externalism

Many objections have been raised against externalism. I will provide an overview of three of the most significant objections to externalism in what follows.

First, the Generality Problem. Goldman notes that this problem is critical in his first formulation of reliabilism. He states that if the justification of a belief is a function of the

¹¹ Ibid., 56.

¹² Ibid., 56.

¹³ Alvin Plantinga, *Warrant: the Current Debate* (Oxford: Oxford University Press, 1993), v.

¹⁴ Ibid., v.

reliability of the process (or processes) that caused it, this process must be construed as a type as opposed to a token because only types have statistical properties, which is what determines the reliability of a given process.¹⁵ A process token is the specific, concrete process that causes any given belief. Every process token is an instance of process types, such as reasoning or memory processes. Earl Conee and Richard Feldman explain that “each token process that causes a particular belief is of numerous different types of widely varying reliability.... The number of types is unlimited.”¹⁶ The problem of specifying which type must be reliable for the resulting belief to be justified is the Generality Problem. Conee and Feldman state that reliabilism is incomplete without specifying the relevant type: “Only when the bearer of reliability has been identified does the theory have any implications about the justification of beliefs in particular cases.”¹⁷ Some philosophers argue that versions of the Generality Problem arise for other externalist theories (and even internalist theories).¹⁸

Second, although the externalist can avoid Cartesian skepticism, the evil demon hypothesis raises a different problem for externalism. Stewart Cohen first raised this objection against reliabilism, although it can be extended to other externalist theories. Suppose the hypothesis were true: “Imagine that unbeknown to us, our cognitive processes (e.g., perception, memory, inference) are not reliable owing to the machinations of the malevolent demon. It follows on a Reliabilist view that the beliefs generated by those processes are *never* justified.”¹⁹ Cohen argues that intuitively, this is the wrong conclusion. The victim has reason to believe her cognitive processes are reliable, so surely her beliefs

¹⁵ Goldman, “What is Justified Belief?” 12.

¹⁶ Earl Conee and Richard Feldman, “The Generality Problem for Reliabilism,” *Philosophical Studies* 89, no. 1 (1998), 2.

¹⁷ *Ibid.*, 3.

¹⁸ See Michael A. Bishop, “Why the Generality Problem is Everybody’s Problem,” *Philosophical Studies* 151, no. 2 (Nov. 2010): 285-298, Juan Comesaña, “A Well-Founded Solution to the Generality Problem,” *Philosophical Studies* 129, no. 1 (2006): 27-47, Richard Feldman, “Proper Functionalism,” *Noûs* 27, no. 1 (1993): 34-50.

¹⁹ Cohen, Stewart. “Justification and Truth,” *Philosophical Studies* 46, no. 3 (1984): 281.

about the external world are justified.²⁰ Therefore, Cohen concludes, reliability is not necessary for justification.²¹ This objection is known as the New Evil Demon Problem.

Third, and finally, are the Clairvoyance and Mr. Truetemp Objections. Both BonJour's Norman the Clairvoyant case and Keith Lehrer's Mr. Truetemp case attempt to show that the external relationship between a subject's belief and the process or faculties that produced it is not sufficient to determine the epistemic status of the belief. Specifically, BonJour objected that the fact that reliable processes produce a belief is not sufficient for that belief to be justified.²² To demonstrate this, he proposes the case that Norman, a completely reliable clairvoyant, forms the belief that the President is in New York City as a result of his clairvoyant power.²³ Norman however has no evidence for or against the possibility of clairvoyant power, that he possesses it, or for his belief. BonJour argues that according to reliabilism Norman's belief is justified as it is the output of a reliable process, but this is not the correct intuitive conclusion.²⁴ While Norman's beliefs are reliably formed, from Norman's perspective it is only by accident that they are true.²⁵

Lehrer offers a similar case. Mr. Truetemp has a device surgically implanted in his brain that is an accurate thermometer and causes correct thoughts about the temperature.²⁶ Mr. Truetemp does not know he has the device, but unreflectively accepts the correct thoughts that it produces about the temperature.²⁷ Although Mr. Truetemp's beliefs result from a reliable process, Lehrer argues that Mr. Truetemp's beliefs about the temperature are not justified.²⁸ From their respective cases, Lehrer and BonJour come to the same conclusion

²⁰ Ibid., 281.

²¹ Ibid., 281.

²² BonJour, "Externalist Theories," 62.

²³ Ibid., 62.

²⁴ Ibid., 62.

²⁵ Ibid., 62.

²⁶ Keith Lehrer, *Theory of Knowledge* (Boulder: Westview Press, 2000), 187.

²⁷ Ibid., 187.

²⁸ Ibid., 187.

that the external relationship between a subject's belief and the process or faculties that produced it is not sufficient to determine the epistemic status of the belief.

While there have been many responses by externalists to these objections, two theories in particular stand out in the answers they give to these problems: Inferentialist reliabilism and proper functionalism. These two theories take very distinct approaches in developing externalist epistemologies, which can be demonstrated by their responses to Norman the Clairvoyant's case.

In *Perception and Basic Beliefs* Jack Lyons agrees that the Clairvoyance Objection is successful against reliabilism as generally construed above.²⁹ He asserts however that while the problem seems to be that reliabilism allows beliefs to be justified that are ungrounded, the real problem is failing to distinguish between basic and nonbasic beliefs in reliabilist theories.³⁰ Lyons provides his own reliabilist theory called "inferentialist reliabilism" which includes clear definitions of basicity and nonbasicity. Inferentialist reliabilism, he contends, is not only immune to clairvoyance counterexamples, but also solves them.

Plantinga has a different response to the Clairvoyance Objection. Like Lyons, Plantinga agrees that the Clairvoyance Objection is successful against reliabilism. But unlike Lyons he contends that being produced by reliable processes cannot be sufficient for warranted belief (his name for the epistemic quality that distinguishes knowledge from mere true belief).³¹ Plantinga argues that in addition to reliability, a subject's cognitive faculties must be working properly, free from any cognitive malfunction. In *Warrant and Proper Function* Plantinga presents his proper functionalist account of warrant.³² Following Plantinga, Michael Bergmann's *Justification without Awareness* defends a proper function

²⁹ Lyons, *Perception and Basic Beliefs*, 112.

³⁰ *Ibid.*, 112.

³¹ Plantinga, *Warrant: the Current Debate*, 210.

³² Alvin Plantinga, *Warrant and Proper Function* (Oxford: Oxford University Press, 1993).

account of justification. However, he strips away the reliabilist requirement on justification all together, rendering it neither sufficient nor necessary for justification.³³

The Generality Problem, the New Evil Demon Problem, and the Clairvoyance and Mr. Truetemp Objections are the most significant objections to externalism. If inferentialist reliabilism or proper functionalism can provide satisfactory solutions to these problems, they would provide a strong defence of externalism against its critics.

II. STATEMENT OF THE PROBLEM

Can externalist theories deal adequately with the objections raised against them? This is the general problem that this thesis is concerned with. Jack Lyons gives a positive response to this problem as he asserts that reliability is necessary and sufficient for the justification of basic beliefs. By providing an explicit distinction between basic and nonbasic beliefs, Lyons claims that his theory inferentialist reliabilism can solve significant objections raised against other versions of reliabilism. Alvin Plantinga also gives a positive answer, but argues that reliability is not sufficient for a belief to have warrant: “Reliability has its charms, but it omits a crucial component of warrant...: that of *proper function* or *absence of dysfunction*.”³⁴ Plantinga’s “proper functionalism” purports to avoid many of the objections to reliabilism as it stands apart by incorporating the proper function of cognitive faculties. In his proper function account of justification, Bergmann steps away from reliability all together, rendering it both insufficient and unnecessary for justification. The specific question this thesis aims to answer is this: does Lyons’ inferentialist reliabilism or Plantinga’s proper functionalism provide a more plausible defence of externalism?³⁵

³³ Michael Bergmann, *Justification without Awareness* (Oxford: Oxford University Press, 2006), 141.

³⁴ Plantinga, *Warrant: the Current Debate*, vii.

³⁵ Thanks to Myron A. Penner for helping to develop and clarify the specific question this thesis asks.

III. SIGNIFICANCE OF THE PROBLEM

What can we know, and how? Is knowledge possible? How are our beliefs justified? What quality turns mere true belief into knowledge? Theories of knowledge and justification offer answers to these questions. Answers to epistemic questions are both instrumentally useful in our daily lives as we strive to understand and control our world and intrinsically valuable as we believe knowledge is a good thing to have.³⁶ Therefore it is important to investigate the coherency and plausibility of epistemic theories. A coherent, plausible theory is one that offers satisfactory answers to objections raised against it. Such a theory is likely to provide an accurate description of the way we form beliefs and how we know things about our world.

The significance of an externalist approach to epistemology exemplifies the importance of this critical comparison of how inferentialist reliabilism and proper functionalism deal with influential objections. As I noted above, externalist theories are significant in that they can handle many problems with traditional internalist theories of justification and knowledge. If inferentialist reliabilism and proper functionalism can either avoid or solve problems with externalism, these accounts can provide a way forward for externalist theories to proceed. By providing answers to externalist's critics, they would present strong epistemic theories that could perhaps convince those who reject externalism as a whole.

Inferentialist reliabilism and proper functionalism provide two very different externalist accounts, both within the camp of naturalistic epistemology. 'Naturalistic' or 'naturalized' epistemology encompasses a range of views, but all proponents share the conviction that "human knowledge is a natural phenomenon to be studied [to at least some

³⁶ O'Brien, *An Introduction to the Theory of Knowledge*, 3.

extent] by the same scientific techniques that we use to study any other aspect of nature.”³⁷ In comparing their strengths and weakness in dealing with the objections, we may be able to discern which theory is the more satisfying theory, and is therefore the one that demands more attention from epistemologists. However, it may be that each theory has strengths and weaknesses in different areas. In this case, different aspects of the theories will be instructive in their respective areas of success.

A central aspect of Lyons’s theory is that he bases it on the conceptual framework of contemporary cognitive science. If inferentialist reliabilism can provide satisfactory answers to the objections, this will support theories that apply cognitive science to epistemology methodologically. While some philosophers claim that epistemology remains theoretically neutral only when it depends on common sense ideas of the mind, Lyons argues that cognitive science shows this methodology to be problematic.³⁸ As a theory that exemplifies a strong connection between cognitive science and epistemology, its failures and successes will prove interesting and instructive for externalists and their critics alike.

If Plantinga’s proper functionalism is successful, this will also have a positive influence on naturalistic epistemology in general, for the only kind of normativity involved in his theory is the kind that is found in the natural sciences.³⁹ Ultimately however, Plantinga argues that based on his theory, naturalistic epistemology can only flourish in the context of a supernatural ontology.⁴⁰ Therefore the success of proper functionalism would also promote epistemology done within a broader theistic framework and demand a satisfactory account of proper function in naturalistic terms from those who would deny the former.

³⁷ Harold I. Brown, “Normative Epistemology and Naturalized Epistemology,” *Inquiry* 31, no.1 (1988): 53.

³⁸ Lyons, *Perception and Basic Beliefs*, xi.

³⁹ Plantinga, *Warrant and Proper Function*, 194.

⁴⁰ *Ibid.*, 215.

Finally, comparing the two theories contributes to the larger debate of whether reliability is sufficient for justification. Further, if Lyons' theory proves the most attractive this would have great significance within the reliabilist arena as his theory is a version of Goldman's original process reliabilism, which Goldman himself has since revised.⁴¹ Conversely, the success of Bergmann's proper function account of justification would greatly damage theories that declare that reliability is sufficient for justification.

IV. PLAN OF RESEARCH

A. Methodology

This thesis will compare inferentialist reliabilism and proper functionalism as external epistemic theories and evaluate them on how plausibly they answer the main objections that have been raised against externalism.

Lyons' inferentialist reliabilism is worth considering for several reasons. First, Goldman calls Lyons' theory "one of the more novel versions of reliabilism" that "applies original interpretations of perceptual science to central issues in traditional epistemology, and should thereby earn itself a prominent place in the naturalistic epistemology literature."⁴²

Lyons is unapologetic for the connection that he makes between cognitive science and epistemology, considering the former as representing "our best guess as to the ultimate nature of the cognitive mind."⁴³

Second, while some externalists offer clear distinctions between basic and nonbasic beliefs, what is novel about Lyons is the way in which he uses the machinery of cognitive

⁴¹ See Alvin Goldman, *Epistemology and Cognition* (U.S.A.: Harvard University Press, 1986) and Alvin Goldman, "Epistemic Folkways and Scientific Epistemology," in Goldman, *Liaisons: Philosophy Meets the Cognitive and Social Sciences* (Cambridge, MA: MIT Press, 1992), 155-175.

⁴² Alvin Goldman, "Commentary on Jack Lyons's Perception and Basic Beliefs," *Philosophical Studies* 153, no. 3 (April, 2011): 457.

⁴³ Lyons, *Perception and Basic Beliefs*, x.

science to explicate this distinction with great precision.⁴⁴ Inferentialist reliabilism therefore demands the attention of reliabilism's critics and an evaluation of its claims. Further, it demands the attention of reliabilists themselves as it presents a new version of the original, simpler process reliabilism as opposed to an elaboration that greatly departs from it (a route many others have taken).

Plantinga is a prominent, scientifically informed philosopher, and even those who strongly disagree with his theistic views defend his significance.⁴⁵ According to Ernest Sosa, Plantinga's detailed theory of proper function is "most impressive, and should command attention for years to come."⁴⁶ Plantinga's methodology is not to provide a list of necessary and sufficient conditions for warrant. Our cognitive faculties are greatly complex, he argues, and in epistemology "what we really have are paradigms: central, clear, and unequivocal cases of knowledge and warrant."⁴⁷ Surrounding the central cases is a penumbral zone of possible cases, related to central cases by analogy, and around these there are borderline cases where it is not certain whether they are instances of knowledge or not.⁴⁸ Plantinga aims to clarify the conditions governing the central cases and the analogical extensions. This observation of the complexities of cognitive faculties may be instructive for epistemologists in all traditions.

Plantinga's proper functionalism promises an intriguing dialogue with Lyons as it argues in opposition that reliabilists miss three elements concerning warranted belief: The proper function of cognitive faculties in an appropriate environment that is in accord with a

⁴⁴ Thanks to Myron A. Penner for helping to phrase this clearly.

⁴⁵ See Thomas Nagel, "A Philosopher Defends Religion," *The New York Review of Books*, last modified Sept. 27, 2012, <http://www.nybooks.com/articles/archives/2012/sep/27/philosopher-defends-religion/?pagination=false>

⁴⁶ Ernest Sosa, "Proper Functionalism and Virtue Epistemology," *Nous* 27, no. 1 (1993): 51.

⁴⁷ Plantinga, *Warrant and Proper Function*, 213.

⁴⁸ *Ibid.*, 213.

design plan that is successfully aimed at the production of true beliefs.⁴⁹ For Plantinga, the problem with all theories that argue for the sufficiency of reliabilism is that beliefs can be reliably formed, but only accidentally so.⁵⁰ He also claims that his theory avoids the Generality Problem that plagues process reliabilism.⁵¹ Bergmann's proper function account of justification also merits consideration as he argues reliability is both insufficient and unnecessary for justification.

This thesis will begin by considering in depth the main objections raised against externalism: The Generality Problem, the New Evil Demon Problem, and the Clairvoyance and Mr. Truetemp Objections. I will first consider the significance of these problems in order to determine how much weight they have against externalist theories. I will construe these objections individually for each of inferentialist reliabilism and proper functionalism, as they arise in different ways for each theory. Therefore, each theory will have different criteria that they must meet in order to provide solutions for the objections. I will determine what these criteria are and defend each.

Next I will provide an overview of inferentialist reliabilism. Following this I will present Lyons' response to each objection and evaluate whether or not his responses meet the required criteria for solving each objection. I will then provide a summary of proper functionalism and the answers the theory gives to the main objections. In addition to Plantinga's theory of warrant, I will include Bergmann's proper function account of justification in this discussion, as his answer to the New Evil Demon Problem is especially relevant. I will then determine if Plantinga's and Bergmann's responses meet the criteria required to solve the objections.

⁴⁹ Ibid., viii.

⁵⁰ Ibid., 14.

⁵¹ Ibid., 29.

The thesis will conclude with a comparison of inferentialist reliabilism and proper functionalism concerning the plausibility of the answers they offer to the objections to externalism. Finally, I will determine which theory provides the more plausible defence of externalism.

B. Definitions

Anchored (Lyons' Epistemic Anchoring): A "specification of whatever it is that determines an **epistemic function** for any given satisfaction of a **perceptual function**."⁵²

Basic Belief According to Lyons: "A belief B is basic for S at t iff B is the output at t of one of S's cognitive systems that (i) is **inferentially opaque**, (ii) has resulted from learning and innate constraints, and (iii) does not base B on any doxastic inputs at t."⁵³

Cartesian Theory of Evidential Justification (CT): "S's beliefs that p is evidentially justified on the basis of g iff (1) S's belief that p is based on g, (2) the appropriate reliability connection obtains between g and p, and (3) either (a) S is justified in believing that g is evidence for p (or that g probabilifies p, etc.), or (b) S's inference from g to p is a basic inference, that is, is the result of the inferential operation of one of S's **primal systems**."⁵⁴

Cognitive System: A "virtual machine that is realized in some, presumably physical, substrate. In order to realize a cognitive system, a substrate must compute a cognitive function; that is, it must effect a mapping of representational states."⁵⁵

Conditional Justification: Conditionally reliable processes yield beliefs that have conditional justification (but not categorical justification), where "the output belief is/would be justified if the input beliefs are/were."⁵⁶

Conditionally Reliable Processes: Belief-dependant processes that have a high propensity to truth when given true beliefs as inputs.⁵⁷

Design Plan: The specifications for the way in which different parts of a thing must function in order to achieve their goals.⁵⁸

Epistemic Function: An assignment of justificational status to an agent's **perceptual function** that describes the agent's epistemology.⁵⁹

⁵² Jack C. Lyons, "Should Reliabilists Be Worried About Demon Worlds?" *Philosophy and Phenomenological Research* 86, no. 1 (January 2013): 20.

⁵³ Lyons, *Perception and Basic Beliefs*, 144.

⁵⁴ *Ibid.*, 172.

⁵⁵ *Ibid.*, 89.

⁵⁶ Lyons, "Should Reliabilists Be Worried About Demon Worlds?" 8.

⁵⁷ *Ibid.*, 6.

⁵⁸ Plantinga, *Warrant and Proper Function*, 4.

⁵⁹ Lyons, "Should Reliabilists Be Worried About Demon Worlds?" 15.

Inferentialist Reliabilism (IR): Lyons’ theory of justification, according to which “(i) a basic belief is prima facie justified iff it is the result of a reliable cognitive process; and (ii) a nonbasic belief is prima facie justified iff it is the result of a reliable *inferential* process, the inputs to which are themselves (prima facie) justified.”⁶⁰

Inferentially Opaque System: A cognitive system whose output beliefs are cognitively spontaneous.⁶¹

Necessity (Bergmannian Doxastic): The view that “the fittingness of doxastic response B to evidence E is an essential property of the response to that evidence.”⁶²

Objective Fittingness: The view that “the fittingness of doxastic response B to evidence E is objective fittingness (in the sense that fittingness from the subject’s perspective isn’t sufficient for it).”⁶³

Perceptual Function: A function from experience to belief, describing an agent’s psychology.⁶⁴

Primal Cognitive System: A cognitive system that is **inferentially opaque** and has resulted from learning and innate constraints.⁶⁵

Process: A “*functional operation* or procedure, i.e., something that generates a *mapping* from certain states – ‘inputs’ – into other states – ‘outputs’.”⁶⁶

Process Reliabilism: Goldman’s first reliabilist theory of justification. “The justificational status of a belief is a function of the reliability of the process or processes that cause it, where (as a first approximation) *reliability* consists in the tendency of a process to produce beliefs that are true rather than false.”⁶⁷

Proper Functionalism: Plantinga’s theory of warrant. A belief has warrant if it is produced by cognitive faculties that are functioning properly in an environment congenial for those faculties according to a design plan successfully aimed at the truth, and if the subject has no defeaters for that belief.⁶⁸

Proper Function Account of Justification (JPF): Bergmann’s theory of justification. “S’s belief B is justified iff (i) S does not take B to be defeated and (ii) the cognitive faculties producing B are (a) functioning properly, (b) truth-aimed and (c) reliable in the environments

⁶⁰ Lyons, *Perception and Basic Beliefs*, 112.

⁶¹ Ibid. 95.

⁶² Bergmann, *Justification without Awareness*, 112.

⁶³ Ibid., 112.

⁶⁴ Lyons, “Should Reliabilists Be Worried About Demon Worlds?” 15.

⁶⁵ Ibid., 144.

⁶⁶ Goldman, “What is Justified Belief?” 10.

⁶⁷ Ibid., 95.

⁶⁸ Plantinga, *Warrant and Proper Function*, 19.

for which they were ‘designed’.”⁶⁹

Psychological Criterion for Process Type Individuation (PC): “*x* and *y* are tokens of the same (narrowest) process type iff *x* and *y* execute the same algorithm, where the values of the variables *x* and *y* range over, if different, don’t result in any systematic differences in processing.”⁷⁰

Relevant Module: For Plantinga, the relevant module is the module governing the production of a belief, which must be reliable in order for that belief to have warrant.

Relevant Process Type: Every belief is the result of cognitive process types. For reliabilism, the relevant process type is the specific type (or types) that determines the justificational status of any given belief.

Warrant: The normative quality or quantity that distinguishes knowledge from true belief.⁷¹

C. Chapter Summary

In Chapter One I will articulate the main objections raised against externalist theories: The Generality Problem, the New Evil Demon Problem, and the Clairvoyance and Mr. Truetemp Objections. I will defend the significance of these problems for inferentialist reliabilism and proper functionalism, and why assessing whether or not each theory provides successful solutions to these problems is a good bases to determine which external theory is more plausible. I will list and defend the criteria that each theory must meet in order to provide successful solutions to the objections.

Chapter Two consists of an overview of inferentialist reliabilism, highlighting Lyons’ responses to each of the objections, and will provide an evaluation of the criteria his responses meet. Chapter Three is a summary of proper functionalism and the answers the theory gives to the objections. This discussion will also include notable aspects of Michael Bergmann’s proper function account of justification. I will then evaluate what criteria Plantinga’s and Bergmann’s responses meet for solving the objections.

⁶⁹ Bergmann, *Justification without Awareness*, 133.

⁷⁰ Lyons, “Cognitive Processes for Epistemologists,” 10.

⁷¹ Plantinga, *Warrant: The Currant Debate*, 3.

The thesis will conclude in Chapter Four with a comparison of the solutions inferentialist reliabilism and proper functionalism give to the objections to externalism. From this comparison I will determine which theory provides the more plausible defence of externalism and consider the implications of this conclusion.

CHAPTER ONE:

OBJECTIONS TO EXTERNALISM

This chapter will outline the Generality Problem, the New Evil Demon Problem, and the Clairvoyance and Mr. Truetemp Objections for externalist theories. I will explain why the externalist theory that gives superior answers to these problems provides the more plausible defence of externalism. I will list and defend the criteria that each theory must meet in order to provide successful solutions to the objections.

I. THE GENERALITY PROBLEM

According to the Generality Problem, inferentialist reliabilism and proper functionalism must provide accounts that individuate the cognitive process types or modules, respectively, that are responsible for the production of any particular belief. Without such an account, the Generality Problem states that these theories cannot give answers concerning the epistemic status of any given belief. Therefore, the theory that can better handle the Generality Problem over the other is the more successful, useful theory.

A. The Generality Problem for Reliabilism

1. Description and Significance

Goldman first noted the Generality Problem for reliabilism as he considered potential problems with his earliest theory of process reliabilism. Richard Feldman later developed and defined the problem in relation to Goldman's work.⁷² Their description of the problem thus serves as a good starting point to consider the issues it raises for externalist theories. The central issue raised by the objection is that in order to determine the justificatory status of a belief, the reliabilist must be able to specify the relevant belief-forming process type that

⁷² Richard Feldman, "Reliability and Justification," *The Monist* 68, no. 2 (April 1985): 159-174.

must be reliable for that belief to be justified. It is helpful to begin with what Goldman means by a belief-forming process.

By “process” Goldman means a “*functional operation* or procedure, i.e., something that generates a *mapping* from certain states – ‘inputs’ – into other states – ‘outputs’.”⁷³ Reasoning processes, for instance, have antecedent beliefs and entertained hypotheses as their input, and their output consists of the states of believing some specific proposition at a given time. Processes are to be understood as types as opposed to tokens according to Goldman, because “it is only types that have statistical properties such as producing truth 80% of the time; and it is precisely such statistical properties that determine the reliability of a process.”⁷⁴ Reasoning, perception, and memory are common types of belief-forming processes.

Next, it is important to understand the relationship between the reliability of the relevant process that produces an output belief *B* and the justification of *B*. Recall Goldman’s initial theory of justification:

The justificational status of a belief is a function of the reliability of the process or processes that cause it, where (as a first approximation) *reliability* consists in the tendency of a process to produce beliefs that are true rather than false.⁷⁵

Because processes are to be construed as types, justification is a function of the reliability of the process *type* that caused it. To illustrate his point, Goldman provides the example that Jones believes he has just seen a mountain goat. We would conclude that Jones’s belief is much more justified if he saw the goat from about 30 yards away than if he saw the goat briefly from a great distance. The difference in justification between the two cases is due to the fact that our visual processes are much more reliable when we view an object at a reasonably close distance than when we view an object briefly that is a long distance away.

⁷³ Goldman, “What is Justified Belief?” 11.

⁷⁴ *Ibid.*, 11.

⁷⁵ *Ibid.*, 10.

Therefore, Goldman's theory is that the more reliable the relevant process type is that produces a belief, the more justification the belief will enjoy.

Goldman also states that we should not expect a precise answer to the question of how reliable a process type must be in order for the output belief to be justified. This is because his concept of justification is vague. Further, perfect reliability is not required, as processes that confer justification can sometimes produce false beliefs.

With these notes about belief-forming processes in mind, we can now introduce the Generality Problem. In order to determine the justificatory status of a particular belief *B*, we must know whether the process type that caused *B* is reliable. As Feldman notes, this scenario gives rise to the following problem:

The specific process token that leads to any belief will always be an instance of many process types. 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.⁷⁶

Two points clarify the problem. First, the number of process types a particular token process belongs to is unlimited. Second, these process types will vary greatly in reliability. Yet in order to determine the justificatory status of a belief, the relevant process type must be specified and its reliability must be established.

Two further problems arise in the attempt to specify relevant process types. First, let's hypothesize that the relevant process type for my belief that it is sunny today should be construed broadly, such as "the visual process". As seen in the example of Jones seeing a mountain goat however, this broad process type differs in reliability in different contexts, and thus the type yields beliefs that vary in justification. Therefore, "the visual process" construed as the relevant type cannot determine the justification of my belief that it is sunny today as this process type varies widely in reliability. Process types construed too broadly cannot be

⁷⁶ Feldman, "Reliability and Justification," 159-160.

said to be the relevant type needed to determine the justificatory status of any given belief. It is helpful to refer to this issue as Feldman named it: “‘The No-Distinction Problem.’ This arises when beliefs of obviously different epistemic status are produced by tokens that are of the same (broad) relevant type.”⁷⁷

On the other hand, there is what Feldman named the “Single Case Problem”: If the relevant process-type is specified so narrowly that only one instance of it occurs, then that type would be either completely reliable if the token produced a true belief, or completely unreliable if the token produced a false belief.⁷⁸ Goldman explains, “If such narrow process-types were selected, beliefs that are intuitively unjustified might be said to result from perfectly reliable processes; and beliefs that are intuitively justified might be said to result from perfectly unreliable processes.”⁷⁹ In the extreme case where for every relevant type there is only one instance, all true beliefs would be justified, and all false beliefs would be unjustified.⁸⁰ This goes against the strong intuition that there can be justified false beliefs and unjustified true beliefs.

According to Feldman, the Generality Problem “is to provide an account of relevant types that is broad enough to avoid the Single Case Problem but not so broad as to encounter the No-Distinction Problem.”⁸¹

This is a reconstruction of the Generality Problem for reliabilism according to Feldman:

- (1) According to process reliabilism, the justificatory status of any belief is a function of the reliability of the process type(s) that yielded it.
- (2) The process reliabilist must provide an account of relevant process types in order to determine the justificatory status of any belief.
- (3) Any account of relevant process types must avoid the No-Distinction Problem and the Single Case Problem.

⁷⁷ Ibid., 161.

⁷⁸ Ibid., 161.

⁷⁹ Goldman, “What is Justified Belief?” 12.

⁸⁰ Feldman, “Reliability and Justification,” 161.

⁸¹ Ibid., 161.

Therefore,

- (4) The process reliabilist must provide an account of relevant process types that avoids the No-Distinction Problem and the Single Case Problem.

If a solution is not found, the process reliabilist's theory cannot determine the justificatory status of a given belief. An account that identifies the relevant process type must be provided; an account that does not identify relevant process types so broadly or narrowly as to violate (3).

2. Criteria for a Solution

In order to solve the Generality Problem for reliabilism, the following criteria must be met: either criterion (i) or criteria (ii) – (vi). I will defend each criterion in turn.

- (i) Adequate reason must be given to deny the truth of premises (2) and (3).

If one successfully denies premises (2) and (3), then conclusion (4) cannot follow and the Generality Problem for reliabilism fails.

If (i) is not met, then a complete solution to the Generality Problem must include an account of relevant process types that meets all of the criteria listed below. Feldman gestures towards the following criteria, which I reformulated from his remarks above.

- (ii) The account can identify the relevant process type that must be reliable in order for a token process to produce a justified belief.

Without the provision of such an account, the main consequence is that for any case where the relevant type cannot be identified, nothing can be determined regarding the justification of the belief in question. If the epistemic status of a specific belief cannot be determined, then the proposed theory is useless in that case.

- (iii) The reliability of relevant types must correspond to the justification of their output beliefs.

Because the justification of a belief is a function of the reliability of the process type that produced it, the two must be correlated. The greater (or lesser) degree of reliability for the relevant process type, the greater (or lesser) justification for beliefs produced by it. If

criterion (iii) is not met, process reliabilism's central thesis that the justification of a belief is a function of the reliability of the process type that produced it fails.

(iv) The account must be principled.⁸²

Conee and Feldman convincingly argue for this condition. If the reliabilist only provides case-by-case examples of relevant types that match our intuitions, then "the relevant type" will have no definite content.⁸³ Conee and Feldman therefore argue that a theory of knowledge or justification will only be informative once we have a general account of "the relevant type."⁸⁴ However, they note an important clause:

Although a solution must be principled, it need not state necessary and sufficient conditions for relevance that are either precise or always determinate. Claims to the effect that a belief is 'epistemically justified' might be vague and they might be context-sensitive in various ways. A solution must be universal only in that it must specify the relevant type whenever there are definite facts about justification.⁸⁵

The proposed account then does not need to include necessary and sufficient conditions, but must provide a principled account of the relevant type for all beliefs that are definitely justified or unjustified.

(v) The relevant types must be construed so that all beliefs any given type yields share the same degree of epistemic status.

If this criterion is not met, and relevant types are so identified that they yield beliefs with different epistemic statuses, the status of those beliefs cannot be determined by the reliability of the types. In this case, the types have been construed too broadly, and we run into the No-Distinction Problem, as characterized above. If justification is a function of the reliability of a process type, beliefs with different epistemic statuses cannot share the same relevant type. Therefore, relevant types must yield beliefs with the same epistemic status.

(vi) The relevant types must not have just one instance of their occurrence.

⁸² Earl Conee and Richard Feldman. "The Generality Problem for Reliabilism." *Philosophical Studies* 89, no. 1 (1998): 4. This criterion is taken from Conee and Feldman.

⁸³ *Ibid.*, 4.

⁸⁴ *Ibid.*, 4.

⁸⁵ *Ibid.*, 4.

If this criterion is not met, the relevant types will be construed too narrowly, having the consequences described above concerning the Single Case Problem. Specifically, a type would be either completely reliable if the token produced a true belief, or completely unreliable if the token produced a false belief. Two problems follow from this. First, as Goldman mentioned, it follows that a perfectly reliable process could produce an intuitively unjustified belief, and a perfectly unreliable process could produce an intuitively justified belief.⁸⁶ Second, if every for *every* relevant type there is only one instance, all true beliefs would be justified, and all false beliefs would be unjustified, violating the intuition that there can be justified false beliefs and unjustified true beliefs. In light of these two problems, a plausible account of relevant types must not specify them so narrowly as to have only one instance of their occurrence.

A solution to the Generality Problem meets either criteria (i) or criteria (ii) – (vi). If a solution is not provided, the consequence is that the theory burdened with this problem cannot determine the epistemic status of a particular belief. As he presents a version of process reliabilism, Lyons must therefore squarely face the Generality Problem and offer a solution if his theory is to have implications for the justification of beliefs. This will be explored in Chapter Two.

B. The Generality Problem for Proper Functionalism

1. Description and Significance

Feldman claims that a version of the Generality Problem arises for proper functionalism. To see how this objection arises, we must consider briefly the conditions Proper Functionalism requires for a particular belief *B* to have warrant: The cognitive faculties that produce *B* must be functioning properly in an environment for which they were

⁸⁶ Goldman, “What is Justified Belief?” 12.

designed, according to a design plan that is successfully aimed at the truth.⁸⁷ It is this latter condition that the objection is concerned with. Plantinga states this condition more precisely: “The module of the design plan governing [B’s] production must be such that it is objectively highly probable that a belief produced by cognitive faculties functioning properly according to that module (in a congenial environment) will be true or verisimilitudinous.”⁸⁸

Feldman argues that there is a problem in postulating such modules for Plantinga’s theory:

If there are such modules, then there is a scientific (or theological) fact about the design plan and there is a fact about which module a belief results from. If that’s the case, then, the merit of proper functionalism depends upon the facts about the existence and nature of these modules. Until we know more about that, we are just guessing when we make claims about the implications of the theory for many examples.⁸⁹

Where the Generality Problem for reliabilism is due to our lack of knowledge concerning the relevant process type, the Generality Problem for proper functionalism results from our lack of knowledge regarding the relevant module of the design plan that governs the belief in question. For Plantinga, the module governing the production of a belief must be reliable in order for that belief to have warrant. Feldman’s criticism is that because we don’t know much about relevant modules, for any given belief we can only make guesses concerning its epistemic status.

Further, because we do not know exactly what the relevant modules are like, Feldman argues that it could be the case that we again run into problems similar to the No-Distinction Problem and the Single Case Problem: The former would ensue if “our design plan gave us only some very general modules, and left us to figure out how to apply them to individual

⁸⁷ Plantinga, *Warrant and Proper Function*, 19.

⁸⁸ *Ibid.*, 17.

⁸⁹ Feldman, “Proper Functionalism”, 43.

cases.”⁹⁰ Feldman seems to mean here that if the relevant module of *S*’s design plan governing the production of a belief *B* is too general, this module would produce beliefs of differing degrees of warrant. The consequence of this would be that the epistemic status of the belief would not be determined by the reliability of the relevant module. I will call this the “No-Distinction Problem for proper functionalism”.

If we have lots of very specific modules, Feldman states that we end up with a similar result to when reliabilism construes types too narrowly.⁹¹ To restate his objection more fully: If the relevant module of *S*’s design plan involved in the production of a belief *B* is too specific, this module would be either perfectly reliable or perfectly unreliable. If all of our modules are this specific, all true beliefs would be warranted (if it is stipulated that all other conditions for warrant were met) and all false beliefs would be unwarranted. I will call this the “Single Case Problem for proper functionalism”.

To restate Feldman’s argument fully: The proper functionalist must provide an account of relevant modules in order to know the epistemic status of *B*, one that avoids the No-Distinction Problem for proper functionalism and the Single Case Problem for proper functionalism.

The Generality Problem for proper functionalism according to Feldman may be represented like this:

- (5) According to proper functionalism, in order for a belief *B* to have warrant for *S*, the relevant module(s) of the design plan that produce *B* must be reliable (along with the other conditions for warrant).
- (6) The proper functionalist must provide an account of relevant modules in order to determine if any belief has warrant.
- (7) The account must avoid the No-Distinction Problem for proper functionalism and the Single Case Problem for proper functionalism.
- (8) It must be true that our design plan did not give us only some very general modules in order to avoid No-Distinction Problem for proper functionalism.
- (9) It must be true that our design plan did not give us only lots of specific modules in order to avoid the Single Case Problem for proper functionalism.

⁹⁰ Ibid., 43.

⁹¹ Ibid., 43.

Therefore,

- (10) The Proper Functionalist must provide an account of relevant modules that is based on facts about these modules, and it must be true that our design plan did not give us only very general or very specific modules so that the No-Distinction Problem for proper functionalism or the Single Case Problem for proper functionalism arises.

2. Criteria for a Solution

In order to solve the Generality Problem for proper functionalism, either criterion (vii) or criteria (viii) – (xii) must be met.

- (vii) Adequate reason must be given to deny the truth of premises (6) – (9)

If premises (6) – (9) are successfully denied, then conclusion (10) does not follow and Generality Problem for proper functionalism fails.

If (vii) is not met, then a complete solution to the Generality Problem must include the following criteria in an account of relevant modules. Feldman's construal of the problem gestures towards the following criteria, which I reformulated from his remarks above.

- (viii) The account can identify the relevant module of the design plan that must be reliable in order for a belief *B* to be warranted for *S*.

If this criterion is not met, we cannot be sure whether *B* is warranted for *S*; rather as Feldman argues, we can only make guesses.

- (ix) The theory must be based on facts about the nature of our modules.

Feldman notes that unlike the Generality Problem for reliabilism, for proper functionalism an individual belief is not yielded by an unlimited number of process types. Rather, a belief is the product of a real module of a cognitive system.⁹² Therefore, "scientific or theological" facts about our design plan and relevant modules must be discovered in order to know more about them.

- (x) The reliability of the modules described must correspond to the warrant of the beliefs that they govern.

⁹² Ibid., 43.

Because the warrant of a belief is a function of the reliability of the relevant module of the design plan that governs it, the two must correlate. If in fact the reliability of relevant modules does not correspond to the warrant of the beliefs they govern, warrant is not a function of the reliability of the relevant module, contra proper functionalism.

(xi) The account must show that in fact our design plan did not give us only some very general modules.

If it were true that our design plan only gave us some very general modules, the No-Distinction Problem for proper functionalism would result. More specifically, relevant modules would produce beliefs of differing degrees of warrant, and therefore warrant would not be a function of the reliability of the relevant module of the design plan that produced it (among the other conditions for warrant), contra proper functionalism.

(xii) The account must show that in fact our design plan did not give us only lots of very specific modules.

If it were true that our design plan only gave us lots of very specific modules, then the Single Case Problem for proper functionalism would loom. More specifically, relevant modules would be either perfectly reliable or perfectly unreliable, rendering all true beliefs warranted and all false beliefs unwarranted.

Either criterion (vii) or criteria (viii) – (xii) must be met in order to solve the Generality Problem for proper functionalism. Without a solution, it seems that the proper functionalist can only make estimated guesses concerning the epistemic status of particular beliefs. I will discuss how Plantinga deals with these criteria in Chapter Three.

II. THE NEW EVIL DEMON PROBLEM

According to the New Evil Demon Problem (and cases that are similar) for both reliabilism and proper functionalism, conditions that are supposedly required for justification or warrant according to each respective theory are actually not necessary. If this is true, the

theories are inaccurate because they include incorrect conditions. Therefore, it is important for reliabilism and proper functionalism to address the New Evil Demon Problem.

A. The New Evil Demon Problem for Reliabilism

1. Description and Significance

This section II will consider the New Evil Demon Problem (henceforth, NED) for externalism. Keith Lehrer and Stewart Cohen first raised NED as an objection to reliabilism. Part A will consider this version of NED. Part B will discuss a version of NED raised against Bergmann's proper functionalist account of justification. Part C will introduce a problem similar to NED raised against Plantinga's proper functionalism: The Swampman Objection.

Returning to Lehrer and Cohen, the main conclusion of NED is that reliability is unnecessary for justification.

Imagine that, unknown to us, our cognitive processes, those involved in perception, memory and inference, are rendered unreliable by the actions of a powerful demon or malevolent scientist. It would follow on reliabilist views that under such conditions the beliefs generated by those processes would not be justified. This result is unacceptable. The truth of the demon hypothesis also entails that our experiences and our reasonings are just what they would be if our cognitive processes were reliable, and, therefore, that we would be just as well justified in believing what we do if the demon hypothesis were true as if it were false.⁹³

There are three important points to note here about NED. First, we (the victims) do not know that the demon hypothesis is true; it is only supposed that the hypothesis *is* true. In the former case, Cohen asserts that our beliefs would not be justified.⁹⁴ Second, our experiences and reasoning are exactly as they would be if our cognitive processes were reliable. Third, as Cohen notes, in the demon world we have every reason to believe our cognitive processes are reliable just as we do actually.⁹⁵ Intuitively, the objection goes, our beliefs in the demon world are clearly justified. However, the cognitive processes that produce our beliefs are not

⁹³ Keith Lehrer and Stewart Cohen, "Justification, Truth, and Coherence," *Synthese* 55, no. 2 (1983): 192.

⁹⁴ Cohen, "Justification and Truth," 281.

⁹⁵ *Ibid.*, 281.

reliable. Therefore, according to the objector, reliable cognitive processes are not necessary for justified belief.

2. Criteria for a Solution

The criteria needed in order to solve NED for reliabilism can be more clearly seen from this reconstruction of the problem:

- (11) In the demon world, we are ignorant that our cognitive processes are unreliable, but our experiences and reasonings are exactly as they would be if they were reliable.
- (12) If reliable cognitive processes were necessary for justified belief, then our beliefs would be unjustified in the demon world.
- (13) Intuitively, our beliefs are justified in the demon world.
Therefore,
- (14) Reliable cognitive processes are not necessary for justified belief.

The consequence of NED is that reliabilism is an incorrect theory.

In order to successfully resist this conclusion, the reliabilist must offer a solution that meets the following two criteria:

- (xiii) Adequate reason must be given to deny the truth of at least one of premises (11), (12), or (13) of NED.

If a successful argument is given to deny at least one of premises (11) – (13), the conclusion that reliable cognitive processes are not necessary for justified belief fails as this cannot follow from premises whose truth-value is successfully denied or unknown.

The second criterion that must be met to solve NED only concerns the reliabilist who rejects premise (13). In this case the reliabilist insists that the demon victim's beliefs *are* unjustified, and rejects the intuitive basis for (13). Cohen admits that NED relies on viewing justification as normative: "Intuitively, if S's belief is appropriate to the available evidence, he is not to be held responsible for circumstances beyond his ken."⁹⁶ If the reliabilist rejects this notion of justification, resulting in the victim's beliefs being unjustified, Cohen claims that another serious problem follows: The beliefs of two inhabitants of the demon world

⁹⁶ Ibid., 282.

cannot be distinguished in a way that is epistemically satisfying. He provides two cases to demonstrate this (in both cases the demon world is the same as construed above).

Case I: “[I]magine two inhabitants of [the evil demon] world, *A*, who is a good reasoner, i.e., reasons in accordance with the canons of inductive inference, and *B*, who engages in confused reasoning, wishful thinking, reliance on emotional attachments, guesswork, etc.”⁹⁷ The demon sees to it that unreliable processes produce the beliefs of *A* and *B*.⁹⁸ The problem that Case I presents, according to Cohen, is this: The reliabilist must give identical epistemic appraisals concerning the justification of the beliefs of *A* and *B*. If the reliabilist responds that though they are equally unjustified, *A* is more *reasonable* or *rational* than *B*, this will not solve the problem. The concept of justified belief, the important epistemic concept, just is what the reliabilist here calls “reasonability” or “rationality”, which is captured in this example by the distinction between the beliefs of *A* and *B*.

A reconstruction of the argument “NED Case I”:

- (15) *A* and *B* are both demon victims that are unaware of their unreliable reasoning cognitive processes.
- (16) *A* engages in good reasoning, while *B* engages in poor reasoning.
- (17) If reliabilism is correct, then *A* and *B* are equally unjustified in their beliefs.
- (18) Intuitively *A* is justified in his beliefs, but *B* is not.
- Therefore,
- (19) Reliabilism is incorrect.

In Case II, Cohen supposes that the reliabilist restricts her theory non-discursive processes, those that do not involve reasoning. Assuming that perception is a non-discursive process, Cohen asks us to consider two inhabitants of the demon world, *A* and *B*: “Suppose both *A* and *B* believe there is something \emptyset before them on the basis of being appeared to \emptyset -ly.

⁹⁷ Ibid., 283. One may contend that the condition Cohen puts on *A* (who reasons in accordance with the canons of inductive inference) contradicts the original demon world scenario, where all of the demon victims’ cognitive processes are unreliable. While the latter is debatable (as I will discuss in Chapter Two), it is possible for a demon victim to reason well through an unreliable process. For example, one can reason well but begin with a false belief that renders the process unreliable.

⁹⁸ Ibid., 283.

While *A* has no evidence to the contrary, *B* is presented with strong evidence that owing to a clever deception there is nothing \emptyset before him.”⁹⁹ Again, the reliabilist must say they are equally unjustified. Cohen argues that this position ignores the fundamental epistemic difference that *A* is justified in his belief while *B* has been epistemically irresponsible.

A reconstruction of the argument “NED Case II”:

- (20) *A* and *B* are both demon victims that are unaware of their unreliable perceptual processes.
 - (21) *A* and *B* believe there is something \emptyset before them on the basis of being appeared to \emptyset -ly: *A* has no evidence to the contrary, *B* is presented with strong evidence that there is nothing \emptyset before him.
 - (22) If reliabilism is correct, then *A* and *B* are equally unjustified in their beliefs.
 - (23) Intuitively *A* is justified in his belief, but *B* is not.
- Therefore,
- (24) Reliabilism is incorrect.

We can now state the second criteria that must be met for NED to be solved:

- (xiv) If premise (13) of NED is rejected, adequate reasons must be given to deny the truth of at least one of premises (17) or (18) of NED Case I and at least one of premises (22) or (23) of NED Case II.

If a successful argument is given to deny at least one of premises (17) or (18) and one of premises (22) or (23) then both cases fail to render their verdicts that reliabilism is incorrect.

In order to solve NED, criteria (xiii) and (xiv) must be met. If they are not, the conclusion that reliability is not necessary for justified belief seems to hold strong. Lyons must provide an answer to NED if his inferentialist reliabilism is to be considered a credible externalist theory.

B. The New Evil Demon Problem for Bergmann’s Proper Functionalism

1. Description and Significance

Bergmann agrees with Cohen’s conclusion that reliability is not necessary for justification. Bergmann claims that a virtue of his proper function account of justification

⁹⁹ Ibid., 284.

(henceforth, JPF) is that it avoids NED because the theory does not entail reliability.¹⁰⁰

According to JPF:

S's belief B is justified iff (i) S does not take B to be defeated and (ii) the cognitive faculties producing B are (a) functioning properly, (b) truth-aimed and (c) reliable in the environments for which they were 'designed'.¹⁰¹

I will discuss in Chapter Three how Bergmann contends that JPF avoids NED. Richard Fumerton questions whether JPF completely avoids NED. He notes that according to JPF, "if one were designed by an evil demon to form false beliefs about one's environment where such beliefs are caused by the very sensory evidence that moves us to form beliefs about our environment, then such beliefs would be epistemically unjustified."¹⁰² The problem with this, according to Fumerton, is that many internalists would argue that intuitively these beliefs are justified.¹⁰³

Fumerton's objection may be clarified like this: The subject's beliefs (from his example) are produced by cognitive faculties that are not truth-aimed, violating JPF's criteria (b), and are not reliable in the environment for which they were designed, violating (c). These beliefs are therefore unjustified according to JPF. However, these beliefs are "caused by the very sensory evidence that moves us to form beliefs about our environment." It seems that Fumerton is saying that the beliefs that the subject forms in response to sensory evidence matches the beliefs that we form in reality in response to the same sensory evidence. Therefore, the objection goes, the subject's beliefs are not unjustified as JPF claims.

¹⁰⁰ Bergmann, *Justification without Awareness*, 134.

¹⁰¹ *Ibid.*, 133.

¹⁰² Richard Fumerton, review of Michael Bergmann, *Justification Without Awareness: A Defense of Epistemic Externalism*, *Notre Dame Philosophical Reviews* (March 2007), accessed October 1, 2013, <https://ndpr.nd.edu/news/25243-justification-without-awareness-a-defense-of-epistemic-externalism/>.

¹⁰³ *Ibid.*

2. Criteria for a Solution

Fumerton's remarks can be used to reconstruct a version of NED for JPF that will be useful in determining the criteria required for Bergmann to solve this problem:

- (25) An evil demon creates and designs its victim *S* to form false beliefs about their environment, and form beliefs in response to sensory evidence that matches the beliefs that we form in reality in response to the same sensory evidence.
 - (26) *S*'s cognitive faculties do not meet JPF's criteria (b) and (c).
 - (27) If JPF's criteria (b) and (c) were necessary for justified belief, *S*'s beliefs would be unjustified.
 - (28) Intuitively, *S*'s beliefs are justified.
- Therefore,
- (29) JPF's criteria (b) and (c) are not necessary for justified belief.

In order to solve NED for JPF, the following criteria must be met:

- (xv) Adequate reason must be given to deny the truth of at least one of premises (26) – (28) of NED for JPF.

If it is shown that at least one of premises (26) – (28) fails to be convincing, the conclusion that JPF is incorrect will fail.

If premise (28) is rejected on the grounds that intuitively *S*'s beliefs are *not* justified, then NED Case I and Case II apply in this case as well (see above reconstructions of these cases; replace instances of "reliabilism" with "JPF"). This leads to criterion (xvi):

- (xvi) If premise (28) of NED for JPF is rejected, adequate reasons must be given to deny the truth of at least one of premises (17) or (18) of NED Case I and at least one of premises (22) or (23) of NED Case II.

If at least one of premises (17) or (18) and one of premises (22) or (23) is successfully denied their conclusions that JPF is incorrect fail. NED for JPF will remain an influential counterexample to JPF if these criteria are not met.

C. The Swampman Objection for Plantinga's Proper Functionalism

1. Description and Significance

Plantinga's proper function theory of warrant avoids NED as it seems clear that the demon victim will not be warranted in their beliefs. The Swampman Objection is analogous

to NED in that it claims to demonstrate that proper function is not necessary for *warrant*.

Sosa borrows an example by Donald Davidson to argue this:

Suppose lightning strikes a dead tree in a swamp; I am standing nearby. My body is reduced to its elements, while entirely by coincidence (and out of different molecules) the tree is turned into my physical replica. My replica, The Swampman moves exactly as I did; according to its nature it departs the swamp, encounters and seems to recognize my friends, and appears to return their greetings in English. It moves into my house and seems to write articles on radical interpretation. No one can tell the difference. But there *is* a difference.¹⁰⁴

Sosa further elaborates this into an example he seems to find even more compelling for his point:¹⁰⁵ The lightning creates a baby, Swampbaby, whom a hunter finds and raises normally.

Sosa argues that it seems clear the both Swampman and Swampbaby have justified beliefs.

Further, Swampbaby surely grows up to have much warranted beliefs, and Swampman, whose initial beliefs about his history don't have warrant, surely comes to have a least some warranted beliefs.

According to proper functionalism, a belief *B* can only have warrant for *S* if *B* is produced by cognitive faculties operating in accordance with a design plan that is successfully aimed at the truth. Therefore, Sosa points out that Swampman/Swampbaby cannot have warranted beliefs according to proper functionalism because an external agent or process did not design him.¹⁰⁶ Our intuition however, according to Sosa, should be that Swampman/Swampbaby can have warranted beliefs, and therefore proper functionalism is incorrect.¹⁰⁷

2. Criteria for a Solution

This reconstruction of the Swampman Objection for Plantinga will be useful in determining the criteria for a solution:

¹⁰⁴ Sosa, "Proper Functionalism and Virtue Epistemology", 53-54. Sosa here is quoting Donald Davidson.

¹⁰⁵ Ibid., 54.

¹⁰⁶ Ibid., 53.

¹⁰⁷ Ibid., 53.

- (30) Swampman is created by chance in a lightening strike, and is therefore not designed by an external agent or process.
 - (31) If a design plan were necessary for warranted belief, then Swampman could not have warranted beliefs.
 - (32) Intuitively, Swampman can have warranted beliefs.
- Therefore,
- (33) A design plan is not necessary for warranted belief.

A successful solution must include the following criterion:

- (xvii) Adequate reason must be given to deny the truth of at least one of premises (30) – (32) of the Swampman Objection.

If one premise is faulty, then the conclusion that a design plan is not necessary for warranted belief does not stand. If this criterion is left unmet, then the Swampman remains an influential counterexample to Plantinga's conditions for warrant.

III. THE CLAIRVOYANCE AND MR. TRUETEMP OBJECTIONS

Both BonJour's Norman the Clairvoyant case and Lehrer's Mr. Truetemp case allege to demonstrate that contra externalism, the external relationship between a subject's belief and the process or faculties that produced it is not sufficient to determine the epistemic status of belief. If this objection succeeds, then both reliable processes and properly functioning faculties are not sufficient for justification or warrant. The more plausible external theory is therefore the one that provides a solution to these cases in defence of the sufficiency of its conditions.

A. Description and Significance

This section will first consider the objection from Norman's case, and then Mr. Truetemp's. BonJour construes his example as concerned specifically with reliabilism, but argues that the intuition violated concerns all externalist theories. He first considers three cases in which the subjects, all clairvoyants, believe a proposition as a result of their clairvoyant power. In these cases, the subjects have either reason to believe that the belief in question is false, that they do not have the power of clairvoyance, or that in general such a

power is impossible.¹⁰⁸ All of these subjects are intuitively unjustified in their belief. This point is captured however in Goldman's initial theory of process reliabilism. He develops his first approximation, discussed above, into a base-clause principle that includes the condition that for *S*'s belief in *p* at *t* to be justified, there must be "no reliable or conditionally reliable process available to *S* which, had it been used by *S* in addition to the process actually used, would have resulted in *S*'s not believing *p* at *t*."¹⁰⁹ Even more to the point, both inferentialist reliabilism and proper functionalism include a no-defeater requirement in order for beliefs to have positive epistemic status. Therefore, BonJour's initial cases do not pose a threat to these theories.

BonJour then gives the case of Norman in absence of such defeaters:

Norman, under certain conditions that usually obtain, is a completely reliable clairvoyant with respect to certain kinds of subject matter. He possesses no evidence or reasons of any kind for or against the general possibility of such a cognitive power, or for or against the thesis that he possesses it. One day Norman comes to believe that the President is in New York City, though he has no evidence either for or against this belief. In fact the belief is true and results from his clairvoyant power, under circumstances in which it is completely reliable.¹¹⁰

Preceding this example, BonJour notes that "externalism, as a general philosophical account of the foundations of empirical knowledge, must of course apply to all possible modes of non-inferential empirical knowledge, and not just to those that in fact happen to be realized."¹¹¹ Therefore, the reliabilist must say that Norman's belief is justified because it was reliably formed. Intuitively, BonJour argues, this is the wrong conclusion. To demonstrate this he first adds the condition that Norman must not believe that he has clairvoyant power, for if he did, he would have a defeater in that he has no reasons for thinking he has this power

¹⁰⁸ BonJour, "Externalist Theories of Empirical Knowledge", 61.

¹⁰⁹ Goldman, "What is Justified Belief?" 20.

¹¹⁰ BonJour, "Externalist Theories of Empirical Knowledge", 62.

¹¹¹ *Ibid.*, 59.

or that it is even possible.¹¹² From Norman's perspective then, there is no way he could know the President's location, and thus to hold this belief is to be epistemically irrational and irresponsible.¹¹³ Contra reliabilism, Bonjour argues, Norman is not justified. Reliability, therefore, is insufficient for justification in general.

We may alter this case as an objection to proper functionalism if we state that Norman's faculties were functioning properly in an appropriate environment according to a design plan successfully aimed at the truth. Norman's belief in this case would have warrant. For the same reasons above, the objection is that this conclusion is intuitively false.

Lehrer's Mr. Truetemp case demonstrates this kind of objection to proper functionalism more clearly, and it also serves as a counterexample to externalism in general:

Suppose a person, Mr. Truetemp, undergoes brain surgery by an experimental surgeon who invents a small device that is both a very accurate thermometer and a computational device capable of generating thoughts. The device, call it a tempucomp, is implanted in Truetemp's head ...and acts as a censor to transmit information about the temperature to the computational system in his brain. This device, in turn, sends a message to his brain causing him to think of the temperature recorded by the external sensor. Assume that the tempucomp is very reliable.... All told, this is a reliable belief-forming process and a properly functioning cognitive faculty.¹¹⁴

Lehrer adds that Mr. Truetemp does not know he has the tempucomp, does not check a thermometer to see if the thoughts it produces about the temperature are correct, and accepts these thoughts unreflectively.¹¹⁵ And finally, in this case the tempucomp causes Mr. Truetemp to form the correct thought that the temperature is 104 degrees, and he accepts it.¹¹⁶

As the product of a reliable process and properly functioning faculty (along with the other requirements for warrant), reliabilism and proper functionalism determine that Mr.

¹¹² Ibid., 62.

¹¹³ Ibid., 62.

¹¹⁴ Lehrer, *Theory of Knowledge*, 187.

¹¹⁵ Ibid., 187.

¹¹⁶ Ibid., 187.

Truetemp's belief is justified and has warrant, respectively. However, because Mr. Truetemp is ignorant about the tempucomp and its reliability/proper functioning, Lehrer argues that this conclusion is wrong: From Mr. Truetemp's perspective, surely he cannot know that the temperature is 104 degrees, as he does not know this belief is correct.¹¹⁷ Consequently, in general neither reliability nor proper function is sufficient for justification or warrant.

If this argument is successful, the external relationship between a subject's belief and the process or faculties that produced it is not sufficient to determine the epistemic status of the belief. In consequence, both reliabilism and proper functionalism are missing conditions in their respective theories of justification and warrant, and are therefore unsuccessful epistemic theories.

B. Criteria for a Solution

1. Criteria Required for the Reliabilist

To determine what criteria must be met for the reliabilist to solve the Clairvoyance and Mr. Truetemp Objections, it is helpful to break down the objections as follows:

- (34) If Norman/Mr. Truetemp is epistemically irrational and irresponsible in accepting his belief, then intuitively this belief is not justified for him.
- (35) Because Norman/Mr. Truetemp is ignorant of the reliable process that produced his belief, he is epistemically irrational and irresponsible in accepting this belief. Therefore,
- (36) Norman's/Mr. Truetemp's belief is intuitively not justified for him.
- (37) If being produced by reliable belief-forming processes is sufficient for justified belief, then Norman's/Mr. Truetemp's belief must be justified.
- (38) Norman's/Mr. Truetemp's belief is not justified. (36)
- Therefore,
- (39) Being produced by reliable processes is not sufficient for justified belief.

The reliabilist's solution must include the following criteria:

- (xviii) Adequate reason must be given to deny either premise (34), (35), or (37).

¹¹⁷ Ibid., 187.

If the reliabilist can show that (34) or (35) is false, then conclusions (36) and (39) do not follow. If (37) is rejected, then (39) does not follow. In these cases the argument's conclusion that reliable belief-forming processes are insufficient for the justification of belief fails.

If the reliabilist rejects (34) by arguing that Norman/Mr. Truetemp *is* intuitively justified, they must argue that (34)* Norman/Mr. Truetemp can be epistemically irrational and irresponsible in forming his belief yet still be justified. Therefore, the following criterion must be met:

(xix) If (34) is rejected, then the reliabilist must successfully defend (34)*.

If the reliabilist rejects (35), they must argue that (35)* Norman/Mr. Truetemp is not epistemically irrational and irresponsible in his belief even though he is ignorant of the truth of the belief and from his subjective standpoint there is no reason to think that the belief was reliably formed. Therefore, criterion (xx) must be met:

(xx) If (35) is rejected, then the reliabilist must successfully defend (35)*.

If the reliabilist rejects (37), he must argue that (37)* Norman's/Truetemp's belief is unjustified even though it was produced by a reliable belief-forming process. This gives us criterion (xxi):

(xxi) If (37) is rejected, then the reliabilist must successfully defend (37)*.

Criteria (xviii)-(xxi) must be met in order for the reliabilist to offer a successful solution to the Clairvoyance and Mr. Truetemp Objections.

2. Criteria Required for the Proper Functionalist

In considering what criteria must be met for the proper functionalist to solve the Clairvoyance and Mr. Truetemp Objections, refer to this reconstruction of the objections:

(40) If Norman/Mr. Truetemp is epistemically irrational and irresponsible in accepting his belief, then this belief is intuitively not warranted for him.

(41) Because Norman/Mr. Truetemp is ignorant of the properly functioning faculty that produced his belief, he is epistemically irrational and irresponsible in accepting this belief.

Therefore,

(42) Norman's/Mr. Truetemp's belief is intuitively not warranted for him.

(43) If the conditions according to proper functionalism were sufficient for warranted belief, then Norman's/Mr. Truetemp's belief would be warranted.

(44) Norman's/Mr. Truetemp's belief is not warranted. (42)

Therefore,

(45) The conditions according to proper functionalism are not sufficient for warranted belief.

The criteria that the proper functionalist must satisfy in order provide an adequate solution to the Clairvoyance and Mr. Truetemp Objections are analogous to those listed for the reliabilist. If Plantinga does not meet the criteria required to solve these objections, proper functionalism's conditions for warrant seem insufficient. Next, Chapter Two will consider Lyons' responses to these objections and determine whether or not his responses provide adequate solutions to them.

CHAPTER TWO:

INFERENTIALIST RELIABILISM

In section I of this chapter, I will summarize inferentialist reliabilism. In section II, I will consider Lyons' responses to the influential objections to externalism, and determine whether or not inferentialist reliabilism meets the required criteria to solve these objections.

I. DESCRIPTION OF INFERENTIALIST RELIABILISM

Inferentialist reliabilism is a foundationalist theory in that it entails every justified belief is either basic or derives its justification from a set of basic beliefs.¹¹⁸ Epistemological direct realists (those who accept that perceptual beliefs about the external world are epistemically basic) normally hold that basic beliefs are justified and based on nondoxastic experiential states, that is, states of non-belief such as nondoxastic sensory states.¹¹⁹

According to Lyons, no argument has been given for this "primacy of experience thesis", that experiences are epistemically prior to basic beliefs.¹²⁰ His theory opposes the primacy of experience thesis, as he contends that basic beliefs are not based on anything and thus beliefs can be justified without experiential states.¹²¹

Lyons states his theory of prima facie justification, inferentialist reliabilism:

IR: [(a)] a basic belief is prima facie justified iff it is the result of a reliable cognitive process; and [(b)] a nonbasic belief is prima facie justified iff it is the result of a reliable *inferential* process, the inputs to which are themselves (prima facie) justified.¹²²

For IR, what justifies basic beliefs is the reliability of the cognitive processes that produces them. Lyons defines basic beliefs:

¹¹⁸ Lyons, *Perception and Basic Beliefs*, 113.

¹¹⁹ *Ibid.*, 12.

¹²⁰ *Ibid.*, 12. See Lyons' argument against the primacy of experience thesis, or "experientialism", *Ibid.*, 37-84.

¹²¹ *Ibid.*, 8.

¹²² *Ibid.*, 112.

B: A belief B is basic for S at *t* iff B is the output at *t* of one of S's cognitive systems that [(c)] is inferentially opaque, [(d)] has resulted from learning and innate constraints, and [(e)] does not base B on any doxastic inputs at *t*.¹²³

By “cognitive system”, Lyons means “a virtual machine that is realized in some, presumably physical, substrate. In order to realize a cognitive system, a substrate must compute a cognitive function; that is, it must effect a mapping of representational states.”¹²⁴ A cognitive system is constituted when information (structured in representational states) is processed in a part of the (presumably) brain. An inferentially opaque system (c) is one whose output beliefs are cognitively spontaneous: “they are not the result of an introspectible train of reasoning from earlier beliefs.”¹²⁵ A cognitive system results from innate and learning constraints (d) when it develops through a combination of genetic factors and environmental factors, where systems can develop in response to experience.¹²⁶ A basic belief then is one that results from the process of a cognitive system that satisfies (c) and (d) (specifically, a “primal system”) that is operating noninferentially (e).¹²⁷ For IR, reliability is sufficient for the justification of basic beliefs.

Nonbasic beliefs require evidential support in addition to reliability in order to have justification according to IR. Lyons defends the following Cartesian theory of evidential justification:

CT: *S*'s belief that *p* is evidentially justified on the basis of *g* iff [(f)] *S*'s belief that *p* is based on *g*, [(g)] the appropriate reliability connection obtains between *g* and *p*, and [(h)] either [(h)*] *S* is justified in believing that *g* is evidence for *p* (or that *g*

¹²³ Ibid., 144.

¹²⁴ Lyons further explains that “a cognitive system for some task is an isolable cognitive mechanism that specializes in that task and exhibits a kind of functional unity.” Ibid., 89.

¹²⁵ Ibid., 95.

¹²⁶ Ibid., 95.

¹²⁷ Ibid., 144.

probabilifies p , etc.), or [(h)**] S 's inference from g to p is a basic inference, that is, is the result of the inferential operation of one of S 's primal systems.¹²⁸

A basic inference is an inference made by a primal system (a cognitive system that is inferentially opaque and has resulted from learning and innate constraints) that produces a nonbasic belief, where a corresponding evidential belief is not required.¹²⁹ An evidential belief is one that an agent justifiably believes on a ground that serves as evidence for that belief.¹³⁰ For example, if I infer that p from p and q , that inference is basic as long as a primal system produced that belief. A nonbasic inference is any other kind of inference.¹³¹ For example, if I infer (through one of my nonprimal cognitive systems) that that p from p and q and that *Simplification* is a valid inference, this inference is nonbasic. For IR, reliability is not sufficient for the prima facie justification of nonbasic beliefs. For a nonbasic belief to be justified, it must also be the result of either a basic inference from justified premise beliefs or a nonbasic inference where S believes justifiably that the premises are evidence of the conclusion.¹³²

Whether or not IR combined with the distinction Lyons make between basic and nonbasic beliefs provides a convincing externalist theory will depend on how well it meets the criteria required to solve the influential objections to reliabilism.

¹²⁸ Ibid., 172. The letters in between the square brackets are my own convention to prevent confusion. I already used that original letters Lyons had in this definition elsewhere in this chapter.

¹²⁹ Ibid., 171.

¹³⁰ Ibid., 142.

¹³¹ Ibid., 171.

¹³² Ibid., 177.

II. LYONS' RESPONSES TO THE OBJECTIONS

A. The Generality Problem for Reliabilism

1. Solution Offered

In "Cognitive Processes for Epistemologists", Lyons claims to offer a partial solution to the Generality Problem.¹³³ He presents an account of relevant process types according to which types should be individuated by reference to cognitive psychology. Lyons proposes "that we identify the epistemically relevant process with the (narrowest) psychological process that formed the belief, by which [he means] the narrowest process that cognitive psychology holds to be responsible for the belief."¹³⁴ He contends however that we will also need an account that can individuate relevant environment types in order to completely solve the Generality Problem.¹³⁵ This is because the reliability of a process type is determined both by the process type and by the environment its usage occurs in.¹³⁶ It is the reliability of the relevant process type that must be determined in order for reliabilism to give a verdict regarding the justification of its output beliefs. Therefore, Lyons' account of identifying relevant process types must be supplemented by an account of environment types in order to determine a given process's reliability and completely solve the Generality Problem.

It is important to note that by 'psychology' and 'psychological' Lyons means "true, finished psychology, ...the basic theoretical framework will be the representationalist, information processing theory that has been dominant for the last half century or so."¹³⁷ The

¹³³ Jack Lyons, "Cognitive Processes for Epistemologists," Unpublished Manuscript accessed December 3, 2013

<http://www.indiana.edu/~socrates/mew6/Lyons.MEW6.talk.pdf>, 2.

¹³⁴ *Ibid.*, 6.

¹³⁵ *Ibid.*, 1.

¹³⁶ *Ibid.*, 2.

¹³⁷ *Ibid.*, 6.

theoretical framework one accepts will directly influence what process types the theory will identify as relevant.¹³⁸

Three points will determine the narrowest process that cognitive psychology holds to be responsible for the belief according to Lyons' account: (j) "the methodological and general substantive presumptions of the field, [(k)] which general factors the theory takes to be causally relevant, [and (l)] the level of detail at which the theory finds differences to be less important than similarities...."¹³⁹ Lyons explains that each of these points puts constraints on how we identify relevant process types. Due to (j), by accepting information processing theory the identification of relevant process types will be narrowed down to internal, psychological states and will not include external, environmental states.¹⁴⁰ An internal psychological state is, for example, *vision that starts with low intensities and contrasts* and an environmental state is, for example, its external analogue *vision in low light*.¹⁴¹ Lyons argues that "we can't really count *vision in such-and-such lighting conditions* as a psychological type, because our information-processing psychology doesn't recognize lighting conditions as a *psychological variable*."¹⁴² According to Lyons, it is only when the external environment influences internal psychological states that environmental conditions become relevant in identifying process types.¹⁴³

Due to (k), the identification of process types will not consider factors such as days of the week.¹⁴⁴ Lyons explains: "*use of modus ponens on Tuesday* won't count as a distinct process from *use of modus ponens on Thursday*, not only because day of the week is external,

¹³⁸ Ibid., 7.

¹³⁹ Ibid., 7. The letters in between the square brackets are my own convention to prevent confusion. I already used that original letters Lyons had in this definition elsewhere in this chapter.

¹⁴⁰ Ibid., 7.

¹⁴¹ Ibid., 8.

¹⁴² Ibid., 7.

¹⁴³ Ibid., 7.

¹⁴⁴ Ibid., 7.

but because day of the week – along with its internal analogue – is causally irrelevant to the psychological mechanisms.”¹⁴⁵ Factors such internal analogues of lighting conditions (for example, *vision that starts with high intensities and contrasts*) are however causally relevant.¹⁴⁶

As noted by (1), how a psychological theory will individuate processes types depends on the particular intentional and causal categories it considers relevant.¹⁴⁷ Lyons contends that a difference of algorithm is sufficient for identifying different process types.¹⁴⁸ For example, if identifying natural objects and identifying artifacts involve different algorithms, then there are two different process types here.¹⁴⁹ However, a difference in algorithm is not necessary for identifying different process types.¹⁵⁰ *Vision that starts with low intensities and contrasts* and *vision that starts in high intensities and contrasts* are two distinct process types even though they share the same algorithm because the difference in values the process types range over affect psychological processing systematically.¹⁵¹ For conventional reasons, Lyons explains the difference between these two process types in terms of their external lighting analogues: “The point is not that lighting conditions affect the *reliability* of the process... it is that the lighting condition alters the input-output functions... across many different input and output values.”¹⁵² If a factor results in a systematic difference in processing between two token processes, these tokens belong to different process types. Difference in mere content of beliefs, such as visually recognizing dogs and visually recognizing cats, however does not indicate a difference of process type. Lyons argues that

¹⁴⁵ Ibid., 7.

¹⁴⁶ Ibid., 7.

¹⁴⁷ Ibid., 8.

¹⁴⁸ Ibid., 8.

¹⁴⁹ Ibid., 8.

¹⁵⁰ Ibid., 8.

¹⁵¹ Ibid., 8.

¹⁵² Ibid., 9.

because of the causal categories psychology regards as relevant, it “refuses to take non-systematic content differences as making a difference to processing, or indicating different processes.”¹⁵³

According to these observations, Lyons states the psychological criterion (henceforth, PC) for process type individuation:

PC: x and y are tokens of the same (narrowest) process type iff x and y execute the same algorithm, where the values of the variables x and y range over, if different, don't result in any systematic differences in processing.¹⁵⁴

Lyons offers this proposal as a method of individuating processes types, but only as a partial solution to the Generality Problem.

2. Success of Solution: Have the Criteria been Met?

Lyons does not deny that there is a Generality Problem for reliabilism. Therefore, PC must meet criteria (ii) – (vi) as outlined in Chapter One in order to provide a complete solution to the Generality Problem.

(ii) The account can identify the relevant process type that must be reliable in order for a token process to produce a justified belief.

Lyons' PC identifies a single process type for any given process token that must be reliable in order for the resulting belief to have justification. It is the narrowest process type that cognitive psychology considers responsible for a belief that determines this single relevant process type. PC has therefore met criterion (ii) as it identifies a single relevant process type for any given belief.

(iii) The reliability of relevant types must correspond to the justification of their output beliefs.

Whether or not the reliability of relevant types correspond to the justification of their output beliefs cannot be conclusively determined by Lyons' theory. This is because the

¹⁵³ Ibid., 9.

¹⁵⁴ Ibid., 10.

degree of reliability that any process type has depends not only on the identification of the relevant type, but also the environment in which it is used. In order to meet criterion (iii), Lyons must also provide an account of relevant environments types.¹⁵⁵

However, strictly concerning his account of relevant types Lyons claims that PC gives us epistemological verdicts that are intuitively correct.¹⁵⁶ According to PC if some factor results in a systematic difference in processing between two token processes, they have different process types. The internal analogues of *vision in low light* and *vision in bright light* constitute different process types because lighting factors affect psychological processing. Because these are two different process types, they will not yield the same degree of justification to their output beliefs (unless the degrees of reliability of both types happen to be identical, all else equal). In this particular case the relevant process types that PC distinguishes matches the intuition that these should be distinct process types. *Vision in low light* is a less reliable type than *vision in bright light*, and this distinction corresponds to the degree of justification each type's output beliefs have. PC therefore upholds process reliabilism's central thesis that the justification of a belief is a function of the reliability of the process type that produced it.

PC partially meets criterion (iii) in that it offers a plausible account of distinguishing relevant types that corresponds to the justification of output beliefs. This is because systematic differences in psychological processing indicate distinct processes, and the individualization of process types in this way corresponds to the justification of output beliefs. To fully meet criterion (iii) however, Lyons must provide an account of environment types in order to determine the degree of reliability that any given process type has.

(iv) The account must be principled.

¹⁵⁵ As Lyons notes himself: *Ibid.*, 2.

¹⁵⁶ *Ibid.*, 11.

Conee and Feldman argued that a solution must meet this criterion in order for “the relevant process type” to have definite content. PC offers a method to identify a singular relevant process type that can be used for any token process. Further, Lyons notes that “[b]ecause the typing is done for other purposes, without any epistemological ramifications in mind, it is clear that we can’t be cherry-picking processes to suit out intuitive epistemological judgments.”¹⁵⁷ Therefore, PC is a principled account of identifying the relevant process type and satisfies criterion (iv).

- (v) The relevant types must be construed so that all beliefs any given type yields share the same degree of epistemic status.

If this criterion is not met, relevant types are construed too broadly in that they yield beliefs with different epistemic statuses, resulting in the No-Distinction Problem. PC will meet this criterion if the narrowest process type that cognitive psychology holds to be responsible for any given belief does not yield beliefs with different epistemic statuses.

According to Lyons however, the degree of epistemic status any belief has is dependant on both the relevant process type and the environment it is used. Therefore, a particular type may produce beliefs with different epistemic statuses if it is used in different environments that affect the reliability of that type. Lyons notes though that “[i]f the justification of a belief is fixed entirely by the nature of the process that produced it, then these beliefs will have to have the same degree of justification (...assuming all else is equal).”¹⁵⁸ Beliefs produced by a particular process type in environment A and environment B will have the same epistemic status if the environments are of the same environment type (i.e., environment A and environment B do not affect the reliability of the process type differently).

¹⁵⁷ Ibid., 10.

¹⁵⁸ Ibid., 12.

Relevant process types will produce beliefs that have the same epistemic status given that they are used in the same environment type. Lyons' account therefore does not construe relevant process types too broadly, and avoids the No-Distinction Problem. Lyons has therefore met criterion (v) in his construal of relevant process types on the condition that any relevant type in question is used in the same environment type.

(vi) The relevant types must not have just one instance of their occurrence.

If PC identifies relevant process types so narrowly that they only have one token, the Single Case Problem ensues. Lyons argued that any systematic difference in psychological processing makes for a difference process type. While this allows for many different process types, they are not construed so narrowly that they have one instance of their occurrence. Lyons clearly demonstrated this in his argument that a difference in mere content between two process tokens, such as visually recognizing a dog and visually recognizing a cat, does not constitute a difference in process type. The dog/cat distinction is not one that makes a systematic difference in processing. Because the beliefs that result from these tokens are of the same process type, they will share the same degree of justification.¹⁵⁹ This must be true even in an environment in which all perceptual beliefs about dogs are true and all perceptual beliefs about cats are false.¹⁶⁰ PC doesn't offer such a narrow account of identifying process types that they have only one instance of their occurrence, as it is only factors that make a systematic difference in processing that indicate distinct process types. Therefore, PC meets criterion (vi).

Lyons meets each criterion except for (iii), which was not met because he has not provided an account of relevant environment types. That PC has met every other criterion is

¹⁵⁹ Ibid., 12.

¹⁶⁰ Ibid., 12.

good reason to regard Lyons' theory as a successful theory of process type identification, even though it only partially solves the Generality Problem.

B. The New Evil Demon Problem for Reliabilism

1. Solution Offered

Lyons argues against Lehrer and Cohen that NED does not show that reliability is unnecessary for justified belief. In "Should Reliabilists Be Worried About Demon Worlds?" Lyons contends that demon victims (or "demonworlders") really are unjustified in many of their beliefs, but a reliabilist can still claim that some of their beliefs can have positive epistemic status and even justification.¹⁶¹ It is significant that he is arguing for a version of reliabilism "that links justification with de facto, or in situ, reliability, i.e., reliability in the agent's world and/or environment."¹⁶²

First, Lyons notes that demonworlders' rational intuition and introspection can produce true beliefs and are just as reliable as our own, and thus beliefs produced by these processes and beliefs deduced from their output beliefs can be justified.¹⁶³ Next, Lyons contends that many of the demonworlders' beliefs that are unjustified can nevertheless have conditional justification. A belief has conditional justification if it would be justified if the input belief(s) were justified.¹⁶⁴ A belief is categorically justified if it is indeed justified, i.e. it meets all of Lyons' criteria for justified belief. In order to explain how demonworlders' beliefs can have conditional justification, Lyons first by distinguishes between processes that include beliefs as inputs, belief-dependant processes, and those that do not, belief-independent processes.¹⁶⁵ Belief-dependant processes include introspection, rational intuition, deduction, memory, and inference, and are "conditionally reliable" if they have a high

¹⁶¹ Lyons, "Should Reliabilists Be Worried About Demon Worlds?" 2.

¹⁶² *Ibid.*, 1.

¹⁶³ *Ibid.*, 5.

¹⁶⁴ *Ibid.*, 8.

¹⁶⁵ *Ibid.*, 6.

propensity to truth when given true beliefs as inputs.¹⁶⁶ The reliabilist can hold that conditionally reliable processes yield beliefs that have “conditional justification”: “the output belief is/would be justified if the input beliefs are/were.”¹⁶⁷ When conditionally reliable processes produce unjustified beliefs for the demon victim, these beliefs still have conditional justification. Although conditional justification is not as good as (categorical) justification, it is still an epistemic good that gives credit to belief-dependant processes where it is due. For example, while a demonworlder’s memory is unreliable, this is due only to false input beliefs as their memory processes are still “doing their job – they are conditionally reliable.”¹⁶⁸

When belief-independent processes produce beliefs in the demon world these beliefs do not have any positive epistemic status, but this is intuitively correct according to Lyons. He argues that whether or not NED is “to cause any real embarrassment to reliabilists... comes down to the question of whether the evidence we have for our belief-independent beliefs (in particular, our perceptual beliefs) mandates that our demon world counterparts believe as we do.”¹⁶⁹ He focuses exclusively on perception as he contends that this is a belief-independent process.¹⁷⁰

Central to Lyons’ argument is the distinction he makes between a perceptual function and an epistemic function. The former is a function from experience to belief, which describes an agent’s psychology.¹⁷¹ The latter is an assignment of justificational status to experience/belief mappings that describes an agent’s epistemology.¹⁷² He then argues that it is possible for agents from different worlds to satisfy different epistemic functions:

¹⁶⁶ Ibid., 6.

¹⁶⁷ Ibid., 8.

¹⁶⁸ Ibid., 6.

¹⁶⁹ Ibid., 13.

¹⁷⁰ See Lyons, *Perception and Basic Beliefs*, 85-111 for this argument in full.

¹⁷¹ Lyons, “Should Reliabilists Be Worried About Demon Worlds?” 15.

¹⁷² Ibid., 15.

Some of this... will be due to the fact that different cognizers are justified in different, incompatible, experience-belief mappings. If we represent epistemic functions as sets of experience-belief-justificational status triples, we can say that two epistemic functions conflict iff they contain one or more triple that differ only in the third position. Two agents therefore will satisfy conflicting epistemic functions if the same experience makes the one but not the other justified in some belief.¹⁷³

Because two agents from different worlds can have conflicting epistemic functions, justification cannot be determined entirely by perceptual functions or mental states.¹⁷⁴

Therefore Lyons argues that if we were from a world other than our own, we would come to a different conclusion on the justificatory status of demonworlders' beliefs.¹⁷⁵

We cannot say that the demonworlders are *us*, that they are “anchored” to our own world, anchored meaning “a specification of whatever it is that determines an epistemic function for any given satisfaction of a perceptual function.”¹⁷⁶ This is because if it were *us* in the demonworld, we would be justified in our beliefs as they would still be reliably formed, and NED would not count against reliabilism.¹⁷⁷ Lyons explains in a footnote: “My cognitive processes have a track record of getting things right, and the reliabilist can plausibly claim that even in a demon world – at least for some length of time – the processes count as reliable.”¹⁷⁸

Because demonworlders must be unanchored (our counterparts who happen to have the same perceptual function as us), we cannot claim that they must satisfy the same epistemic function we do in our own world because that would be “arbitrary and chauvinistic.”¹⁷⁹ “Better, it seems, to prohibit all experience-belief mappings on the grounds that they are equally unreliable than to endorse one over the others on the grounds that it is

¹⁷³ Ibid., 16.

¹⁷⁴ Ibid., 18.

¹⁷⁵ Ibid., 16.

¹⁷⁶ Ibid., 20.

¹⁷⁷ Ibid., 16.

¹⁷⁸ Ibid., 16.

¹⁷⁹ Ibid., 16.

ours.”¹⁸⁰ Demonworlders’ perceptual beliefs, and more broadly their belief-independent beliefs, are therefore unjustified and do not have any positive epistemic status.¹⁸¹ Because demonworlders are unjustified, NED’s conclusion that reliability is unnecessary for justified belief does not follow.¹⁸²

2. Success of Solution: Have the Criteria been Met?

In order to determine whether Lyons provides a successful solution, recall NED for reliabilism presented in Chapter One:

- (11) In the demon world, we are ignorant that our cognitive processes are unreliable, but our experiences and reasonings are exactly as they would be if they were reliable.
 - (12) If reliable cognitive processes were necessary for justified belief, then our beliefs would be unjustified in the demon world.
 - (13) Intuitively, our beliefs are justified in the demon world.
- Therefore,
- (14) Reliable cognitive processes are not necessary for justified belief.

According to the first criterion Lyons must meet:

- (xiii) Adequate reason must be given to deny the truth of at least one of premises (11), (12) or (13) of NED.

There are three ways we can interpret who the demon victims are in the NED argument. The first interpretation is that it is literally *us*, newly transported to the demon world. Understood this way, Lyons would deny premise (11) and ultimately premise (12). In the demon world our cognitive processes *are* reliable, contra (11), and therefore our beliefs are justified, contra (12). As Lyons argued above, this is because *we* really are anchored to our own world, and would need to be transported to a demon world in order for the scenario to be plausible. If it were really us who were the demon victims, our processes will still count as reliable in the demon world (for some time) and will therefore produce justified beliefs. Our processes are still reliable for some time because reliability is a tendency. Assuming that in our own world

¹⁸⁰ Ibid., 16.

¹⁸¹ Ibid., 16.

¹⁸² Ibid., 2.

our processes are reliable, our process types will remain reliable in the demon world for some time, even though most of our process tokens will produce false beliefs. Overtime our process types will lose their high tendency of reliability, which I will explore in the third way to interpret the demon victims. Lyons correctly concludes that NED fails if we are the demon victims, recently transported to the demon world.

The second interpretation is that the demon victims are our demon world counterparts who were never anchored in our world to begin with. Lyons argued however that we cannot judge that demonworlders unanchored to any world must satisfy the same epistemic function we do in our own world. This leads to a problem with premise (11). According to Cohen, the NED hypothesis entails that if the demon victim's processes were reliable, they would still have the same experiences and reasonings that they do have in the demon world. Cohen assumes then that demon victims are anchored to a particular world, unlike our counterparts that we are considering here. In the case of our demonworld counterparts (11) does not hold.

I suggest that a possible way forward for NED to interpret the demon victims as our counterparts is to change (11) to the following:

(11)* In the demon world, our counterparts are ignorant that their cognitive processes are unreliable, but their experiences and reasonings are exactly as our own.

Assuming (11)*, Lyons would mostly agree with premise (12). As he argued above, our demon world counterparts' rational intuition and introspection would be just as reliable as in our own world and therefore can produce justified beliefs, but the majority of their processes will produce unjustified beliefs. Belief-dependant processes can produce only conditionally justified beliefs and belief-independent processes will have no positive epistemic status at all. Lyons contended however that this is intuitively correct, contra premise (13): It is better to say our counterparts' unreliably formed beliefs are unjustified than to make an arbitrary judgment as to what epistemic function they must satisfy. He claimed we should regard their beliefs as unjustified on the grounds that perceptual functions from any world would be

equally unreliable in the demon world. Another option Lyons doesn't mention is to withhold judgment on whether or not they are justified. This option is plausible because we do not know what/where they should be anchored to and it does not just assume that reliability is necessary for justification as Lyons does. However, whether we choose this option or Lyons' verdict, premise (13) that our demon counterparts *are* intuitively justified does not hold, and NED fails.

The third interpretation is that it is *us* who are the demon victims, but we have been transported to a demon world for a long enough time that our cognitive processes are no longer reliable. Because our cognitive processes are no longer reliable (except for rational intuition, introspection, and sometimes deduction), Lyons must say that the beliefs they produce are unjustified, in agreement (mostly) with (12). While Lyons does not talk explicitly about this third interpretation, he would disagree with (13) that these beliefs are intuitively justified. Again, he would concede that our belief-dependant processes would at least produce conditionally justified beliefs, but belief-independent processes would produce beliefs with no positive epistemic status. An example he presents is relevant here where he makes an analogy between motor schemas and cognitive achievement: "The fact that my motor schemas would lead to superb performance in some possible worlds, though not the world that I'm in, indicates perhaps that I *could* in some sense be skilled at *x*, not that I *am* skilled."¹⁸³ Applied to our case, Lyons' argument is that just because our perceptual functions would give us justified belief in our old world does not mean our perceptual processes are doing something epistemically right in our current, demon world. This is why we are intuitively unjustified, contra (13).

Lyons' rejection of (13) depends on it being true that we are no longer anchored to our old world once our processes cease to be reliable in the demon world. If we are no longer

¹⁸³ Ibid., 19.

anchored to our old world, then the verdict of our unanchored counterparts in the second interpretation above would hold: (13) fails. Is it true that we would no longer be anchored to our old world after our processes cease to be reliable? What is it to be anchored to a particular world? Lyons gives only the general definition of anchoring above, and admits himself that an account of anchoring needs to be further developed.¹⁸⁴ The success of Lyons' rejection of (13) depends on whether his motor skills analogy to cognitive achievement is convincing enough to show intuitively that we are no longer anchored to our old world. Lyons must provide a satisfactory account of anchoring in order for his analogy to be convincing. But even without such an account, his analogy gives reason to question whether we are still anchored to our old world in this case and therefore justified. Premise (13) fails because it is not intuitively clear that we as the demon victims *are* justified, and thus Lyons' meets criterion (xiii).

Lyons must also meet criteria (xiv) because he has rejected premise (13).

(xiv) If premise (13) of NED is rejected, adequate reasons must be given to deny the truth of at least one of premises (17) or (18) of NED Case I and at least one of premises (22) or (23) of NED Case II.

According to NED Case I:

(15) *A* and *B* are both demon victims that are unaware of their unreliable reasoning cognitive processes.

(16) *A* engages in good reasoning, while *B* engages in poor reasoning.

(17) If reliabilism is correct, then *A* and *B* are equally unjustified in their beliefs.

(18) Intuitively *A* is justified in his beliefs, but *B* is not.

Therefore,

(19) Reliabilism is incorrect.

The most plausible interpretation of NED is that it is *us* who are the demon victims after our processes have ceased to be reliable. As such we should interpret these two cases in that way. Lyons would agree with (17), that *A* and *B* are equally unjustified (in the categorical sense of justification), although it must be made clear that this case specifically

¹⁸⁴ Ibid., 38.

concerns those reasoning processes that are unreliable.¹⁸⁵ Lyons' reliabilism rejects premise (18) as it denies that *A* is intuitively justified in his beliefs. However, it does attribute to *A*'s beliefs positive epistemic status. Though *A* is unjustified, he is still reasoning well and thus his reasoning processes have a high propensity to truth given true beliefs inputs. Therefore, *A*'s beliefs are conditionally justified though they are the product of an unreliable process. *B*'s beliefs however are not conditionally justified, as his poor reasoning processes would not have a high propensity to truth even given true belief inputs. Therefore, Lyons' evaluation of *A* and *B*'s beliefs draws a significant epistemic distinction between the two demon victims, which satisfies the intuition that they are epistemically different. Although Cohen's complaint was that this epistemic difference is a difference of justification itself, Lyons' successful rejection of (13) entails that *A* is not intuitively justified contra (18), and NED Case I therefore fails.

Lyons must also successfully deny premises (22) or (23) of NED Case II to fully satisfy criterion (xiv). According to NED Case II:

- (20) *A* and *B* are both demon victims that are unaware of their unreliable perceptual processes.
 - (21) *A* and *B* believe there is something \emptyset before them on the basis of being appeared to \emptyset -ly: *A* has no evidence to the contrary, *B* is presented with strong evidence that there is nothing \emptyset before him.
 - (22) If reliabilism is correct, then *A* and *B* are equally unjustified in their beliefs.
 - (23) Intuitively *A* is justified in his belief, but *B* is not.
- Therefore,
- (24) Reliabilism is incorrect.

The intuition Cohen relied on in NED Case II was that there is an epistemic difference between the perceptual beliefs of *A* and *B*, something reliabilism does not allow. According to Lyons, all perceptual beliefs are unjustified and do not have any positive epistemic status at all in the demon world. Even though *B* has evidence that could defeat his belief, this is not

¹⁸⁵ As explained above, in the demon world rational intuition and introspection are as reliable as our own and thus beliefs produced by these processes and beliefs deduced from true outputs of these processes will be justified.

relevant because his perceptual belief had no justification to begin with. Lyons would reject (23) on the basis that neither *A* nor *B* intuitively have any positive epistemic status. Again, this intuition is the result of his argument against (13). Because this argument was successful, premise (23) of NED Case II fails and Lyons fully meets criterion (xiv).

Lyons has successfully met all criteria necessary for a solution to NED. Therefore, NED's conclusion that reliable cognitive processes are not necessary for justified belief fails.

C. The Clairvoyance and Mr. Truetemp Objections

1. Solution Offered

Lyons claims that IR both avoids and solves the Clairvoyance and Mr. Truetemp challenges to reliabilism because IR implies that Norman and Mr. Truetemp are unjustified. IR therefore agrees with the intuition that the objections rely on.¹⁸⁶

Lyons notes that neither Norman nor Mr. Truetemp have defeaters or evidence for their reliably formed beliefs, and therefore their beliefs must be basic in order for them to have justification.¹⁸⁷ This is because according to IR, nonbasic beliefs must have evidential support (as defined in CT) in order to be justified. For a belief to be basic according to Lyons, it must be the result of a primal cognitive system (a system that is inferentially opaque and has resulted from learning and innate constraints) that is operating noninferentially. Lyons argues that Norman's and Mr. Truetemp's beliefs are not basic because they are not the result of primal systems, specifically, the systems that produced their beliefs were not innately constrained.¹⁸⁸ He explains "the natural assumption to make is that Norman's ability has some unusual – and recent – etiology."¹⁸⁹ It would be unusual if Norman had this clairvoyant

¹⁸⁶ Lyons, *Perception and Basic Beliefs*, 144-145.

¹⁸⁷ *Ibid.*, 144.

¹⁸⁸ *Ibid.*, 118.

¹⁸⁹ *Ibid.*, 118.

power for a long time because he has no evidence for or against its possibility or that he has it.¹⁹⁰ The same can be said for Mr. Truetemp.

Since Norman's and Mr. Truetemp's beliefs are not basic, the fact that reliable cognitive processes produced them is not sufficient for their justification according to IR. Their beliefs are therefore nonbasic, and hence unjustified according to Lyons because they have no evidential justification.¹⁹¹ Lyons asserts that because his reliabilism positively implies that Norman and Mr. Truetemp are unjustified, "clairvoyance problems are not, as on most views, merely avoided by underspecification; they are actually solved."¹⁹²

2. Success of Solution: Have the Criteria been Met?

According to the Clairvoyance and Mr. Truetemp Objections:

- (34) If Norman/Mr. Truetemp is epistemically irrational and irresponsible in accepting his belief, then intuitively this belief is not justified for him.
- (35) Because Norman/Mr. Truetemp is ignorant of the reliable process that produced his belief, he is epistemically irrational and irresponsible in accepting this belief. Therefore,
- (36) Norman's/Mr. Truetemp's belief is intuitively not justified for him.

- (37) If being produced by reliable belief-forming processes is sufficient for justified belief, then Norman's/Mr. Truetemp's belief must be justified.
- (38) Norman's/Mr. Truetemp's belief is not justified. (36)
Therefore,
- (39) Being produced by reliable processes is not sufficient for justified belief.

The first criterion Lyons must satisfy is:

- (xviii) Adequate reason must be given to deny either premise (34), (35), or (37).

As seen in his response outlined above, Lyons agrees with (34) – (36) that Norman/Mr. Truetemp is not justified. The premise Lyons rejects is (37). According to IR, if a belief is reliably formed, this is sufficient for its justification only if it is basic. Reliability is not sufficient for *all* beliefs to have justification, as nonbasic beliefs require evidential

¹⁹⁰ Ibid., 118.

¹⁹¹ Ibid., 145.

¹⁹² Ibid., 145.

justification as well. IR therefore rejects the first half of premise (37). The second half of (37) that Norman's/Mr. Truetemp's belief must be justified does not follow. Therefore, Lyons meets criterion (xviii) and (39) does not hold (particularly for basic beliefs).

Because Lyons rejects (37), he must meet a second criterion:

(xxi) If (37) is rejected, then the reliabilist must successfully defend (37)*.

(37)* states that Norman's/Mr. Truetemp's belief is unjustified even though it was produced by a reliable belief-forming process. Lyons successfully defends (37)*. This is because he offers a convincing argument that neither Norman nor Mr. Truetemp's beliefs are basic, and are therefore unjustified in accordance with IR. Norman's clairvoyant power and Mr. Truetemp's tempucomp are not the result of innate constraints, and therefore the beliefs they produce violate condition (d) required for basicity (as defined by Lyons).

Lyons offers a contrasting scenario to Norman's that brings out the intuition that Norman's/Mr. Truetemp's belief is indeed nonbasic. An alien agent, "Nyrmoon", has a clairvoyant power that is a normal cognitive capacity that developed the same way vision does for humans.¹⁹³ "Nyrmoon, however, is so extremely unreflective that he has no beliefs (a fortiori, no justified beliefs) about the reliability of his clairvoyance. One day he forms, as the result of clairvoyance, the belief that his house is on fire (which it is)."¹⁹⁴ The intuition is that Nyrmoon's belief is basic because it was formed by a primal system that operated noninferentially.¹⁹⁵ According to IR, Nyrmoon's belief is justified because it is a reliably formed basic belief. In contrast, Norman's and Mr. Truetemp's beliefs are nonbasic and therefore unjustified (as they have no evidential support), even though they were reliably formed. Lyons has therefore successfully defended (37)* and has met both criteria (xviii) and (xxi).

¹⁹³ Ibid., 119.

¹⁹⁴ Ibid., 119.

¹⁹⁵ Ibid., 119.

In conclusion, Lyons' IR meets all of the necessary criteria and thus offers a satisfactory answer to the Clairvoyance and Mr. Truetemp objections. It is sufficient for the justification of basic beliefs to be reliably formed, contra the verdict of the objections (39), although nonbasic beliefs require more than this reliability.

This chapter determined that Lyons provides a partial solution to the Generality Problem, but provides complete solutions for NED and the Clairvoyance and Mr. Truetemp objections. The next chapter will consider Plantinga's responses to the objections to externalism and will determine how well he meets the required criteria for their solutions.

CHAPTER THREE

PROPER FUNCTIONALISM

In section I of this chapter, I will briefly outline Plantinga's theory of proper function and Bergmann's proper function account of justification. In section II, I will consider their responses to the influential objections to externalism, and then determine whether or not proper functionalism meets the required criteria to solve these objections.

I. DESCRIPTION OF PROPER FUNCTIONALISM

Plantinga's theory of proper function specifically concerns warrant, whatever it is that distinguishes knowledge from true belief. He argues that in order for one's beliefs to have warrant, one's cognitive faculties responsible for producing those beliefs must be free of malfunction.¹⁹⁶ Just as organs in the body must function properly in order to fulfill their specific purposes, so must cognitive faculties function properly in order to produce warranted belief.¹⁹⁷ He adds to this that your faculties must also be functioning in an environment where they are properly attuned in order for your beliefs to have warrant.¹⁹⁸ If two beliefs have warrant for you, he continues, the belief you hold more firmly will have more warrant than the other: "when my cognitive establishment is working properly... the degree to which I believe a given proposition will be proportional to the degree it has of warrant."¹⁹⁹

The above conditions are not sufficient for warrant. The next two conditions concern what Plantinga calls a design plan. The different parts of a human, such as organs and cognitive faculties, function in particular ways in order to achieve particular purposes.²⁰⁰ A design plan is the blueprint for the way in which these different parts must function in order

¹⁹⁶ Plantinga, *Warrant and Proper Function*, 4.

¹⁹⁷ *Ibid.*, 5.

¹⁹⁸ *Ibid.*, 7.

¹⁹⁹ *Ibid.*, 9.

²⁰⁰ *Ibid.*, 13.

to achieve their goals.²⁰¹ In order for a belief to have warrant, the module(s) of the design plan that produced the belief must be aimed at truth, as opposed to any other aim such as survival.²⁰² The second condition is that the module(s) of the design plan that produces a belief must be reliable.²⁰³ At this point, Plantinga summarizes his theory as follows:

[A] belief *B* has warrant for *S* if and only if the relevant segments (the segments involved in the production of *B*) are functioning properly in a cognitive environment sufficiently similar to that for which *S*'s faculties are designed; and the modules of the design plan governing the production of *B* are (1) aimed at the truth, and (2) such that there is a high objective probability that a belief formed in accordance with those modules (in that sort of cognitive environment) is true; and the more firmly *S* believes *B* the more warrant *B* has for *S*.²⁰⁴

There is one last condition that Plantinga adds to his theory: a no-defeater requirement. There are two kinds of defeaters. The first is a rebutting defeater, where a subject gains evidence of the denial of some particular belief that they hold.²⁰⁵ The second is an undercutting defeater, where a subject gains evidence that undermines some particular belief that they hold.²⁰⁶ Where a rebutting defeater leads one to reject a belief as false, an undercutting defeater leads one to doubt that a belief is true. If a subject has either kind of defeater for a particular belief, that belief does not have warrant.²⁰⁷

Bergmann's proper function account of justification (JPF) concerns "doxastic justification that is more objective than subjective deontological justification (understood as epistemic blamelessness) and yet insufficient for warrant."²⁰⁸ Bergmann states that this is the same kind of doxastic justification that evidentialists such as Conee, Feldman, and Russel are concerned with.²⁰⁹ According to JPF:

²⁰¹ Ibid., 13.

²⁰² Ibid., 13.

²⁰³ Ibid., 17.

²⁰⁴ Ibid., 19.

²⁰⁵ Ibid., 41.

²⁰⁶ Ibid., 41.

²⁰⁷ Ibid., 42.

²⁰⁸ Bergmann, *Justification without Awareness*, 6. Italics removed.

²⁰⁹ Ibid., 6.

S's belief B is justified iff (i) S does not take B to be defeated and (ii) the cognitive faculties producing B are (a) functioning properly, (b) truth-aimed and (c) reliable in the environments for which they were 'designed'.²¹⁰

JPF differs from Plantinga's proper functionalism in that it is concerned with justification, not warrant. JPF differs from Plantinga's conditions for warrant in that it drops the condition that S's faculties must be functioning in an environment where they are properly attuned in order for B to have warrant.

In order for Plantinga's theory of proper function and Bergmann's JPF to be satisfactory external theories, they must meet the required criteria in solving the main objections to externalism.

II. PLANTINGA'S AND BERGMANN'S RESPONSES TO THE OBJECTIONS

A. The Generality Problem for Proper Functionalism

1. Solution Offered

Plantinga does not offer a solution for the Generality Problem for proper functionalism as Feldman constructs it. Instead, he claims that proper functionalism avoids any kind of Generality Problem analogous to the problem for reliabilism. He admits that without an account of relevant modules his theory is incomplete, but argues that the absence of such an account is not a problem for his theory.²¹¹

First, in "Why We Need Proper Function", Plantinga addresses Feldman's concern that we do not know enough about the nature of relevant modules for proper functionalism to have epistemic implications for any given belief.²¹² Plantinga explains that while it is true that in many cases we don't know what the relevant modules are, "my claim is only that our concept of warrant is such that if a belief has warrant, the module or modules producing it is (are) reliable. In order to evaluate this claim, we do not need to know just what modules our

²¹⁰ Ibid., 133.

²¹¹ Plantinga, *Warrant and Proper Function*, 29.

²¹² Alvin Plantinga, "Why We Need Proper Function," *Noûs* 27, no. 1 (1993): 66-82.

cognitive establishment does indeed contain, or which are operative in a given circumstance.”²¹³ For Plantinga, in order to evaluate whether the relevant modules that produce a given belief are reliable we do not need to know what these modules are. In the case where Feldman believes that he sees a large number of people, Plantinga asks “is there a high objective probability that a belief produced by these faculties (the one’s involved in the production of Feldman’s belief) functioning properly in an appropriate cognitive environment is true? I see no reason to doubt it.”²¹⁴ For particular cases then, proper functionalism does have implications for any given belief even though we may not know much about the nature of modules involved, according to Plantinga.²¹⁵

Second, unlike reliabilism, proper functionalism does not “say that the degree of warrant of a belief is determined by the degree of reliability of the faculty or faculties that produce it.”²¹⁶ Because of this Plantinga asserts that his account of warrant does not fall victim to the No-Distinction Problem and the Single Case Problem.²¹⁷

Because the possibility for warrant to have implications for individual cases of belief does not require an account of relevant module individualization, and because the degree of reliability that a module has does not determine the degree of warrant the belief it produces has, Plantinga contends that there is no Generality Problem for proper functionalism.

2. Success of Solution: Have the Criteria been Met?

Here I will consider whether or not Plantinga’s response to the Generality Problem is adequate. Because Plantinga did not provide an account of relevant modules, his argument that the Generality Problem does not affect proper functionalism must be successful. I stated Generality Problem for proper functionalism in Chapter One:

²¹³ Ibid., 73.

²¹⁴ Ibid., 73.

²¹⁵ Ibid., 73.

²¹⁶ Plantinga, *Warrant and Proper Function*, 29.

²¹⁷ Ibid., 29.

- (5) According to proper functionalism, in order for a belief *B* to have warrant for *S*, the relevant module(s) of the design plan that produce *B* must be reliable (along with the other conditions for warrant).
- (6) The proper functionalist must provide an account of relevant modules in order to determine if any belief has warrant.
- (7) The account must avoid the No-Distinction Problem for proper functionalism and the Single Case Problem for proper functionalism.
- (8) It must be true that our design plan did not give us only some very general modules in order to avoid No-Distinction Problem for proper functionalism.
- (9) It must be true that our design plan did not give us only lots of specific modules in order to avoid the Single Case Problem for proper functionalism.

Therefore,

- (10) The Proper Functionalist must provide an account of relevant modules that is based on facts about these modules, and it must be true that our design plan did not give us only very general or very specific modules so that the No-Distinction Problem for proper functionalism or the Single Case Problem for proper functionalism arises.

Plantinga must meet criterion (vii) only:

- (vii) Adequate reason must be given to deny the truth of premises (6) – (9).

First, Plantinga argued against (6) that the proper functionalist must provide an account of relevant modules in order for the theory to have epistemic implications concerning any belief. According to his argument, the way that we know whether a module is reliable or not is not by identifying and examining the module, as Feldman argues. Instead, as in the example above where Feldman forms the belief that he sees a large number of people, Plantinga simply considers the belief, and concludes that there is “no reason to doubt” that the module that formed the belief is reliable and that Feldman’s faculties are functioning properly.

This argument will likely be satisfactory to externalists in general. As long as all the external factors required for knowledge are met and Feldman has no reason to doubt that he sees a large number of people, it seems that his belief is warranted, and more specifically, that we can determine that the module that formed his belief is reliable.

Internalists such as Feldman however will not likely find Plantinga’s argument convincing. Feldman, in any case, demands that we know more about which modules are operative and their nature in order to determine whether or not they are reliable for any given

case. Without such an account, we can only make guesses concerning the warrant of a belief. External factors along with no defeaters are not sufficient to determine whether the module in question is reliable.

The disagreement here between Plantinga and Feldman ultimately rests on the difference between the criteria their respective epistemic theories require for warranted belief. While Feldman requires that we have more evidence about the modules in question to determine whether they are reliable, for Plantinga it is enough that we have confidence on reflection that the modules are reliable and functioning properly. Therefore, while Plantinga's argument against premise (6) is successful from an externalist position, it is not successful from an internalist position that is similar to Feldman's.

Against premises (7)-(9), Plantinga argued that there is not a No-Distinction Problem or Single Case Problem for his theory. According to Feldman, the No-Distinction problem arises for proper functionalism because it may be that our design plan gave us only some very general modules. He argued that the problem was analogous to that for reliabilism: If we only have very general modules, each module will produce beliefs that vary in degrees of warrant. The consequence for reliabilism was that the reliability of the relevant process type could not determine the epistemic status of any belief, contrary to what reliabilism claims. As Plantinga noted however, proper functionalism does not hold that the degree of reliability that a module has determines the degree of warrant the belief it produces has. He does not explain any further how this avoids the No-Distinction Problem, but his conclusion is obviously correct. According to his theory of warrant, both the degree of reliability a module has and the degree of warrant a belief has vary as a function of degree of belief.²¹⁸ Therefore, if our modules are very general and produce beliefs that differ in degrees of warrant, this is not a problem for proper functionalism because the degree of a module's reliability does not determine the

²¹⁸ Ibid., 18.

degree of warrant the belief it produces has. Plantinga's denial that there is not a No-Distinction Problem for proper functionalism is successful.

The other concern according to Feldman is that if we only have a lot of very specific modules the Single Case Problem arises. In the extreme case, all of our modules would be either perfectly reliable or perfectly unreliable, yielding the consequence that all true beliefs would be warranted (given that all of the other conditions for warrant were met) and all false beliefs would be unwarranted. Again, Plantinga does not specifically comment on how proper functionalism avoids this issue. However, even if our modules were this specific and yielded the stated consequence, this is not necessarily a problem for theories of warrant. It is obviously a problem for theories of justification if they imply that all true beliefs are justified and all false beliefs are unjustified. It is not so obvious that it is impossible that all true beliefs are warranted and all false beliefs are unwarranted.²¹⁹ Trenton Merricks lists Pollock, Lehrer, Nozick, Dretske, and Goldman among other philosophers whose accounts of warrant entail truth.²²⁰ Merricks also presents his own argument that warrant entails truth.²²¹ If warrant entails truth, in consequence all true beliefs are warranted and all false beliefs are unwarranted. Because warrant may entail truth, proper functionalism avoids the negative consequences of the Single Case scenario.

Since Plantinga avoids the No-Distinction Problem and the Single Case Problem, he is successful in rejecting premises (7) – (10). However, while Plantinga successfully argued that he does not need to provide an account of relevant modules as premise (6) states from an externalist position, this argument is not convincing to an internalist. The success of

²¹⁹ Thanks to Myron A. Penner for bringing this issue to my attention.

²²⁰ Trenton Merricks, "Warrant Entails Truth." *Philosophy and Phenomenological Research*, 55 no. 4 (Dec 1995): 841.

²²¹ *Ibid.*, 842. Merricks argues that if we assume that it is possible to have warranted false belief we run into the following dilemma: "The denial that warrant entails truth leads either to contradiction (which is surely undesirable), or to a set of claims that is far less plausible than the claim that a belief's being warranted entails that it is true." The logical conclusion then is that warrant entails truth. *Ibid.*, 842.

Plantinga's rejection of (6) will thus ultimately depend on whether an externalist theory like Plantinga's or an internalist theory like Feldman's is more satisfactory. Therefore, Plantinga's response to Feldman's Generality Problem for proper functionalism is therefore completely adequate to the externalist, but is only partially adequate to the internalist. In addition, we should conclude that Feldman overstates the problem for proper functionalism because there is not a No-Distinction Problem or Single Case Problem.

B. The New Evil Demon Problem for Bergmann's Proper Functionalism

1. Solution Offered

Bergmann claims that his proper function account of justification avoids the original NED for reliabilism. This is because JPF does not entail that a subject's cognitive faculties be reliable, only that they are functioning properly, truth-aimed, and reliable *in the environments for which they were designed*. Therefore, a demon victim that has been transported from our own world to a demon world (for any length of time) can still have justified beliefs because his cognitive faculties still meet all of JPF's conditions.²²² Because the victim's beliefs can have justification, JPF avoids the original NED by agreeing with the intuition that the victim is justified.

Fumerton states that NED for Bergmann's JPF concerns the victim whom the demon designed to have false beliefs. Because the victim's beliefs that form in response to sensory evidence match the beliefs that we form in reality in response to the same sensory evidence, his beliefs are intuitively justified, contra JPF. This objection was a response to Bergmann's JPF theory, and what follows is Bergmann's original discussion on the topic, not a specific reply to Fumerton.

Bergmann argues that for a victim whom a demon creates and designs to hold unreliably formed beliefs, "it is no longer clear that her beliefs are *epistemically* fitting

²²² Bergmann, *Justification without Awareness*, 136.

responses to her evidence, even if there is some sense in which they are doxastic responses she is *supposed* to have.”²²³ While the victim will have a subjective sort of epistemic justification, this is not enough for her beliefs to be objectively epistemically fitting.²²⁴ To Bergmann, this conclusion is intuitively correct, and he uses this scenario as reason to include the condition that a subject’s cognitive faculties must be aimed at the truth in order to produce justified belief.²²⁵

2. Success of Solution: Have the Criteria been Met?

NED for JPF was stated in Chapter 1:

- (25) An evil demon creates and designs its victim *S* to form false beliefs about their environment, and form beliefs in response to sensory evidence that matches the beliefs that we form in reality in response to the same sensory evidence.
 - (26) *S*’s cognitive faculties do not meet JPF’s criteria (b) and (c).
 - (27) If JPF’s criteria (b) and (c) were necessary for justified belief, *S*’s beliefs would be unjustified.
 - (28) Intuitively, *S*’s beliefs are justified.
- Therefore,
- (29) JPF’s criteria (b) and (c) are not necessary for justified belief.

The first criterion that Bergmann must meet is:

- (xv) Adequate reason must be given to deny the truth of at least one of premises (26) – (28) of NED for JPF.

Bergmann’s position is that the victim of an evil demon designed to form false beliefs about her environment is not intuitively justified, rejecting premise (28). While the victim is epistemically blameless and thus may have a subjective kind of justification, the victim is not justified because it is not clear her beliefs are epistemically fitting responses to her evidence.²²⁶ In order for victim’s beliefs to be epistemically fitting responses, they must be *objectively* epistemically fitting according to JPF. As noted above, the kind of justification Bergmann is arguing for is doxastic justification that is more objective than subjective

²²³ Ibid., 137.

²²⁴ Ibid., 135.

²²⁵ Ibid., 135.

²²⁶ Ibid., 135.

deontological justification. He states that this view, “Objectivity”, is a standard one accepted by evidentialists, and defines Objectivity as: “the fittingness of doxastic response B to evidence E is objective fittingness (in the sense that fittingness from the subject’s perspective isn’t sufficient for it).”²²⁷

In order for NED to be successful against JPF, justification must be understood objectively as Bergmann describes it. In any other case, NED fails to be a counter example to JPF because “justification” would be a different epistemic merit than what Bergmann is concerned with. Therefore, in order for NED for JPF to succeed, the fittingness of *S*’s doxastic responses B to evidence E must be objective fittingness in order for *S* to be justified, where fittingness from *S*’s perspective is not sufficient.

Bergmann argues that *S*’s doxastic responses B to evidence E are only fitting from *S*’s perspective, but they do not seem to be objectively epistemically fitting. This is because although *S*’s cognitive faculties are functioning properly, they are not aimed at the truth (nor are they reliable in the environment for which they were designed).²²⁸ Bergmann’s argument seems plausible so far, and as much as it is plausible the intuition that *S* is unjustified seems to be correct, against premise (28).

However, as Bergmann notes, evidentialists argue instead that objective fittingness depends on “Necessity”. He defines Necessity this way: “the fittingness of doxastic response B to evidence E is an essential property of the response to that evidence.”²²⁹ His characterization of the evidentialist view of Necessity seems fair in response to Fumerton’s objection. The main assumption made in NED for JPF is that if a victim’s beliefs form in response to sensory evidence that matches the beliefs that we form in reality in response to the same sensory evidence, then his beliefs are intuitively justified. Fumerton argues that the

²²⁷ Ibid., 112.

²²⁸ Ibid., 135.

²²⁹ Ibid., 112.

central disagreement between this intuition and Bergmann's is "whether or not internal states like sensations necessarily or only contingently play their epistemic role. Extreme internalists are convinced that it is a *necessary* truth that two cognizers in the same internal states have the same justified beliefs."²³⁰ If Bergmann can successfully argue against Necessity, his argument against (28) will have firmer support.

Bergmann rejects Necessity with a counterexample. He argues along with Thomas Reid that there is no intrinsic, logical connection between sensations and the content of beliefs that are based on them.²³¹ For example:

[T]actile sensations do not seem to be any more suited than olfactory sensations to being indicators of hardness. Thus, it seems there could have been cognizers like us in outward appearance who experience, upon grabbing a billiard ball, a sensation that is qualitatively of the same type as one of our actual world sensations of smell.²³²

Therefore, Bergmann argues that the fittingness of unlearned doxastic responses, such as the cognizers have in his example, are contingent features that depend on the species of the cognizers, and thus Necessity is false.²³³

Bergmann's/Reid's example successfully demonstrates that it is possible for different species of cognizers to have different unlearned doxastic responses to the same sensory evidence. Sensations therefore do not "play their epistemic role" necessarily, and thus Necessity is false. In turn, it is not necessarily true that two cognizers with identical internal states have identical justified beliefs. This conclusion contradicts the main assumption that NED for JPF relies on; that if a demon victim's beliefs form in response to sensory evidence that matches the beliefs that we form in reality in response to the same sensory evidence, then his beliefs are intuitively justified. Bergmann's argument that (28) is false is further supported, and thus JPF meets criterion (xv).

²³⁰ Fumerton, review of Michael Bergmann, *Justification Without Awareness*.

²³¹ Bergmann, *Justification without Awareness*, 119.

²³² *Ibid.*, 119.

²³³ *Ibid.*, 121.

Bergmann must also meet a second criterion because he rejected (28):

- (xvi) If premise (28) of NED for JPF is rejected, adequate reasons must be given to deny the truth of at least one of premises (17) or (18) of NED Case I and at least one of premises (22) or (23) of NED Case II.

JPF must replace reliabilism in the original construction of NED Cases I and II (see Chapter One). As above, for these scenarios to affect JPF the demon victims in these cases must have been designed by their demon creators to form false beliefs.

Bergmann does not comment specifically on these kinds of cases, but according to JPF all inhabitants of this demon world must be equally unjustified no matter how good or bad their reasonings are. This is because for all inhabitants, their cognitive faculties are neither truth-aimed nor are they reliable in the environment for which they were designed. Thus Bergmann would reject premise (18) of NED Case I and premise (23) of NED Case II, although he would admit that victim *A* in both cases could have a subjective sort of justification as he allows for the original NED victim above.

In order for NED Cases I and II to succeed, *A* in both cases must be objectively justified. As explained above, according to Fumerton the reason extreme internalists disagree with Bergmann's conclusion that *A* in these cases is unjustified is because objective fittingness depends on Necessity. However, Bergmann demonstrated that Necessity is false. Therefore, it is not obvious that *A* in these cases is intuitively justified, and thus premise (18) of NED Case I and premise (23) of NED Case II fail. Bergmann's JPF therefore meets all the required criteria, (xv) and (xvi), in providing a solution for NED against JPF. NED for JPF does not demonstrate that JPF's conditions are not necessary for justified belief.

3. The Swampman Objection for Plantinga's Proper Functionalism

3.1 Solution Offered

Plantinga argues that Sosa's Swampman Objection does not demonstrate that proper function is not necessary for warrant. "The problem is supposed to be that Swampman arises

just by chance.... So this duplicate of Davidson isn't designed by anything."²³⁴ If Swampman isn't designed by anything, then he cannot have warranted belief according to proper functionalism. The Swampman Objection states that Swampman does have warranted belief, even though he lacks a design plan.

Plantinga first doubts that it is possible for a being such as Swampman to pop into existence by chance.²³⁵ He argues however that if this is possible, then it is equally possible that such a being came into existence with a design plan:

The notions of design plan and proper function are correlative: a thing is working properly, in doing A in circumstances C, if and only if its design plan calls for it to do A in C. If a being capable of having beliefs can just pop into existence by chance, couldn't the same be said for a being that is capable both of belief and also of functioning properly or improperly?²³⁶

For example, in the case where Swampman gets sick, drunk, or injured, he is not properly functioning.²³⁷ If we can say that he is not functioning properly, then we must say that he has a design plan according to which he is not functioning. Therefore, against Sosa's assumptions, it is possible that Swampman does have a design plan even though he simply popped into existence, and can consequently have warranted beliefs.²³⁸

3.2 Success of Solution: Have the Criteria been Met?

According to the Swampman Objection:

- (30) Swampman is created by chance in a lightning strike, and is therefore not designed by an external agent or process.
 - (31) If a design plan were necessary for warranted belief, then Swampman could not have warranted beliefs.
 - (32) Intuitively, Swampman can have warranted beliefs.
- Therefore,
- (33) A design plan is not necessary for warranted belief.

For Plantinga's solution to be successful, it must meet criterion (xvii):

²³⁴ Plantinga, "Why We Need Proper Function," 78.

²³⁵ Ibid., 78.

²³⁶ Ibid., 78.

²³⁷ Ibid., 78.

²³⁸ Ibid., 78.

- (xvii) Adequate reason must be given to deny the truth of at least one of premises (30) – (32) of the Swampman Objection.

Instead of rejecting premise (32) that Swampman can have warranted beliefs, Plantinga argues that if it is possible for Swampman to pop into existence and be capable of belief, then it is possible that Swampman can function properly or improperly and therefore has a design plan (rendering warranted beliefs possible). Plantinga thus rejects premise (30) and (31).

Plantinga's argument that it is possible for Swampman to have a design plan relies on two premises. The first is that it is possible for Swampman to function properly/improperly. The second is that proper/improper function entails a design plan.

The second premise does not seem to be as controversial as the first. A consideration of Plantinga's concepts of "proper function" and "design plan" will demonstrate this. He admits that the idea of proper function may be puzzling, but is an idea that everyone has, and is one that is utilized by scientists.²³⁹ For example, scientists give accounts of how organs work and their purposes, which Plantinga calls "functional generalizations". These accounts are not universal generalizations: "Clearly these functional generalizations contain something like an implicit restriction to organisms and organs that are *functioning properly*, functioning as they ought to, subject to no malfunction or dysfunction."²⁴⁰ Therefore, proper function is not equivalent to function itself, or even normal function. Plantinga further specifies that when organs function properly, "they function *in a particular way*. Such organs have a *function or purpose*... [T]here is something like a set of specifications for a well-formed, properly functioning human being."²⁴¹ The specification for how a thing must function in order function properly and achieve its purpose is what Plantinga calls a design plan. For a thing to function properly in order to achieve its purpose entails that there is a specific way or ways in which that thing must work in order to function properly. Therefore, it seems clear

²³⁹ Plantinga, *Warrant and Proper Function*, 5.

²⁴⁰ *Ibid.*, 6.

²⁴¹ *Ibid.*, 13-14.

that for a thing to function properly/improperly is for that thing to have a design plan, in accordance with the second premise.

The first premise does not seem so obvious as the second. It is not so clear that a being that popped into existence by chance can be said to function properly or improperly. However, this is not necessary for Plantinga's argument to be successful because his argument is only that if it is possible for Swampman to pop into existence and be capable of belief, then it is possible for him to function properly/improperly. To state the first premise more specifically, the state of being capable of belief for a being that popped into existence by chance entails a state of proper or improper function for that being.

Against this premise, one may argue that just because Swampman is functioning like an ordinary human does not mean that he is necessarily functioning properly or improperly. One of Plantinga's own examples demonstrates that proper/improper function is distinct from function itself:

My cognitive design plan says something about how I will respond (if my cognitive faculties are functioning properly) when appeared to redly.... But my design plan says nothing about how the thing will work under just any or *all* circumstances, but under only *some*: those that in some sense... the designer(s) plan for, or have in mind, or intend.²⁴²

If a normal human's design plan is only concerned with an organ's or cognitive faculty's response in certain circumstances, then it is only those responses in those circumstances that are functioning properly or not. Perhaps then Swampman's organs and cognitive faculties are functioning, but neither properly nor improperly so.

Plantinga's argument however is that intuitively we would say that Swampman is functioning properly or not. This does seem to be the case if we reconsider his original illustration of the notion of proper function. Scientists provide functional generalizations for different organs/faculties of an organism. If an examination of Swampman's organs and

²⁴² Ibid., 23.

cognitive faculties were conducted, a report of how his different parts function and for what purposes would be identical to a report conducted for the original Davidson. If we can identify the purposes for which Swampman's parts are functioning, then it seems that there is a particular way that or set of specifications according to which his parts are functioning. These specifications according to which Swampman's parts must be functioning in order to achieve their purposes are what Plantinga called a design plan. Therefore Swampman has a design plan contra premise (30). Because Swampman has a design plan, he can have warranted beliefs against (31).

Plantinga's solution to the Swampman Objection meets criterion (xvii), and consequently the Swampman Objection does not demonstrate that proper function is not necessary for warrant.

C. The Clairvoyance and Mr. Truetemp Objections

1. Solution Offered

Plantinga argues that the Clairvoyance and Mr. Truetemp Objections do not demonstrate that proper functionalism's conditions for warrant are not sufficient.²⁴³ This is because Mr. Truetemp's and Norman's beliefs are not warranted according to proper functionalism, in agreement with the intuitions of the objection.²⁴⁴ I will first outline his response to Mr. Truetemp.

In the case where Mr. Truetemp's surgically implanted tempucomp causes him to form the correct thought that the temperature is 104 degrees and he accepts this thought unreflectively, his belief will not have warrant according to Plantinga. This is because his belief does not meet the no-defeater requirement: "Mr. Truetemp has a defeater for his belief in the fact that (as he no doubt thinks) he is constructed like other human beings and none of

²⁴³ Alvin Plantinga, "Respondeo," in *Warrant in Contemporary Epistemology: Essays in Honor of Plantinga's Theory of Knowledge*, edited by Jonothan L. Kvanvig, (London: Rowman & Littlefield Publishers, INC., 1996), 333.

²⁴⁴ *Ibid.*, 333.

them has this ability; furthermore everyone he meets scoffs or smiles at his claim that he does have it.”²⁴⁵ If it is true Mr. Truetemp has a defeater for his belief, then his belief does not have warrant.

An initial problem with Plantinga’s argument is that in both Norman’s and Mr. Truetemp’s cases they do not know they have their relative abilities, which Plantinga seems to assume in his comment above. One may argue that because of this, neither subject has a defeater for their belief in the way Plantinga describes. However, Plantinga notes that if it is the case that Mr. Truetemp does not have a defeater, then “he also lacks warrant, since proper function, in this situation, requires that he *have* a defeating belief.”²⁴⁶ I will reconstruct Plantinga’s argument more fully. Mr. Truetemp knows that other humans do not have the ability to form such specific beliefs about the temperature in an unreflective way. Mr. Truetemp believes that he is constructed like other humans. Therefore, Mr. Truetemp has evidence that undermines his unreflective belief that the temperature is 104 degrees. As outlined in section I of this chapter, according to proper function a subject has a defeating belief in the case where they have evidence that either denies or undermines that belief (either a rebutting defeater or undercutting defeater, respectively). Because Mr. Truetemp has an undercutting defeater for his belief, this belief is not warranted and this case does not stand as a counterexample to proper functionalism.

In Norman’s case however, BonJour stipulated that Norman does not have evidence for or against the possibility of clairvoyant power, like the power that produced his true belief that the President is in New York City. Because of this, Norman does not have a defeater. Concerning Norman’s case, Plantinga argues: “What makes [Norman-like cases] initially *seem* convincing, I think, is that we think of Norman as knowing and believing the same sorts of things the rest of us know and believe. If so, he has a defeater for his suddenly and

²⁴⁵ Ibid., 333.

²⁴⁶ Ibid., 333.

inexplicably acquired belief that the president is in New York.”²⁴⁷ Here Plantinga rejects Bonjour’s assertion that Norman does not have a defeater. This is because in order for Norman’s case to at least seem convincing in the first place, it must be stipulated that Norman believes, as we do, that clairvoyant power is not possible. Again, this is an undercutting defeater that renders Norman’s belief unwarranted according to proper functionalism, against the Clairvoyance Objection.

2. Success of Solution: Have the Criteria been Met?

According to the Clairvoyance and Mr. Truetemp Objections:

- (40) If Norman/Mr. Truetemp is epistemically irrational and irresponsible in accepting his belief, then this belief is intuitively not warranted for him.
- (41) Because Norman/Mr. Truetemp is ignorant of the properly functioning faculty that produced his belief, he is epistemically irrational and irresponsible in accepting this belief.

Therefore,

- (42) Norman’s/Mr. Truetemp’s belief is intuitively not warranted for him.

- (43) If the conditions according to proper functionalism were sufficient for warranted belief, then Norman’s/Mr. Truetemp’s belief would be warranted.

- (44) Norman’s/Mr. Truetemp’s belief is not warranted. (42)

Therefore,

- (45) The conditions according to proper functionalism are not sufficient for warranted belief.

Plantinga must meet this criterion only:

- (xxii) Adequate reason must be given to deny either premise (40), (41), or (43).

Plantinga’s argument is that because both Norman and Mr. Truetemp have defeaters for their relative beliefs, their beliefs do not have warrant. It follows from this that if the conditions according to proper functionalism are sufficient for warranted belief, then Norman and Mr. Truetemp would not be warranted in their beliefs, contra (43). For this argument to be successful against (43), Plantinga must convince us that both Norman and Mr. Truetemp have defeaters for their beliefs, and therefore do not meet the conditions for warrant.

²⁴⁷ Ibid., 377. See his footnote 48.

For Mr. Truetemp, it clearly seems that he has evidence that other humans do not have an ability to know the temperature spontaneously, and that he is constructed like other humans. Because of this evidence, he should reject the spontaneous thought produced by his tempucomp that it is 104 degrees instead of believing that it is true. This evidence that Mr. Truetemp has constitutes an undercutting defeater, and therefore his belief that it is 104 degrees does not have warrant as Plantinga argued.

Concerning Norman's case, BonJour and Plantinga disagree on whether or not Norman has a defeater for his belief that the President is in New York. BonJour argues that Norman doesn't have a defeater on the basis of his stipulation that Norman does not have evidence for or against the possibility of clairvoyant power (or that he has it). Plantinga argues that Norman does have a defeater on the basis that Norman must believe "the same sorts of things" that we do in order for his case to seem even initially convincing. In the scenario where Norman believes as we do that clairvoyance is impossible, his belief about the location of the President is defeated.

In order to evaluate Plantinga's argument, we must consider Norman's case but assume that he believes differently than us, that clairvoyance is either possible or that he has no evidence for or against its possibility. If the objection still seems initially convincing, then Plantinga's argument fails. In the case where Norman believes clairvoyance is possible, then it seems clear that his belief is warranted. The Clairvoyance Objection is not convincing in this case because Norman is not intuitively unwarranted, as the objection declares. In the case where Norman has no evidence for or against the possibility of clairvoyance, it seems again that his belief is warranted. This is because even if Norman is an adult and has lived his whole life without ever having evidence that such an extraordinary power is possible, neither does he have any evidence against its possibility. Unlike our own experience, which has led us to believe with much certainty that clairvoyance is impossible, Norman has absolutely no

such evidence in this case. Here then we lose the intuition that his belief about the President's location is unwarranted, contra the Clairvoyance Objection. Therefore, in both cases where Norman believes differently than us, the objection is no longer convincing.

Therefore, Plantinga's argument that Norman must believe that clairvoyance is impossible in order for the objection to seem initially convincing is successful. Since Norman must believe that clairvoyance is impossible (or at least have strong evidence against its possibility), he has an undercutting defeater for his belief, and is therefore unwarranted.

Because both Norman and Mr. Truetemp do not have warrant for their beliefs, it follows that if the conditions according to proper functionalism are sufficient for warranted belief, then Norman and Mr. Truetemp would not be warranted in their beliefs contra (43). Plantinga has therefore provided a satisfactory argument against premise (43) and thus meets criterion (xxii). The objection's conclusion (45) that the conditions according to proper functionalism are not sufficient for warranted belief does not hold. Plantinga has provided all necessary criteria for a solution to the Clairvoyance and Mr. Truetemp Objections.

In the next chapter I will compare inferentialist reliabilism's and proper functionalism's success in answering the main objections to externalism, and determine which is the more satisfactory external theory.

CHAPTER FOUR:
COMPARISON OF INFERENCEALIST RELIABILISM AND PROPER
FUNCTIONALISM

In this chapter I will return to the specific question this thesis aims to answer: does Lyons' inferentialist reliabilism or Plantinga's proper functionalism provide a more plausible defence of externalism? The superior theory is the one that best deals with three of the most powerful objections against externalism.

Chapter Two and Three demonstrated that proper functionalism and inferentialist reliabilism both have shortcomings in solving the Generality Problem, but provide successful refutations of NED/Swampman Objection and the Clairvoyance and Mr. Truetemp Objections. While this suggests that the theories are somewhat equally successful in dealing with the objections, a comparison of their solutions to each other reveal that overall, inferentialist reliabilism provides the more plausible defence of externalism.²⁴⁸

I. CONCERNING THE GENERALITY PROBLEM

In this section I will compare Lyons' and Plantinga's solution to the Generality Problem in order to determine if one is superior to the other. The Generality Problem states that inferentialist reliabilism and proper functionalism must provide accounts that individuate

²⁴⁸ One may contend that Lyons' inferentialist reliabilism is not a fully externalist theory because of an "awareness requirement" for nonbasic inferences in his Cartesian theory of evidential justification (where *S*'s belief that *p* is evidentially justified on the basis of *g* if *S* is justified in believing that *g* is evidence for *p*). I contend, along with Lyons, that inferentialist reliabilism is not an externalist-internalist hybrid, but should be considered an externalist theory. This is because what motivates Lyons' requirement for nonbasic inferences to produce justified beliefs is not the subject's awareness as in traditional internalist theories, but rather causal, etiological, and architectural facts that aren't normally accessible to the subject. Cases of nonbasic inferences "show not that justification requires some kind of accessibility but merely that some beliefs can't be justified unless they result from a reliable inferential process." Lyons, *Perception and Basic Beliefs*, 181. A reliable inferential process in the case of nonbasic inferences involves the subject being aware of what evidentially justifies their belief, but the crucial factor for all nonbasic beliefs to be justified is that they are the result of a reliable inferential process. Inferentialist reliabilism is therefore externalist.

the cognitive process type(s) or module(s), respectively, that is responsible for the production of any particular belief. If the theories cannot provide such an account, the consequence is that these theories cannot determine epistemic status of any given belief.

Lyons' and Plantinga's solutions to the Generality Problem are very different from one another. While Lyons provided an account of process type identification, Plantinga argued that there is no Generality Problem for proper functionalism. In order to determine whether Lyons or Plantinga provides a more satisfactory defence of externalism pertaining to the Generality Problem, I will compare the strengths and weaknesses of their solutions in relation to each other.

As I argue in Chapter Two, Lyons' psychological criterion (PC) for process type individuation is a principled account that can identify relevant process types and also avoids both the No-Distinction Problem and the Single Case Problem. The only criterion required for a full solution to the Generality Problem that Lyons failed to meet was (iii): The reliability of relevant types must correspond to the justification of their output beliefs. Lyons' PC partially meets criterion (iii) because it offers a plausible account of distinguishing relevant types that corresponds to the justification of output beliefs. However the degree of reliability that any process type has also depends on the environment in which it is used. Lyons did not provide an account of relevant environments types, and consequentially PC cannot fully determine the degree of reliability that any given process type has or in turn the degree of justification resulting beliefs have.

To summarize Lyons' strengths, he accepts the challenge offered by the Generality Problem and provides a successful account of process type individualization that adheres to what externalism's critics demand. PC is therefore an account that is satisfactory in solving the Generality Problem (except for its lack of relevant environmental types) from a neutral standpoint between externalism and internalism. PC's weakness is that it lacks an account of

environmental types, which is needed in order to fully determine relevant process types' reliability.

As Plantinga denies there is any Generality Problem for proper functionalism, he needs to meet only one criterion: (vii) Adequate reason must be given to deny the truth of premises (6) – (9) of the Generality Problem. Plantinga provides a successful argument that proper functionalism avoids the No-Distinction Problem and the Single Case Problem, as I argue in Chapter Three, and is therefore successful in rejecting premises (7) – (9). However, his argument against premise (6), which states that he needs to provide an account of relevant modules, is only satisfactory from an externalist position.

Proper functionalism's strengths are that there does not exist a No-Distinction or Single Case Problem for the theory. Plantinga also provides a completely successful defence from an externalist standpoint that proper functionalism does not need to provide an account of relevant modules in order for the theory to provide epistemic results for beliefs. His weakness is that this argument is not adequate from an internalist or a neutral stance.

Both Lyons and Plantinga fail to fully meet one of their criteria. The weakness for both Lyons and Plantinga concerns determining the reliability of the relevant process type or module. I argue however that because the weakness of Plantinga's argument is greater than the weakness of Lyons' solution, overall Lyons provides a more satisfactory answer than Plantinga does to the Generality Problem.

We must first consider the consequences that Plantinga's argument that proper functionalism does not need to provide an account of relevant modules is only convincing to an externalist. His argument is only successful if externalism is overall a better approach to epistemology than internalism. For the purpose of defending externalism against its critics, Plantinga's argument here is not very influential. My argument restated:

- (46) Plantinga's argument that proper functionalism does not need to provide an account of relevant modules is only convincing from an externalist position.
- (47) An argument that is only convincing from an externalist position is not useful in defending externalism to non-externalists.

Therefore,

- (48) Plantinga's argument that proper functionalism does not need to provide an account of relevant modules is not influential in defending externalism to non-externalists.

For my argument to be successful, Plantinga's argument must be convincing only from an externalist position, in accordance with (46). Plantinga argues that an account of relevant modules is not required in order to determine whether any given belief has warrant because it is enough to assume that the module that produces a given belief is reliable if it seems to us to be true and there is no reason to doubt it. This is in accordance with externalism in general: we do not need to be able to reflect upon the factors that give our beliefs positive epistemic status, it is enough that we have a belief, have no defeaters for that belief, and that all the required external factors have been met for it to have justification or warrant. This is not sufficient for the internalist, according to who only factors internal to the subject's perspective determine the epistemic status of any given belief. It is not enough that the module in question actually is reliable. The internalist demands that in order to know or be justified in believing that a module is reliable, we must be able to reflect upon the factors or evidence that the module really is reliable. This is why Feldman demands evidence of which module(s) is actually involved in producing a belief and its reliability.

Plantinga's argument relies on externalist assumptions that are not held by non-externalists. Because Plantinga's argument is convincing only to the externalist and not the internalist, premise (46) holds. Therefore, conclusion (48) follows that Plantinga's argument that proper functionalism does not need to provide an account of relevant modules is not influential in defending externalism to non-externalists.

Lyons on the other hand aims to meet those requirements that the internalists Conee and Feldman demanded. His method of using cognitive science and psychology in his

account of relevant process types is fully satisfactory to the internalists' demands. His partial solution to the Generality Problem is therefore much more influential in defending externalism than Plantinga's. Even though a complete solution for inferentialist reliabilism still requires an account of environmental types, it seems clear that Lyons' method is a step in the right direction in defending externalism against the Generality Problem.

Lyons' method is also instructive if one wanted to provide a stronger defence of proper functionalism particularly. Where PC identifies relevant process types, one could develop a similar account that identifies relevant modules. Such an account would identify the module(s) responsible in the production of a given belief. In order to determine whether or not a belief has warrant, the module(s) must not only be reliable, but functioning properly in an appropriate environment according to a design plan aimed at the truth. Therefore, as for Lyons, an account of appropriate environment types would also be necessary for a complete solution to the Generality Problem for proper functionalism.

In conclusion, concerning the Generality Problem Lyons provides a stronger defence of inferentialist reliabilism against externalist critics than Plantinga provides for proper functionalism. Therefore, Lyons' solution to the Generality Problem is more satisfactory than Plantinga's.

II. CONCERNING THE NEW EVIL DEMON PROBLEM

In this section I will compare the answers offered by inferentialist reliabilism and proper functionalism to the New Evil Demon Problem and the related Swampman Objection in order to determine whether one theory provides a better solution than the other. The objections purported to show that the conditions reliabilism and proper functionalism claim are necessary for justification/warrant are not necessary. First, I will compare Lyons' and Bergmann's arguments that the Evil New Demon Problem is not successful against their respective theories of justification.

A. The Evil New Demon Problem for Inferentialist Reliabilism and JPF

In Chapter Two I argued that Lyons successfully meets all criteria necessary for a solution to NED for reliabilism. He achieves this for three scenarios by arguing the following. If we are the demon victims, recently transported to the demon world, our processes will still count as reliable and thus produce justified beliefs contra NED. If the victims originated in the demon world, some belief-dependant processes will produce justified beliefs and some only conditionally justified (but categorically unjustified) beliefs, and all belief-independent processes will produce unjustified beliefs. This result is correct because we cannot assume that the victims are anchored to our world and thus cannot claim that they must satisfy the same epistemic function we do. Finally, if we are the demon victims who were transported to the demon world long enough ago that most of our processes are no longer reliable, our beliefs would be in the same epistemic situation as the last scenario. This is the correct result because once our processes are no longer reliable we are no longer anchored to our old world (or at least it is unclear that we are). Therefore I concluded in agreement with Lyons that NED does not show that reliable cognitive processes are not necessary for justified belief.

I also argued that Bergmann's JPF meets all the required criteria in providing a solution for NED against JPF in Chapter Three. The objection concerns the scenario in which the demon creates his victim, and so JPF renders that victim unjustified. Bergmann argued that the victim is not justified because it is not clear that her beliefs are objectively epistemically fitting responses to her evidence. Bergmann supports this by providing a successful argument against Necessity, establishing that the fittingness of unlearned doxastic responses are contingent features. This conclusion is similar to Lyons' argument that two beings that satisfy the same perceptual function do not necessarily satisfy the same epistemic

function. I concluded that NED for JPF does not demonstrate that JPF's conditions are not necessary for justified belief.

Since Lyons and Bergmann both provided solutions to NED that met all required criteria, we should conclude that they are equally satisfactory in defending their theories.

However, if we compare the implications of both successful solutions, one theory seems more convincing than the other. Note first that Lyons and Bergmann have the same type of justification in mind: objective justification that is not sufficient for knowledge when combined with truth and belief. Both successfully argue contra NED that their conditions are necessary for justification. However, their conditions are different from one another. This suggests that both theories could be missing necessary conditions for justification. If all of Lyons' conditions are necessary for justification, Bergmann's theory is missing conditions for justification because it does not include all of Lyons' conditions (and vice-versa).

First, I will consider whether this could be the case for JPF. If reliability is necessary for justification, as Lyons defends, then JPF's conditions for justification are insufficient. For JPF to avoid this suspicion, Bergmann must convince us contra Lyons that reliability is not necessary for justification.

Bergmann explicitly states that JPF differs from reliabilism because according to JPF, reliability is neither necessary nor sufficient for justification.²⁴⁹ He considers this a great virtue of his theory because as a result it avoids NED for reliabilism: For cases where it is us who are the victims, JPF agrees with NED's intuitions that we are justified.²⁵⁰ What are Bergmann's reasons for agreeing with these intuitions and consequently rejecting reliability as a necessary condition for justification? He states that "we are sometimes quite sure that the demon victim is (epistemically) *supposed to* hold a certain perceptual belief in response to

²⁴⁹ Bergmann, *Justification Without Awareness*, 141.

²⁵⁰ *Ibid.*, 139.

some sensory experience (as, for example, when an ordinary *human*, part way through her life, comes under the influence of a deceptive demon).”²⁵¹ He does not provide further reasons for rejecting reliability as a condition outside of presenting analogous scenarios to NED.²⁵² Therefore Bergmann’s position against reliabilism depends on us being sure that we are epistemically supposed to hold our beliefs (and are thus justified) in cases where we are the demon victims.

Lyons’ argument against NED aimed to change the intuition that we as the demon victims are epistemically supposed to hold our beliefs. As noted above, this excludes those few reliable belief-dependant processes that still produce justified beliefs even in these cases, and is only relevant in the case where we are in the demon world long enough that the rest of our processes are no longer reliable. According to JPF it does not matter how long we are in the demon world, our beliefs are still justified. Lyons argued that on the contrary, as soon as our processes are no longer reliable, they no longer produce justified beliefs because we are no longer anchored to our world, that is, we do not satisfy the same epistemic function as before. As I explained in Chapter Two, this argument rests on Lyons’ motor skills analogy to cognitive achievement; just because our perceptual functions would give us justified belief in our old world does not mean our perceptual processes are doing something epistemically right in our current, demon world. I argued that his analogy gives reason to at the very least question whether we are still anchored to our old world. Therefore it does not seem sure that we the demon victims are epistemically *supposed to* hold our beliefs in this case.

Again, Bergmann’s argument that reliability is not a necessary condition for justification depends on us being sure that we are epistemically supposed to hold our beliefs in cases where we are the demon victims. I argued Lyons’ analogy makes us unsure of this. Consequently Bergmann’s argument fails in showing that reliability is not necessary for

²⁵¹ Ibid., 136.

²⁵² Ibid., 134, 137-140.

justification. Because Lyons was successful in arguing for reliability as a necessary condition, this implies that JPF is missing reliability (in the subject's current environment) as a necessary condition for justification.

Now, I will consider whether Bergmann's successful solution to NED for JPF implies that inferentialist reliabilism is missing necessary conditions for justification. There are two conditions of JPF that Bergmann defends against NED: first, that cognitive faculties producing any given belief must be truth-aimed and second, that they must be reliable in the environments for which they were designed. Because our faculties are functioning properly in the NED scenario leveled against JPF, the condition that our faculties must function properly is not relevant here.

Clearly however, Bergmann's defence of these two conditions does not suggest any deficiency for inferentialist reliabilism's conditions. According to inferentialist reliabilism, beliefs must be the result of reliable processes in order to have justification. In order for processes (or cognitive faculties) to be reliable, they must be aimed at the truth. Further, processes must be reliable not only in the environment for which they were 'designed', but also in their current environment. Therefore, the two conditions that Bergmann defends are necessary for justification are already included in inferentialist reliabilism's conditions for justified belief. Bergmann's solution to NED thus does not weaken inferentialist reliabilism in any sense.

In conclusion neither inferentialist reliabilism nor JPF offers a superior solution to NED because they both fully meet their required criteria. However, a comparison of their solutions implies that JPF is missing reliability as a necessary condition for justification. On the other hand, Bergmann's successful defence against NED does not show that inferentialist reliabilism is missing any conditions for justification. Therefore, comparing their solutions'

implications shows that inferentialist reliabilism is a more convincing theory of justification over JPF.

B. The Evil New Demon Problem for Inferentialist Reliabilism and the Swampman Objection for Proper Functionalism

According to the Swampman Objection, because Swampman has no design plan but can nevertheless have warranted beliefs Plantinga's conditions for warrant are not necessary. Here I will compare Plantinga's solution to the Swampman Objection to Lyons' solution to NED in order to determine if one is stronger than the other in defending externalism from this type of objection.

I argued in Chapter Three that Plantinga fully meets the criterion required to solve the Swampman Objection. He does not deny that Swampman can have warranted beliefs. Rather, he argues that if it is possible for Swampman to pop into existence and be capable of belief, then it is possible that Swampman can function properly or improperly and therefore has a design plan. Since Swampman has a design plan, contra the objection, Swampman can have warranted beliefs according to proper functionalism. I therefore concluded in agreement with Plantinga that the Swampman Objection does not show that a design plan is not necessary for warranted belief.

Plantinga and Lyons both provided fully satisfactory solutions to this type of objection, and therefore we should conclude that their theories defend themselves equally.

One may suppose that because Plantinga successfully defends his condition that a design plan is necessary for warrant, then inferentialist reliabilism may be missing this necessary condition. However, inferentialist reliabilism is concerned with a different epistemic merit: justification. Lyons is very clear that his theory is not concerned with

warrant.²⁵³ Although warrant and justification are related, they are not equivalent and thus it is not fair to compare proper functionalism and inferentialist reliabilism in this sense.

However, it is notable that inferentialist reliabilism includes a concept like Plantinga's design plan in its conditions for justification. According to IR: "a basic belief is prima facie justified iff it is the result of a reliable cognitive process."²⁵⁴ The concept similar to a design plan is not explicit in this condition, but in Lyons' definition of a basic belief: "A belief B is basic for S at *t* iff B is the output at *t* of one of S's cognitive systems that... has resulted from learning and innate constraints."²⁵⁵ In order for a belief to be basic the cognitive architecture that produced the belief must have developed through a combination of genetic factors (so that it is innately constrained) and environmental factors (or learning constraints).²⁵⁶ If a reliable process produces such a basic belief, that belief is justified. To say that a cognitive system must result from learning and innate constraints is similar to saying that cognitive faculties must have a design plan. A design plan according to Plantinga, as Chapter Three explicates, is the specifications of how a cognitive faculty functions in achieving some purpose. In considering this description, it seems that the normal way of understanding these specifications are that they are innately constrained. Lyons' learning constraints are also present in Plantinga's concept of a design plan: "the design plan specifies how learning new facts and skills will lead to changes in cognitive reaction."²⁵⁷ Therefore, Lyons' condition that the cognitive system that produces a belief must have resulted from learning and innate constraints in order for that belief to be basic (and if produced by a reliable process, justified) seems to be approximately equivalent to Plantinga's design plan condition for warrant.

²⁵³ Lyons, *Perception and Basic Beliefs*, 127.

²⁵⁴ *Ibid.*, 112.

²⁵⁵ *Ibid.*, 144.

²⁵⁶ *Ibid.*, 95.

²⁵⁷ Plantinga, *Warrant and Proper Function*, 43.

And of course, proper functionalism's conditions for warrant entail reliability. It follows then that proper functionalism and inferentialist reliabilism share all conditions that Plantinga and Lyons defend are necessary for justification and warrant, respectively, against NED/Swampman Objection. As their defences were successful, this implies that learning and innate constraints/design plan and reliability are necessary for justification and warrant. Insofar as justification and warrant are related to one another, where justification is included in the concept of warrant, Lyons' and Plantinga's successes in defending against NED/Swampman Objection mutually support one another.

One final note: Bergmann claims, as per JPF, that the inclusion of reliability is precisely the condition that distinguishes warrant from justification. If this is true, then proper functionalism's inclusion of reliability for warrant does nothing to support Lyons' defence of this condition for justification. However, I concluded above that if we compare Lyons' and Bergmann's solutions to NED, it seems that JPF is missing reliability (in the subject's current environment, not just in the environments for which the subject was designed) as a necessary condition for justification. Therefore, I stand by my conclusion that insofar that justification and warrant are related to one another, Lyons' and Plantinga's solutions to NED/Swampman Objection provide mutual support for inferentialist reliabilism and proper functionalism.

III. CONCERNING THE CLAIRVOYANCE AND MR. TRUETEMP OBEJECTIONS

Here I will compare the answers inferentialist reliabilism and proper functionalism offer to the Clairvoyance and Mr. Truetemp Objections and will determine if one theory provides a stronger solution than the other. These objections claimed to show that the external relationship between a subject's belief and the process or faculties that produced it is not sufficient to determine the epistemic status of that belief.

I argued in Chapter Two that inferentialist reliabilism meets all of the necessary criteria in solving the Clairvoyance and Mr. Truetemp Objections. According to Lyons,

neither Norman's nor Mr. Truetemp's belief is basic because the cognitive systems involved are not innately constrained, and therefore the fact that reliable processes produced their beliefs does not make their beliefs justified. I therefore concluded in agreement with Lyons that these objections do not show that being produced by reliable processes is not sufficient for justified belief.

Plantinga also meets all required criteria in his solution to the Clairvoyance and Mr. Truetemp Objections, as I determined in Chapter Three. He convincingly argues that Norman and Mr. Truetemp have defeaters for their beliefs and are therefore unjustified. Agreeing with Plantinga, I concluded that the objections do not show that the conditions according to proper functionalism are not sufficient for warranted belief.

Lyons and Plantinga are equally successful in defending their theories against the Clairvoyance and Mr. Truetemp Objections because their solutions meet all required criteria.

However, if we compare their solutions to each other, we find that Lyons and Plantinga disagree about the stipulations of the objections. Lyons denies that Norman's and Mr. Truetemp's beliefs are basic, but agrees with the objections that neither have defeaters. Plantinga on the other hand assumes that their beliefs are basic, but asserts contra the objections that they do have defeaters.²⁵⁸ This disagreement suggests that one philosopher may have good reason to reject the approach taken by the other, in turn weakening or even invalidating that solution. In order to determine whether this disagreement results in one solution being stronger than the other, I will first examine Lyons' rejection of Plantinga's approach, and then vice versa.

Lyons argues that if, like Plantinga's approach, we assert that the subjects have defeaters, the objection could be easily modified so that the subjects are so bad at reasoning

²⁵⁸ Plantinga, "Respondeo," 333.

that there are no other processes available to them that could provide them with defeaters.²⁵⁹ Without defeaters, Lyons asserts, they remain intuitively unjustified.²⁶⁰ However, as I argued in Chapter Three, Plantinga successfully demonstrates that Norman (and analogously, Mr. Truetemp) must believe the same sorts of things that we do about the possibility of clairvoyance power in order for his case to seem even initially convincing. If these beliefs are not available to the Norman in the case where it is clear that he has no defeaters, then we lose the intuition that he is unwarranted (or unjustified).²⁶¹ Therefore, Lyons does not provide a satisfactory reason to reject Plantinga's approach where he asserts that the subjects have defeaters.

The other contention Lyons has with a solution like Plantinga's is that it assumes Norman and Mr. Truetemp's beliefs are basic. Lyons argued that their beliefs are not basic according to inferentialist reliabilism, and his solution to the objections depends on this. Plantinga does not explicitly defend the basicity of the subjects' beliefs, but it is clear that he assumes it. Plantinga characterizes basic beliefs as follows: "I do not reason to [basic beliefs] from other propositions, or accept them on the evidential basis of other propositions."²⁶² Norman and Mr. Truetemp's beliefs are basic according to Plantinga's definition. However, their beliefs are only warranted according to proper functionalism if all the other conditions are met. Because Plantinga convincingly argued that the subjects have defeaters, whether or not their beliefs are basic does not change his verdict that they are not warranted, in agreement with the objections' intuitions. Therefore, the fact that Plantinga assumes their beliefs are basic unlike Lyons does not at all harm his solution.

Plantinga could disagree with Lyons and contend that their beliefs are indeed basic. If their beliefs really are basic, then according to inferentialist reliabilism they would be

²⁵⁹ Lyons, *Perception and Basic Beliefs*, 124.

²⁶⁰ *Ibid.*, 124.

²⁶¹ See Chapter Three for full argument.

²⁶² Plantinga, *Warrant and Proper Function*, 61.

justified and Lyons' solution would fail. However, Plantinga does not provide any reason to reject Lyons' characterization that their beliefs are not basic.

Plantinga clearly disagrees with Lyons in stating that Norman and Mr. Truetemp have defeaters. I argued that Plantinga is successful on this point, and that Lyons' argument against such an approach is not successful. Thus it seems that Lyons could have taken this approach in solving the objections. Not taking this approach however does nothing to weaken his solution. Even if the subjects do have defeaters, it remains true that according to inferentialist reliabilism their beliefs are not basic and are therefore unjustified because they lack inferential support. Therefore, Lyons' solution remains solid.

Thus far, a comparison of their solutions has done nothing to show that one theory is weaker than the other. One final consideration may lead one to think that Lyons' solution is at least slightly stronger than Plantinga's. If a counter example analogous to Norman's/Mr. Truetemp's were presented where it seems clear that there are no defeaters, then Lyons' solution would still hold and Plantinga's solution would fail. In fact, Lyons contends that his solution is superior to those like Plantinga's for precisely this reason.²⁶³ However, this consideration is hypothetical at this point. Until such a counterexample is presented, Plantinga's solution remains just as strong as Lyons.

Further, even if such a counterexample were developed, hypothetically Plantinga could present a solution analogous to Lyons'. I argued above that Lyons' condition that the cognitive system that produces a belief must have resulted from learning and innate constraints in order for that belief to be basic (and if produced by a reliable process, justified) is very similar to Plantinga's design plan condition for warrant. Plantinga could, following Lyons, define 'design plan' so that it only refers to original, or as Lyons puts it, 'innate', design. In an analogous Mr. Truetemp case where he has no defeaters for his belief, Plantinga

²⁶³ Lyons, *Perception and Basic Beliefs*, 124.

could assert that Mr. Truetemp's belief is not warranted because the faculty that produced the belief is not part of his original or innate design.

In conclusion, Plantinga and Lyons provide equally successful defences of their theories against the Clairvoyance and Mr. Truetemp Objections. Even though they disagree about the stipulations of the objections, this disagreement does nothing to weaken or invalidate the other solution.

IV. THE MORE PLAUSIBLE EXTERNALIST THEORY

Between Lyons' inferentialist reliabilism and Plantinga's proper functionalism, which provides the more plausible defence of externalism? To answer this question, I will first summarize the conclusions from above:

- (a) Concerning the Generality Problem, Lyons provides a stronger defence of inferentialist reliabilism against externalist critics than Plantinga provides for proper functionalism.
- (b) Concerning NED, Lyons and Bergmann provide equally successful defences of their theories. However comparing their solutions' implications shows that inferentialist reliabilism is a more satisfactory theory of justification than JPF.
- (c) Concerning NED/Swampman Objection, Plantinga and Lyons provide equally successful defences of their theories. Further, insofar as justification and warrant are related to one another, where justification is included in the concept of warrant, the successes of their solutions mutually support one another.
- (d) Concerning the Clairvoyance and Mr. Truetemp Objections, Plantinga and Lyons provide equally successful defences of their theories and their solutions do not suggest that one theory is superior to the other.

The superior theory is the one that best deals with these influential objections against externalism. Beginning with the last conclusion (d), the Clairvoyance and Mr. Truetemp Objections did not demonstrate that one theory is stronger than the other. According to conclusion (c), a comparison of NED for reliabilism to the Swampman objection for proper functionalism did not reveal a superior theory. As (b) states, considering NED for reliabilism and proper functionalism shows that inferentialist reliabilism is a more satisfactory theory of

justification than JPF. One should note that (b) does not demonstrate that inferentialist reliabilism is superior in any way to proper functionalism specifically as a theory of warrant.

However, (a) determines that Lyons provides a stronger defence of inferentialist reliabilism against externalist critics than Plantinga provides for proper functionalism. This does nothing to weaken proper functionalism as a theory of warrant. Rather, for the purpose of defending externalism against critics, Lyons' solution is instructive. As I discuss above, one could develop an analogous account that identifies relevant modules. This would strengthen proper functionalism's defence against the Generality Problem, and would make it a more convincing theory to non-externalists. However, until we have such an account, inferentialist reliabilism remains the stronger theory in defending externalism. Therefore, from (a) – (d), I conclude that inferentialist reliabilism provides a more plausible defence of externalism than proper functionalism does.

CONCLUSION

I. PROPER FUNCTIONALISM AND WARRANT

This thesis has shown that Bergmann's proper function theory of justification is less convincing than inferentialist reliabilism. While JPF was successful against NED as Feldman constructs it for JPF, Lyons' defence against NED strongly suggests that JPF is missing reliability as a necessary condition for justification.

However, Plantinga's proper function theory of warrant remains completely plausible. Even though Plantinga's solution to the Generality Problem does not provide as strong of a defence against externalist critics as Lyons', Lyons' success is instructive and does not weaken proper functionalism as a theory of warrant. The two theories were equally successful in answering the other objections. Thus although Lyons overall provides a more plausible defence of externalism, proper functionalism remains a strong theory of warrant.

In consequence, proper functionalism's success (as well as inferentialist reliabilism's success) encourages the practice of naturalistic epistemology. As I note in the Introduction however, Plantinga argues naturalistic epistemology can only flourish in the context of a supernatural ontology. While I cannot assess such an argument here, the success of proper functionalism promotes a theistic framework for doing epistemology and concerning warrant it demands a satisfactory account of proper function in naturalistic terms from anyone who rejects the former framework.

II. ON THE SUFFICIENCY OF RELIABILITY FOR JUSTIFICATION

This thesis has implications for the debate on the sufficiency of reliability for justification. I argued that Lyons' reliabilist account of justification is more satisfactory than JPF, which rejects both the sufficiency and the necessity of reliability for justification. Therefore, this thesis defends the sufficiency of reliability for justification. However, according to inferentialist reliabilism reliability is only sufficient for the justification of basic

beliefs. Nonbasic beliefs are only justified if they are the result of a reliable inferential process and the inputs to those processes are prima facie justified. Thus this thesis supports the sufficiency of reliability only for basic beliefs as Lyons defines them.

III. COGNITIVE SCIENCE AND COMMON SENSE IN EPISTEMOLOGY

This thesis also contributes to the debate on the role of cognitive science in epistemology. Some epistemologists who even encourage the use of cognitive science only do so with restrictions. For instance, Goldman notes that it is presumably common sense epistemological concepts that we aim to explicate.²⁶⁴ Therefore, he states:

The constraint I propose for philosophical analyses of common-sense, personal-level concepts is that the concepts that enter into any such analyses should be available to common-sense and grasped at the personal level. They should not be technical concepts, confined to the repertoires of specialized experts, and they should not be merely subpersonal concepts, used only by subsystems or sub-mechanisms of whole organisms. Lyons's analysis of... justifiedness pretty clearly violates this constraint.²⁶⁵

Lyons is obviously not concerned with such constraints as he bases his theories of justified belief and cognitive systems (which distinguish basic beliefs from nonbasic beliefs) on what current cognitive science determines about the nature of our minds. In defending his approach, Lyons argues that to insist on using only common sense concepts is to make strong, empirically testable commitments about the nature of the mind.²⁶⁶ These commitments, specifically that introspection and common sense are a good source or even a better source of insight in to the nature of the mind than cognitive science, are problematic

²⁶⁴ Goldman, "Commentary on Jack Lyons's Perception and Basic Beliefs," 460.

²⁶⁵ *Ibid.*, 460.

²⁶⁶ Lyons, *Perception and Basic Beliefs*, xi.

according to findings in cognitive science.²⁶⁷ It seems that Lyons has good reasons to reject the kind of constraints Goldman places on the use of cognitive science. What this thesis specifically contributes is the successes inferentialist reliabilism has as a theory that depends on a cognitive scientific framework against three influential objections to externalism.

Due to the fact that inferentialist reliabilism's theoretical framework just is the conceptual framework of contemporary cognitive science, every successful solution that Lyons provided to the objections supports his use of cognitive science in doing epistemology and defending externalism. Most obviously, his solution to the Generality Problem relied on the psychological criterion for process type individualization and his solution to the Clairvoyance and Mr. Truetemp Objections relied on the classification of basic beliefs and nonbasic beliefs, which supervenes on the distinction between primal cognitive systems and non-primal cognitive systems.

This thesis demonstrated that concerning the Generality Problem, Lyons provides a stronger defence of inferentialist reliabilism against externalist critics than Plantinga provides for proper functionalism. One could provide just as strong of defence of Plantinga's proper functionalism if one relied on cognitive science to develop an account that identifies relevant modules. Therefore, while Plantinga had successes against the objections relying on common sense concepts, Lyons had even greater successes overall against the objections relying on cognitive science.

This thesis therefore recommends the use of technical, cognitive scientific concepts in epistemology and particularly in defending externalism. I argue this on the basis of the success Lyons had against three of the most influential objections to externalism and the answer I give to the main question of this thesis, that inferentialist reliabilism provides a more plausible defence of externalism than proper functionalism does.

²⁶⁷ *Ibid.*, xi.

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