

AN ASYMMETRICAL JUSTIFICATION OF DEDUCTION:
ENDING THE SCEPTICAL DEBATE

by

PATRICK EDWARDS

B.A.(Hon), The University of British Columbia, 2005

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES

(Philosophy)

THE UNIVERSITY OF BRITISH COLUMBIA

April 2007

© Patrick Edwards, 2007

Abstract

The purpose of this paper is to explore the possibility of answering the sceptic's demand for a non-dogmatic beliefs. In order to do justice to the sceptic's demand, we will first take time to carefully develop the strongest sceptical position possible. This will be done by considering a selection of sceptical positions dating from ancient Greece, through the early modern period, to the twentieth-century. We will use the law of non-contradiction both to lend structure to this historical taxonomy, and to act as a measure of sceptical rigour. It will be argued that Arcesilaus's scepticism marks the closest approximation of the sceptical ideal, yet, he, too, remains dogmatic to some extent.

The twentieth-century discussion will focus on Susan Haack's investigation into the justification of deduction. It will be argued that her treatment of the justifications of deduction and induction as symmetrical is misguided: there is an asymmetry between the two justifications. Next, it will be shown that this asymmetry results from the permissibility of a circular justification of deduction. We will examine the implications of such a circular justification and how they relate to the sceptical debate. Ultimately, it will be shown that the sceptic's demand for justification without dogmatic beliefs is itself dogmatic and circular. Thus, it will be shown that the sceptic need not be answered for the plain fact that no such non-dogmatic sceptic could exist.

TABLE OF CONTENTS

Abstract	ii
Table of Contents	iii
Acknowledgements	iv
Introduction	1
Some Preliminaries	12
CHAPTER I Groundwork	21
CHAPTER II Goodman, Haack, and Asymmetry	47
CHAPTER III A Circular Justification of Deduction to Answer the Sceptic	68
Bibliography	75

Acknowledgements

I would like to thank Chris Stephens and Patrick Rysiew for their help in preparing this thesis. I would also like to thank my parents for the countless hours they devoted to my education.

Introduction

Scepticism has been around a long time. Why has it remained such a difficult and persistent problem in philosophy? One reason might be that criticisms of scepticism are ultimately of a straw man nature. Negative dogmatists, who argue that one cannot know anything at all, are often the straw man that anti-sceptical debates engage. Dogmatic philosophy is characterized by a reliance on some set of assumptions that are taken to be acceptable without support, and often without any promise of ever being supported. Negative dogmatists make up one type of dogmatic philosophy. Although their position is so strong that it undermines itself, rather than suspending judgement, they maintain that knowledge is not possible. That is, in contrast with other sceptics who choose to remain undecided, negative dogmatists are sure that there is no possibility of knowledge. One can see the immediate problem with the negative dogmatist account: if knowledge is impossible, how can one *know* that knowledge is impossible. For this reason, the negative dogmatist account presents one of the more often attacked straw man scepticisms.

However, for this thesis to present a fair treatment of scepticism, a more sophisticated sceptic will be described and challenged, one who is free of dogmatic claims. For this reason the first chapter will aim to develop the most robust and powerful scepticism possible. In fact, this scepticism will call into question the veracity of even such sacred rules as the law of non-contradiction. It will be shown

that the Hellenistic philosopher Arcesilaus, though rarely given such credit, may have been the closest embodiment of the ideal sceptic. However, it will also be shown that he too fell short of the sceptical ideal that must be confronted in order to end the sceptical debate.

Of course, the notion of “the sceptical debate” could use some brief unpacking as well. There is a multitude of sceptical debates, including scepticism about the existence of an external world (one might be nothing more than a brain in a vat), scepticism about knowledge and whether one can have it, or, alternatively, scepticism about justification and what justification amounts to. Indeed, some maintain that justification is not even a necessary condition for knowledge, so long as one’s beliefs are in fact true in the real world. The focus of this essay will be justification.

However, there remain alternative positions regarding justification in general, whether it is necessary for knowledge and what it consists in. Thomas Reid (1983), for instance, would maintain that we are justified in believing there is an external world because that is the common sense view, the only one that coincides with our very constitution. Some philosophers, such as Alvin Goldman (1976) and Fred Dretske (1970), have even suggested that one can have knowledge without justification. Both profess different theories on the matter, but what is worth considering is that there are alternatives to the common belief that one’s beliefs must be justified in order to have knowledge. Again, this paper will be

limited to discussion of justification, not knowledge. The multitude of positions concerning the importance of justification and what it amounts to is too far reaching to be considered in additional detail here, but one ought to bear in mind that the issue is still contested. In this essay, I'm going to focus on debates about justification, whatever its relationship to knowledge.

In any case, for the sake of clarity, the sceptical debate considered here will be restricted to scepticism about justification (hereafter referred to simply as "the sceptical debate"), and whether one can be justified in accepting anything as knowledge. Specifically, this essay will focus to some extent on the law of non-contradiction, which one might see as having an integral role in the possibility of having justification. In addition, the debate presented here will consider whether the justification of deduction presents the sceptic with a more convincing and robust scepticism, or whether it ends the sceptical debate.

Scepticism has been championed by many of the most revered philosophers in the history of western thought, but it appears that the least dogmatic of them all comes from the Hellenistic philosopher Arcesilaus. One might wonder then, how scepticism failed to win the hearts and minds of philosophers in the many generations since its inception. One might suggest that this is simply because Arcesilaus and his Academic cohort Carneades opted against recording their ideas, but there were some who recorded their ideas, such as their near-contemporary Diogenes Laertius, whose *Lives of Eminent Philosophers* survives to this day.

Alternatively, some maintain that scepticism has not been accepted because one cannot live a sceptical life. Some take this stand because someone who doubts the appearances he is presented with is sure to live a short life; unless one's entourage, like Pyrrho's did for him, prevents one from wandering off cliffs (Long & Sedley, p. 13). Being a sceptic is a problem for those who confuse their intellectual lives with their daily lives, as Hume suggests (see below). A more sophisticated position is presented by Myles Burnyeat in his seminal work "Can the Sceptic Live His Scepticism." Burnyeat notes that the sceptic, at least the ancient one, is sceptical of the underlying truths of the world, rather than the appearances with which one is presented (Burnyeat (1997), p. 31). Accordingly, scepticism would not hinder one's acting on appearances, but it would prevent one from thinking one knows anything of the "real" world underlying those potentially false appearances. Sextus would, when presented with conflicting appearances, suspend judgement and say "I determine nothing". That is, he would not go so far as to suggest his senses were deceiving him, but he would not assent to anything he sensed either. Even the notion of "I determine nothing" found in Sextus is nothing more than a record of the way things appear, not the way things supposedly are. The problem, in Burnyeat's view, is that when one removes the external world one removes objectivity (Burnyeat (1997), p. 31). This, in turn, makes all of one's "beliefs" subjective and not superior to anyone else's. Therefore, Burnyeat says, one detaches oneself from one's own mind, or one's own self, since one's own view

is no longer superior to anyone else's (Burnyeat (1997), p. 31). Furthermore, this self-detachment is not coherent and, thus, not livable (Burnyeat (1997), p. 32).

Nevertheless, while Burnyeat's position is intriguing, he fails to show that there is a problem with Hume's notion of mitigated scepticism (see below), or even that one cannot live an incoherent life. One might say that schizophrenics live incredibly incoherent lives, and sometimes even produce very coherent work or products (e.g. John Nash, who published many papers after being diagnosed with schizophrenia). Thus, it seems one can live without coherence, thereby showing Burnyeat's attempt to discourage scepticism to be unpersuasive.¹

The failing of earlier forms of scepticism to win over philosophers forces one to consider the possibility of an even more compelling scepticism, one that will not be as easily dismissed. Many of the earlier forms of scepticism considered by philosophers were merely straw man versions of the more extreme and coherent scepticism we will endeavour to develop here. The scepticism that will be developed here will be free of all dogma, for that is the sceptical ideal.

One might also consider the prominence of those who oppose scepticism. The study of geometrical deduction, perhaps being propounded by philosophers as

¹ In fairness to Burnyeat, it is difficult to say to what extent he sees his notion of coherence. In some sense, it seems everyone's set of beliefs will likely be inconsistent in at least one case, likely many. This is simply a product of how many beliefs one has. However, it seems from the overall spirit of Burnyeat's article that he has the stronger notion of total incoherence in mind. He means an incoherence in the sense that one would dissociate oneself from one's thinking self, so as to not be personally accountable for one's own beliefs (Burnyeat (1997), p. 57). How this plays out with regards to my objection to his position is tangential for further discussion, but the possible discrepancy needed noting.

early as Thales (640-546 BC), but more likely owing its popularity to the Pythagoreans about a century later (Kneale, p. 3), seems to be the root of non-sceptical logical thought. As Kneale maintains (Kneale, p. 3), this coincided with the dawn of intellectualism, the valuing of thought over previously prized capacities such as strength.

Many ancient philosophers continued to prize this deductive method, including Socrates, Plato, and eventually Aristotle. Indeed, it is Aristotle's six-book *Organon* that many cite when crediting Aristotle as the father of formal logic. In these books, particularly the *Prior Analytics*, Aristotle develops the tradition of replacing propositions with variables. However, Aristotle was not the only logician of ancient antiquity. The Megarian school, which began in Plato's time, made several important contributions to the development of logic, including the invention of several paradoxes, among them the infamous liar paradox (Kneale, p. 114). More importantly however, the Megarian logic was the starting point for the Stoic logician Chrysippus. Chrysippus was a near contemporary of Zeno, in whose work conditional statements are frequent, so it is not surprising that his most significant contribution would be in the form of adding conditionals to the Megarian logic (Kneale, p. 114-5). Thus, two competing schools form the beginning in a long line of influential opponents to scepticism, though their teachings would go unread for quite some time to follow.

Remarkably, Aristotle's texts received little attention until they were revived by the eighth century logician Alcuin, with Stoic logic being revived even later. These texts were later revised in light of information gleaned from other Aristotelian texts, preserved in the Arab world for almost five centuries until they were reintroduced in Europe by the Arab logician Avicenna (979-1037). Avicenna would have a great influence on the thirteenth century logician William Ockham, but it was another thirteenth century logician who can likely take the most credit for the spread of logic throughout the Christian world. Peter of Spain, who would become Pope John XXI, wrote *the* text on logic that would be widely used until the seventeenth century, after going through a remarkable 166 print editions (Kneale, p. 234). One might venture to say that the popularity of logic today owes a great deal to the rise of Christianity and the reverence given to its Popes.

However, scepticism never really went away. Rather, sceptics were somewhat confined to the backroom, or silenced by the church. In fact, the threat posed by opposing church doctrine was enough for many prominent philosophers, perhaps even Descartes, to lessen the scepticism they wished to present. Bernard Williams and Thomas Reid (Reid (1983), p. 447) both maintain that Descartes never really doubted his own existence. As Williams observes, Descartes himself wrote that "no one of sound mind ever seriously doubted" the existence of an external world (Williams, p. 341). Nevertheless, by the nineteenth century, some philosophers such as Hegel began to openly attack the accepted logic of Aristotle. By the twentieth century logic was fair game and some philosophers even began to

question the very sanctity of those deductive principles first developed for geometrical observation. The history of sceptical debate presented here will focus on the law of non-contradiction in order to lend structure to the many and varied positions that will be addressed. Moreover, it is worth remarking that the goal of this historical account is to develop a robust scepticism, rather than give historical reasons for accepting scepticism.

The second chapter of this essay will focus on the justification of deduction in particular. The focus will be on Susan Haack's essay "The Justification of Deduction", as well as some remarks made by Nelson Goodman in his seminal *Fact, Fiction, and Forecast*. From the writings of these two philosophers we will develop the notion of an asymmetry between the justifications of deduction and induction.

Haack's essay finds its roots in David Hume's argument against the justification of induction. Haack maintains that the justification of induction is analogous to the justification of deduction. Accordingly, when one realizes the symmetry between the two justifications, it becomes apparent that deduction, like induction, is so far without justification. As Haack notes, this can be taken two ways: "pessimistically, as that deduction is no less in need of justification than induction; or, optimistically, as that induction is in no more need of justification than deduction" (Haack (1976), p. 119). As will become clear as this essay

develops, I am more inclined to take the optimistic side. But to arrive at such an optimistic assessment, we need to investigate the pessimistic.

On the other hand, Goodman maintains that deduction is justified. However, for Goodman this justification is circular, although in a virtuous way. While Goodman does not endorse circular justifications *tout court*, he seems to believe that the circularity inherent in deduction itself is reason enough to allow it the privilege of being circularly justified.

The position presented in this chapter will defend Goodman's notion of justifying deduction circularly, but not for reasons he likely intended. Instead, the circular justification of deduction will be defended by an appeal to an asymmetry (contra Haack) between the justifications of deduction and induction. This asymmetry will arise from the circular nature of deduction, which seems conducive to a circular justification, while induction is not at all circular. Moreover, it will be shown that the very considerations that would encourage one to oppose a circular justification of deduction are themselves circular. Thus, this chapter will end by concluding that the asymmetry between the justifications of induction and deduction allows for a circular justification of deduction, but not induction.

Not surprisingly, the conclusion reached in chapter two will have important implications in the sceptical debate, and this will be the theme of chapter three. Chapter three will return to the sceptical debate, but with the promise of a

virtuously circular justification of deduction. It will be argued that the sceptic's demand for a non-circular justification is itself a clear case of circular dogmatism. While the sceptic may be able to live his sceptical life, it will be a life lived dogmatically. Realizing that the sceptic cannot present his own position without some circular reasoning of his own will lend additional support to the notion that some cases of circularity are permissible, as well as provide an escape from the sceptical labyrinth of the infinite regress. For once the sceptic is shown to dogmatically demand non-circular justifications, one is more inclined to attack the sceptic on terms other than those put forth by the sceptic. Put another way, the sceptical debate will be revealed to be one that finds its motivation in the primitive notion of forbidding circular justification. However, once such justifications are shown to be acceptable, the sceptic is left without a leg to stand on.

Getting past traditional worries about circular justification opens the door to new solutions to the infinite regress problem. The infinite regress problem arises when one requires justification for each and every conclusion one asserts, or any premise used in the original support of that conclusion. However, those premises then need support of their own, and so will the premises supporting them. As a result, an infinite regress develops, one that leaves the argument without a justified premise. Indeed, it will be shown that the infinite regress is problematic only under the sceptic's dogmatic belief that it must be ended. Instead, we will see that the sceptical debate about justification ends with the observation that one cannot really

enter into the sceptical debate, for there is no non-dogmatic sceptic with whom one can quarrel.

Some Preliminaries

This essay will benefit from a brief preliminary discussion of three important topics. First, since the paper will deal extensively with problems of circularity, it will be useful to set the stage with a brief discussion of the problems that have been traditionally associated with circular reasoning: the independence and discriminate requirements. Second, because this paper will also make use of the distinction between induction and deduction, it will be helpful to make clear just what is meant by those terms. Third, the twentieth-century distinction between premise- and rule-circularity will play an important role when the discussion turns to Goodman's notion of virtuous circularity.

Given that this paper will consider the possibility of an acceptable circular justification of deduction, it will be useful to address the usual reasons for not accepting circular justifications. Generally speaking, circular justifications violate two distinct requirements. These requirements are typically regarded as necessary conditions that must be met if an argument is going to support its conclusion. Frederick Schmitt describes these as the *Independence* and *Discriminate* requirements (Schmitt, p. 382-3). Paul Boghossian and Crispin Wright refer to them as the problems of "begging the question" and of "bad company", respectively (Boghossian, p. 18). Varying names aside, the requirements are essentially the same.

First, the independence requirement insists that an argument can only successfully support its conclusion when that support operates independently of any other support one might have for the conclusion (Schmitt, p. 382). In other words, the conclusion in a circular argument is not supported by premises that have their support independently of any other support the conclusion has, since the conclusion and premise are the same. For example, if one were to argue that a witness is telling the truth because the witness said he was, one cannot appeal to the premise for any additional support for the conclusion, since it is for the same reason that one would allow the premise that one would allow the conclusion, that the witness tells the truth. Alternatively, if the premise were that the witness had been somehow confirmed to be a truth teller, perhaps by a lie-detecting machine, the independence requirement would be met, since that premise is supported by the reliability of the machine and not just the honesty of the witness. Circular arguments fail to meet this requirement because the conclusion must have support prior to reaching the conclusion in order to motivate its use as a premise in that argument. Without the additional support, one has no reason to accept either the premise or, in the case of circular arguments, the conclusion one intends to “follow” from that premise.

Second, the discriminate requirement says that an argument form which would support any conclusion whatever cannot support its own conclusion (Schmitt, p. 383). (This requirement refers to an argument’s syntactic *form* only, since, in a semantic sense, a circular argument could quite easily “support” only the conclusion reached). In other words, if one could use circular arguments to support

any and all conclusions, one would have no reason for taking one argument as more supportive than another, particularly with respect to two contradictory conclusions. Unfortunately, circular arguments allow for just that. One can use them to “support” any conclusion, as well as the negations of those conclusions. In which case, they lose their ability to offer support.

Meeting both requirements is crucial. An argument or justification that does not offer any support for its conclusion cannot properly be seen as an argument or justification at all. Thus, if one is to show that deduction is justified by a circular argument, one will first have to contend with these two requirements.

Next, it will be a good idea to make clear what the terms deduction and induction will refer to in this essay. There is some debate over whether abduction (from the nineteenth- and early twentieth-century philosopher Peirce) is a third form of argument, apart from induction, and it is for this reason that the issue must be addressed. Abduction takes a given sample, but rather than predict future occurrences only, it makes a claim as to why the sample occurred (which has some predictive aspect as well) *via* inference to the best explanation. The distinction is useful, but not in the present argument. For this essay, the line will be drawn between two possible argument forms: deduction and induction. These can be seen as two types of argument, as has been traditionally the case, or as two degrees of argumentative strength, a view advanced by Brian Skyrms. Both ways of

envisioning the distinction will suffice for this essay, although the former seems to map onto the literature involved in this essay more easily.

“Deduction” will stand for arguments that are explicative, or non-ampliative, in the sense that the conclusion contains nothing other than what is already contained in the premises, although an epistemically fruitful conclusion might be derived or explicated. “Induction” will stand for arguments that are ampliative, or non-explicative. Thus, Induction will encompass both traditional predictive forms of induction and the more recently noted forms of induction, such as abduction, since these all make claims that extend beyond what is contained in the premises. This dichotomy will be particularly important with respect to Hume’s problem of induction, and Haack’s position that there is an analogous problem for deduction. It should also be noted that, in the case of Hume’s dilemma, abduction would suffer the same shortcomings Hume ascribes to induction.

As for circularity, we find that it is these days seen to be of two distinct types. Richard Braithwaite is sometimes credited with making the distinction between premise- and rule-circularity. Premise-circularity occurs when a conclusion appears as an explicit premise, or is contained in the meaning of those premises. That is, contained in the sense that to explicitly say that something is green also contains the information that it is not blue. This is the most common form of circularity. From the premise *all observed A’s are B*, one infers *all observed A’s are B*; a clear case of circularity. Rule-circularity arises when a rule

of inference is “justified” by appealing to that very rule. For instance, one might seek to justify induction by asserting as a premise *induction has been reliable in the past*, then, by inductive inference, concluding *induction will be reliable in the future*. There is a clear difference between premise and rule circularity. In the case of rule-circularity, the premise is not merely repeated in the conclusion, and it involves the justification of a rule of inference. This justification becomes circular because it must assume that the rule of inference is justified in order to infer (*via* that very same rule) the conclusion that the rule is justified.

While some are want to draw attention to the difference between rule and premise circularity, distinctions are a dime a dozen. One can distinguish between syllogisms involving Greeks and syllogisms involving fish. Clearly there is a difference between *Socrates lives in Athens and Athens is in Greece, therefore Socrates lives in Greece* and *all fish live in the sea, no birds live in the sea, therefore no birds are fish*, but this distinction is next to useless. What matters is whether this distinction has any value or use in the discussion at hand.

Many believe that Lewis Carroll’s popular “What the Tortoise said to Achilles” was intended by Carroll to show that the distinction between premise- and rule-circularity is important (so perhaps he deserves the credit given to Braithwaite). In this article, the tortoise repeatedly insists that the rule of inference needed to go from *if p, then q* and *p*, to the conclusion *q* should be listed as a premise as well, for one would not arrive at that conclusion unless one were to

assume the rule as well. Carroll wrote to the editor of *Mind*, "My paradox turns on the fact that in an Hypothetical, the truth of the Protasis [the antecedent], the truth of the Apodosis [the consequent], and the *validity of the sequence* are three distinct propositions." (Dogson, p. 472). One might read Carroll as conceiving of the entire argument as a conditional, rather than the conditional in the premise. If this interpretation is the case, it seems Carroll meant to show that treating a rule of inference as a premise would lead to an infinite regress; so, one ought not to do so.

Notably, leading to a regress is not a unique feature of rule-circularity, it results from premise-circularity as well. For just as one would demand a justification for the rule of inference, one would also demand a justification for the premises of an argument, even (or especially) when they are repeated in the conclusion. Carroll has shown, in a comical way, that the prospect of conclusively justifying deductive rules of inference seems an impossible task. In fact, Haack took her own paper to be foreshadowed by Carroll's short article (Haack (1976), p. 119).

Ultimately, there seems no obvious reason to accept the notion that rule-circularity ought to be treated any differently than premise-circularity. The distinction is clear, but, at least for present purposes, of no use. The only real difference is that the rule-circular argument is enthymematic: were it unpacked and made completely explicit, it would look like a regular premise-circular argument. We might restate the rule-circular justification of induction as follows. First, we

retain the original premise *induction has been reliable in the past*. Next, we unpack the premise that stands for assuming the rule of induction itself: *if nature is uniform, then the future will resemble the past; nature is uniform; therefore the future will resemble the past*. These two premises give us the conclusion in our original rule-circular argument *induction will be reliable in the future*, but that is wholly contained in the premises. As a result, one can see that the rule-circular justification of induction is no more than a shorthand version of the premise-circular justification of induction.

Defenders of the distinction between premise- and rule-circularity might try to counter this move by noting that the unpacked rule-circular argument does not capture what is essential to the original argument. The unpacked version, the defender will argue, does not remain exclusively inductive. Instead, the unpacked version becomes a deductive argument. In other words, the original rule-circular argument presented above appears to be entirely dependent on induction, whereas the unpacked version makes use of deductive inferences.

However, this counterargument assumes that the original version was not essentially deductive, which is just what the unpacked version reveals it to have been. Premise-circular arguments all rely on deductive inferences to reach the conclusion, even when the premises involved concern inductive inferences. Arguably, however, rather than effectively counter the unpacking of the rule-circular argument, this counterargument elucidates the close connection between

deductive inferences and circularity: circular arguments are always deductive *and* deductive arguments are always circular, the argument types are coextensive.

Indeed, Brian Skyrms believes that inductive and deductive arguments can be defined solely in terms of “the strength of the evidential link between the premises and conclusions” (Skyrms, p. 11). All arguments boil down to a conclusion supported by some number of premises. Deductive arguments are the strongest available, followed by a range of inductive arguments from strong to weak, and ultimately, at the bottom of the scale, arguments that are just useless. As Skyrms puts it, “Deductive and inductive logic are not distinguished by the different types of arguments with which they deal but by the different standards against which we evaluate them” (Skyrms, p. 13).

According to Skyrms, when an argument is circular it is as strong as it can be, for it guarantees a true conclusion if that conclusion follows from true premises. Thus, it seems all truly circular arguments are deductive; or, all circular arguments are the strongest possible. Conversely, inductive arguments go beyond what is contained in their premises, and, thus, cannot be circular. As a result, the counterargument against the unpacked version of rule-circularity fails and it is clear that rule-circularity is really an enthymematic premise-circularity. Thus, the term *rule-circular* will have no significance in this essay beyond referring to a circular argument involving a rule of inference. In other words, it will have no special

significance and will be analogous to a possible term such as *Socrates-circular*, where the circularity involved concerns Socrates.

Chapter 1: Groundwork

This chapter will recount a brief history, though not always in chronological order, of the sceptical debate from the ancient Greeks to present day. Once again, I will remind the reader that by “sceptical debate” I mean to consider sceptical debates concerning the possibility of justification. In order to lend structure to the multitude of sceptical positions, I’ll focus on the law of non-contradiction. Moreover, it is also worth remarking that this essay is concerned with the law of non-contradiction in the logical sense, as opposed to (*e.g.*) the metaphysical sense, where one is concerned with whether there really are true contradictions in the world. The metaphysical sense is an interesting topic, and much has been written on it of late, particularly by Graham Priest and other Dialetheists who maintain that there are true contradictions in the world.² However, the present discussion will have to restrict itself to discussion of the logical sense, since any other sense is too much of a digression (of course, dialetheists have a logical sense too, a logic that permits true contradictions, paraconsistent logic). Whether any true contradictions exist is not the focus of this essay; the question is whether there is good reason for accepting the logical principle that there are no true contradictions, even if there in fact are none. We will soon see that even the

² For instance, a dialetheist might suggest that large databases provide true contradictions since they produce accurate results (for the most part), even when they contain contradictory information. The DMV database might list one person as being both dead and alive, yet contain accurate information on multitudes of others. Another example comes from eye-witness testimony, where many testimonies given to the police are not consistent, some even contradict each other, but the police can still arrive at a consistent, non-contradictory conclusion from them.

most visionary sceptics have found it difficult to be completely non-dogmatic, particularly with respect to the law of non-contradiction.

One can see how Aristotle might respond to a sceptic by considering his position regarding the law of non-contradiction (LNC). For Aristotle, LNC is so basic that one cannot offer an argument to support it. LNC, for Aristotle, is the foundation of all other first principles, it is “by nature the principle of all the other axioms as well” (*Meta.* IV 3, 1005b33).³ Without LNC, Aristotle maintains, no other first principle, nor any “principle” whatever, would be possible. Indeed, it seems difficult to imagine another principle making sense without LNC. For example, the law of double negation, where *not-not-p* is the same as *p*, would be non-sensical if *p* could also be *not-p* at the same time.⁴ Thus, one can see how important it will be to establish LNC first, before all other principles or rules of reason. Accordingly, it seems that Aristotle opposes the traditional sceptical premise that all beliefs require justification. For Aristotle, beliefs in such things as the veracity of LNC can be accepted without justification from additional beliefs; LNC is somehow self-justifying.

Aristotle tries to avoid presenting a justification for LNC, which would presumably require its own further justification, by maintaining that the onus is simply on those who believe LNC is false to demonstrate the truth of their claim. In

³ Indeed, Thomas Reid also maintains that LNC (“That every proposition is either true or false”) is among the “first principles of necessary truths” (Reid (1983), p. 452).

⁴ It is worth mentioning that some philosophers, such as intuitionists, do not accept double negation. This does not take away from the point made, since these folks also have LNC. The point is that it is hard to imagine someone maintaining double negation without LNC, not *vice versa*.

other words, as defendants in legal trials are today, LNC is presumed true until it is proven false, or guilty. Aristotle then observes that one cannot present a convincing case against the adoption of LNC without making use of LNC in the presentation of that case. For Aristotle, it is as though the prosecution were relying on the testimony of the defendant in order to prove their case when the case itself is a charge of perjury or fraud: “Ladies and gentlemen of the jury, we know the defendant is a liar, he just assured us so.” For Aristotle, this method does not constitute a proof of reason in the traditional sense, as that would beg the question; instead, Aristotle believes this is a “negative” proof, a proof supported by the fact that one cannot consistently deny it (*Meta.* IV 4, 1006a18).

Nonetheless, it is worth considering that Aristotle’s notion of putting the burden of proof on the denier of LNC seems somewhat questionable in its own right. The idea of a burden of proof makes sense when one must make some decision, such as one must in a court of law. Yet, while Aristotle, as a prolific writer and philosopher, might be engaged in the business of convincing others, there is no reason to insist that one who denies LNC is of the same mind. In fact, one might simply believe LNC has yet to be established and continue to suspend judgement on the matter—in this case, presuming LNC false until it is proven true.

Unfortunately, Aristotle’s defense of LNC is arguably question-begging itself. In one sense, as Łukasiewicz notes, this “negative” proof of Aristotle’s is simply a “positive” proof in the form of a *reductio ad absurdum* (Łukasiewicz

(1975), p. 55). To summarize, it seems one must adopt LNC or not speak at all. For Aristotle, “it is possible to demonstrate by refutation that [the denial of LNC] is impossible, if only the disputant speaks of something. [...] for insofar as he does not engage in any rational discourse, he is like a plant” (*Meta.* IV 4, 1006a11-16). While Aristotle believes this is “a refutation, not a demonstration” (*Meta.* IV 4, 1006a17), Łukasiewicz maintains that this distinction is entirely empty (Łukasiewicz (1975), p. 55). As Łukasiewicz observes, Aristotle in fact tries to prove LNC in two ways, by *reductio* and by *elenchus* (“an ordinary syllogism differing from a proper proof only in the extrinsic fact that it is used as a means of refutation” (Łukasiewicz (1975), p. 55)). Since those who oppose LNC do so verbally, it seems their opposition leads them to an absurdity in the form of a contradiction: they both tacitly adopt LNC and deny it. Accordingly, it seems that Aristotle is advancing an argument to support LNC, but this leaves him without the foundation he desires, for his defense of LNC now requires its own justification.

Moreover, there appears to be an additional way in which Aristotle’s defense is question-begging. His *reductio ad absurdum* argument is convincing only insofar as there is a contradiction in the position of those who oppose LNC (that is, they both oppose and accept it). However, it is whether such contradictions are acceptable that is at issue. A denier of LNC would not be swayed by Aristotle’s observation that denying LNC requires one to accept contradictory claims for the simple reason that they are not opposed to adopting contradictions. As a result, it

seems Aristotle's position is only persuasive to those who already agree with his LNC.⁵

Altogether, it seems that Aristotle's defense of LNC is unsuccessful in so far as it is question-begging. Aristotle fails to support his claim that LNC is an acceptable foundational belief. For this reason, Aristotle has not answered the sceptic.

One might be curious to see whether any philosopher has put forth a coherent or convincing denial of LNC in the past. Indeed, the first to come to mind is possibly Sextus Empiricus, the well-known Hellenistic sceptic. Sextus certainly describes a well-crafted sceptical position, but it is likely not his own. Like Jonathan Barnes, I think Sextus may have been more of a compiler than a philosopher in his own right (Annas & Barnes (2000), p. xv).⁶ Sextus appears to have combined the ten modes of Aenesidemus and the five modes of Agrippa. Agrippa, though rarely given such credit, seems to have reshaped Aenesidemus's modes into the most elegant of the Pyrrhonian modes. According to Barnes, Sextus's "use of the Five [...] is immeasurably greater than his use of the Ten. As for their philosophical power and significance, there is no comparison: the Ten are puerile, the Five profound" (Annas & Barnes (2000), p. xviii).

⁵ Indeed, some commentators, such as Richard Bett, maintain that Aristotle is only presenting his position to those who already accept LNC, rather than trying to convince those who do not (Bett, p. 369).

⁶ In fact, Long and Sedley note that "Sextus himself elsewhere (*Against the Professors* 7.345) names Aenesidemus as their [the ten modes'] author" (Long and Sedley, p. 485).

These modes present one with a series of observations that would cause one to doubt whether one's observations are correct, thereby leading one to suspend judgment on all matters. What the ten modes share is nicely summarized by Long and Sedley: "If there is a single unifying theme in the modes, it is perhaps that of inarbitrariness. There is not, and could not be, a privileged viewpoint from which any case of conflict could be resolved" (Long & Sedley, p. 485). For example, in his *Outlines of Pyrrhonism*, Sextus observes that "The same tower seems round from a distance but square from nearby" (Long & Sedley, p. 473). From this Sextus suggests that one ought suspend judgement on all appearances, since it is clear that they are not always accurate.

Nevertheless, while Sextus describes an appealing form of scepticism, it is not entirely without dogmatism of its own. For one, LNC is never questioned by Sextus. Indeed, his position would no longer make sense if he were to abandon LNC as well, for the idea of seeing a tower versus not seeing a tower would no longer present the dichotomy his position requires. While, as Barnes points out, Sextus may merely be a compiler, thus dissociating himself from the position he presents and allowing one to say that Sextus is not committed to LNC *himself*, one can see that Sextus seems to accept and live by the ideas presented in his writings. Accordingly, there does not appear to be any support for taking Sextus as a denier of LNC.

However, one might find an adequate denial of LNC in the philosophy of Arcesilaus. In order to see Arcesilaus in this light, one would have to adopt the plausible position put forth by Pierre Couissin. Couissin notes that Arcesilaus never actually wrote anything; his positions were compiled and documented by his followers. For Couissin, this is not a chance occurrence, or merely a trend of Arcesilaus's time; rather, Arcesilaus intends to avoid being dogmatic by avoiding the practice of saying anything at all that might be seen as his position. In this sense, Arcesilaus is trying to take on the position Aristotle's *reductio* describes as absurd; that is, he will not speak at all, in that he does not put forth a position of his own.

Couissin begins his account with the observation that Arcesilaus and the Academy in the years that followed were too Stoic for the Academic-turned-Pyrrhonist, Aenesidemus (who revived the Pyrrhonist tradition in the 1st century BC) (Couissin, p. 31). Aenesidemus left the Academy because Arcesilaus's successors began to adopt some of the Stoic doctrines the Academy once opposed (Long & Sedley, p. 465). However, according to Couissin, "too often, people have attributed to them [the Academics under Arcesilaus], as doctrines they actually held, remarks or arguments that were really no more than polemic. [...] They borrowed from their opponents the material for their counterattacks" (Couissin, p. 32). Thus, for Couissin, Arcesilaus's position is "a *reductio ad absurdum* of the Stoic theory of knowledge" (Couissin, p. 34). As Plutarch relates, Colotes "says that Arcesilaus had nothing of his own to say but made uneducated people think and

believe that he did" (Long & Sedley, p. 440). Similarly, Cicero tells us that Socrates (famed teacher to Plato, founder of the Academy) "was in the habit of drawing forth the opinions of those with whom he was arguing, in order to state his own view as a response to their answers. This process was not kept up by his successors; but Arcesilaus revived it and prescribed that those who wanted to listen to him should not ask him questions but state their own opinions" (Long & Sedley, p. 441). In addition, Long and Sedley suggest that "there is no evidence from any unbiased source that Arcesilaus was a doctrinaire Platonist, and plenty that he was not" (Long & Sedley, p. 446). Thus, Arcesilaus seems to have espoused neither the dogmatism of the Academy, nor that of the Stoics. Accordingly, Couissin's position seems well supported, both by historical texts from the Hellenistic period, as well as Couissin's own presentation of his position.

Undeniably, Arcesilaus seems to have devoted himself to opposing the Stoics of his time.⁷ In order to oppose the Stoics, however, Arcesilaus does not suggest or condone any alternative. Instead, Arcesilaus merely adopts the Stoic position for the sake of argument, and shows that the position cannot be maintained. In other words, Arcesilaus does not oppose the Stoic doctrine in favour of some other view he supports; rather, he merely considers the Stoic doctrine in order to investigate it alone, without advancing his own position as an alternative.

⁷ Broad categories like "Stoic" and "Stoicism" are likely to confuse many conflicting views within those traditional groups. Unfortunately, a taxonomy of which Stoics said what is beyond the scope of this essay; nevertheless, the reader should be aware of this, often false, generalization. Nonetheless, Michael Frede believes the position attacked by Arcesilaus must have been Zeno's "for chronological reasons" (Frede, p. 299). In fact, Cicero says "It was with Zeno, so we heard, that Arcesilaus began his entire struggle" (Long & Sedley, p. 438).

Essentially, all of his arguments are of a *reductio ad absurdum* form, or *ad hominen* as others like to call them.⁸ By using this method, Arcesilaus might have put forth the least dogmatic scepticism in history for the simple reason that he may not have espoused any positions of his own—but is it free of all dogmatism, including LNC?⁹

If one were to interpret Arcesilaus's philosophy as purely dialectical, it seems he might be free of commitment to LNC. Essentially, Arcesilaus repeatedly demonstrates that the Stoic, given his basic beliefs, ought to suspend judgement. Since, presumably, the Stoic would not want to do this, Arcesilaus's conclusion forces the Stoic to abandon his initial position, that is given the Stoic's own criterion. If Arcesilaus is successful in dissociating himself from the doctrines he investigates, his would be the strongest scepticism yet, because he would be free of any dogmatic claims as a result of not advancing any positive position of his own.

One can conceive of Arcesilaus's *ad hominen* position the same way one would conceive of a Stoic, *e.g.* Zeno, evaluating his own position. Zeno would see that his theory of knowledge really entails that he (and all Stoics) ought to suspend judgement (as Arcesilaus demonstrates), rather than some Stoics (sages) having knowledge. Unfortunately, Arcesilaus's move may be problematic. As a Stoic, Arcesilaus claims to show that a Stoic ought to suspend judgement. However, if

⁸ *Ad hominen* has a different sense as well, and it is worth remarking that Arcesilaus is not using the sense in which one attacks one's opponent rather than one's opponent's position.

⁹ In fact, as Annas notes, "purely *ad hominen* reasoning is the most, not the least, serious kind; it is the most relevant, least vulnerable, and most effective" (Annas (1994), p. 315).

this is the case, then Arcesilaus, as a Stoic, ought to do likewise. Rather than say that the Stoic position is untenable, which would require some underlying belief about whether one could or could not suspend judgement, Arcesilaus ought to simply suspend judgement himself, just as one would expect Zeno to do if Zeno were assessing Stoicism. Put another way, Arcesilaus adopts some set of Stoic beliefs and abandons all other beliefs (Academic and otherwise) to the contrary in order to present a position that is without its own dogmatic assumptions—one that is entirely sceptical. Next, he finds that those Stoic beliefs lead him to suspend judgement.¹⁰ This presents a problem for a Stoic who is not prepared to accept that this conclusion follows from his beliefs, but not for Stoicism itself. In other words, Arcesilaus, if he managed to adopt a complete and exclusively Stoic set of beliefs, would not have shown that Stoicism was problematic, but he believes that he has. Thus, when Arcesilaus reverts to his Academic self, and believes he has shown Stoicism to be problematic, he gives himself away as having not been entirely Stoic in the first place; for had he been Stoic, he would have had no desire to be Academic, he would be suspending judgement still. In other words, were Zeno to undertake the same examination of Stoic principles, one would not expect him to join the Academy, but rather Zeno would change his view on the existence of a knowing sage and suspend judgement himself.

¹⁰ In fact, Malcolm Schofield says Arcesilaus's use of "the Socratic method led him to suspend judgement about everything;" however, this appears false with respect to the Stoic doctrine (which Schofield goes on to say was the main focus of his and subsequent Academic "assaults" (Schofield, p. 323).

Accordingly, Arcesilaus does not remain, if he ever was, a Stoic with suspended judgement. Instead, he reverts to his Academic scepticism. This shows that Arcesilaus did not completely adopt the Stoic position. If he had, and if his arguments that Stoic doctrine leads to suspension of judgement were correct, then he would still be suspending judgement. Unfortunately, he does not continue to suspend judgement and instead says that Stoicism is false (or, at least problematic). So, Arcesilaus always holds some allegiance to his Academic, or some other, roots.

This is a problem for Arcesilaus the sceptic. Arcesilaus shows himself to be partial to some other doctrine, and this would undermine his scepticism by making him somewhat dogmatic himself. His doctrine of The Reasonable (*to eulogon*), according to Couissin, only makes sense when coupled with the Stoic suspension of judgement, so it is likely that this is merely an extension of his *ad hominen* against the Stoics (Couissin, p. 36). *To Eulogon* is essentially a criterion for living once one has suspended judgement. As Sextus relates, "Arcesilaus says that one who suspends judgement about everything will regulate choice and avoidance and actions in general by 'the reasonable'" (Long & Sedley, p. 451). For some, this doctrine may have already given him away as dogmatic, but there is some room for an *ad hominen* defense (like the aforementioned one of Couissin's with respect to Stoicism) for this positive doctrine as well (but this is beyond the

scope of the essay).¹¹ Consequently, it is apparent that Arcesilaus also fails to be completely non-dogmatic.

Moreover, to relate this back to the question of whether Arcesilaus is forced to adopt LNC, it seems that he most likely is; for his Academic position, which he never fully escapes, endorses LNC. Therefore, it seems that Arcesilaus fails to avoid accepting LNC, even though his dialectical position appears at the forefront of what one might see as a strong scepticism. Indeed, the main difficulty for Arcesilaus appears to be making his dialectical position purely dialectical.

In fact, it does not appear possible to maintain a purely dialectical argument. For as Arcesilaus's position approaches the purely dialectical it is becoming more and more Stoic (or any other opponent one might wish to substitute). If he endorses Stoicism completely, he thereby abandons his scepticism and its dialectical system for Stoicism; he cannot cling to any of his Academic (or any non-Stoic beliefs) beliefs if his *ad hominen* attack is to succeed as be purely dialectical. The dialectical method requires him to abandon his pursuit of a non-dogmatic scepticism in favour of the position he is attacking (*e.g.* Stoicism). Accordingly, it seems his dialectical method cannot successfully adhere to a non-dogmatic sceptical ideal.

¹¹ Schofield appears to agree with Couissin that *to eulogon* was likely an *ad hominen* position against the Stoics, but believes it ultimately fails because it does not answer the Stoic's *katorthoma* (Schofield, p. 333).

One might suggest that Arcesilaus could adopt the Stoic position in a hypothetical sense alone, in which case he would be able to pass judgement on that position from a sort of meta-level position of his own (his Academic position). Indeed, the hypothetical seems to be something of a sceptical ideal, nothing is truly endorsed: so one can remain free of dogmatism. Nevertheless, it appears that such hypothetical methods will ultimately require some dogmatic beliefs, such as the acceptance of LNC; for without LNC, it is difficult to see how any hypothetical considerations could be convincing.

However, it could be argued that LNC itself could be adopted only hypothetically. But such a move seems to have no force, for hypothetical considerations essentially present a choice between p and $not-p$ (one can abandon the hypothetical assumption or accept the conclusion), requiring LNC to force the conclusion. If one were to adopt LNC only hypothetically, the conclusion would carry no weight outside of that hypothetical, for one's interlocutor would be able to disregard any conclusion reached. It seems that if LNC is not already in place on a meta-level, one could accept and deny the hypothetical assumption at the same time. For example, suppose Annie does not accept LNC, and Jane asks her to accept it hypothetically. There is a sense in which the hypothetical assumption amounts to p (representing LNC). So Jane asks Annie to accept p for the sake of argument. The trouble is that Annie does not adhere to LNC, so for her, p is really no different than $not-p$. As a result, the hypothetical assumption does not carry the force it needs to convince Annie when a conclusion is drawn. Analogously, one

might accept the hypothetical premises that *pigs can fly* and that *if pigs can fly then q*. Here, one would be forced to accept *q* based on pigs being able to fly. Surely one would not also be forced to accept that pigs can fly outside of the hypothetical. In other words, if Annie hypothetically accepts LNC as a premise, and *q* as a premise, she is forced to say *not-(q and not-q)*. However, outside of that hypothetical she could accept *(q and not-q)*. Thus, it seems LNC is necessary for hypothetical considerations to make sense, or to convince, and accepting LNC only hypothetically will not change this.

Moreover, the notion of considering the argument from a meta-level may not be as ideal as it appears. It seems that the ideal is found in what would be an additional level of objectivity. One appears to remove oneself from the contest at hand when one moves to meta-considerations. There is an interesting illusion that develops when one's argument "takes a step back". When the method is questioned, and that questioning questioned, and so on, there appears an illusory feeling of moving away from the subjective towards the objective, although one remains in the subjective throughout. Thomas Nagel's notion of a "view from nowhere" seems a fitting characterization of this phenomenon. According to Nagel, reason requires a view that is free of prejudice, a view where one is "outside [oneself] in the sense that [one appears] inside a conception of the world that [he or she] possesses, but that is not tied to one's particular point of view" (Nagel, p. 70). One ought to question everything, including the method of questioning the questions; moving to the hypothetical would only require that one then question the

hypothetical. Ending this regress is attainable only if one has a view from nowhere, a view without the distorting lens of prejudice. Unfortunately, Nagel observes, one cannot get from here to nowhere. Hypothetical considerations will not remove the problems involving justification.

Nevertheless, as will become increasingly evident throughout the course of this essay, it might be that this Socratic ideal of questioning everything is in need of as much questioning as anything else. Rather than accept the common norms that frown upon dogmatic beliefs or unjustified premises, it might be that one ought to accept some beliefs despite their being dogmatic. Having a view from nowhere would mean being nowhere, but we are all here, and most of us want to be here; so perhaps it is the anti-dogmatic ideal that needs reconsidering, rather than our vantage point (this will be addressed in more detail in the last chapter of this essay).

While Aristotle, Sextus, and Arcesilaus have failed to establish a non-dogmatic justification of LNC, one might wonder whether Cartesian doubt could offer some assistance. Descartes believed that the possibility of being deceived by an evil demon was a good reason for doubting everything he took to be certain. That is, Descartes doubted *almost* everything, or provisionally treated almost everything as if it were false, since he wrote that it was ultimately impossible to doubt the existence of God, as well as God's providence. In this sense, his position parallels the Pyrrhonian notion, found in Sextus, that establishes doubt based upon the possibility of error. Descartes's argument is found in his *Meditations*, where he

seeks to establish the veracity of his method, set out in his *Discourse on Method*. Descartes, as is well known, makes a multitude of errors in his argument for the existence of a benevolent God, which he needs to secure the truth of his *Cogito*. Indeed, Pierre-Daniel Huet's *Against Cartesian Philosophy* offers a book-length list of problems in Descartes's reasoning, several of which concern issues regarding the problem of objectivity just discussed (Huet, p. 2003).

For present purposes, the most important insight offered by examining Descartes's reasoning is that he never doubts the truth of LNC, among a number of other things, even when he discusses method at length (*Discourse*). The very foundation of his position rests upon the dichotomies between deception and providence, existence and non-existence. His method consists primarily of establishing what he takes to be an acceptable disjunction and eliminating one disjunct in order to prove the other. Even the existence of God is established with the assistance of LNC. As it concerns this essay, the failure of Cartesian philosophy might be characterized by its failure to consider the possibility of LNC being a deception of the hypothetical demon.

Thus, it seems safe to say that Descartes's philosophy cannot stand for a non-dogmatic scepticism, even when he claims to doubt everything, for he fails to do so. Descartes made an important return to epistemology, seemingly lost through the medieval period since the Hellenistic. However, like the Hellenistic attempts at scepticism, that of Descartes's ultimately proves too dogmatic to exemplify true

scepticism, a scepticism free of any dogmatic beliefs. Thus, like his predecessors, Descartes fails to defeat scepticism because he only considers what one might call pseudo-scepticism, a diluted version of the non-dogmatic ideal scepticism.

One might next jump ahead to the eighteenth century, where David Hume takes his turn in the sceptical tradition. Hume seems to take a similar approach to sceptical conclusions as do some of the ancient sceptics, namely those who accepted appearances while still doubting the underlying “truths” while “never [being] tempted to go beyond common life” due to “the imperfections of those faculties which they employ” (Hume (2000), p. 121). For Hume, it is important that the sceptic remain “within his proper sphere” of philosophical reflection as opposed to everyday activity (Hume (2000), p. 118). In other words, it is reasonable to doubt the existence of something like causation for the purposes of some thought experiment, but not when crossing a busy street. Scepticism, it seems, is a dangerous sport, requiring a safe and protected environment wherein one can practice it without fear of injury.

Along these lines, Hume believes that were scepticism to reach one’s daily routine, “all human life must perish [...]. All discourse, all action would immediately cease” (Hume (2000), p. 119). However, Hume is not worried that this could ever happen, as “Nature is always too strong for principle” (Hume (2000), p. 119). Not only ought one keep scepticism out of one’s everyday life, but one cannot help but do so. Accordingly, Hume believes that one who reasons will be

led to sceptical doubts, but these should not be manifested in one's activity. Hume terms what he believes is appropriate scepticism "mitigated scepticism" (Hume (2000), p. 120). Mitigated scepticism "ought forever to accompany a just reasoner," but it ought not influence one's "real world" life (Hume (2000), p. 120).¹²

In fact, Hume's position appears fair. For Hume, one cannot help reasoning, which when justly pursued leads to scepticism, and one cannot help acting, which seems to conflict with scepticism. As a result, there are two spheres of activity: the philosophical and the common place or daily routine. For example, Aristotle might have doubted the justification of LNC in his philosophical ponderings, but was forced to speak (and adopt LNC in the process) in his everyday life. Nevertheless, the fact that one cannot help but dismiss scepticism in order to function in one's daily activities does not mean that scepticism is in any way false when it is evaluated by reference to such daily activities. Rather, scepticism is adjudicated only when one is involved in philosophical investigation. Just as one cannot philosophically question whether a peach is tasty, one cannot by tasting judge that reason, or LNC, is true. There appears to be a gap between the two realms that cannot be bridged.¹³

¹² Robert Fogelin has suggested that Hume's "mitigated scepticism" shows Hume to be a fallibilist (Fogelin, p. 113). Yet, while I agree with Fogelin that "this reading diminishes Hume's genius," I do not believe it is a correct interpretation (Fogelin, p. 113). Rather Hume's mitigated scepticism "mitigates" (or finds a boundary) between the separate arenas of everyday life and philosophy, where the former alone is fallibilist.

¹³ Hume's allusion to two realms is echoed by Thomas Nagel's "double vision" discussion, where Nagel, too, believes the two outlooks cannot be combined" (Nagel, p. 88).

It appears that Hume would agree that Arcesilaus must adopt LNC in his worldly affairs, his everyday life. For Hume, Arcesilaus must adopt LNC because nature does not allow him any choice in the matter. However, this only makes sense when one examines life in two arenas: the daily and the philosophical. One cannot live one's daily life in denial of LNC, but one could deny LNC in one's philosophical life. The two-spheres-of-activity-view associated with Hume's position, particularly his writings on mitigated scepticism, appears plausible. For Arcesilaus, this means that he is blameworthy only when his philosophical position is dogmatic and not to blame when his daily activities are dogmatic. Unfortunately, Arcesilaus did not abandon his dogmatic acceptance of LNC even in his philosophy; hence, it appears he is blameworthy of being dogmatic *and* that someone in his position could have done otherwise.

In his "Conclusion" at the end of Book One of the Treatise, Hume suggests that one must choose between false reason and no reason at all (Hume (1965), p. 548). Reason, at least here, is thought by Hume to be the "refined" rule-based reason that one might characterize by LNC, as opposed to the unreasonable or thought without rules or direction. As Hume puts it, "Shall we, then, establish it for a general maxim, that no refined or elaborate reasoning is ever to be received? [...] By this means you cut off entirely all science and philosophy: You proceed upon one singular quality of the imagination, and by a parity of reason must embrace all of them: And you expressly contradict yourself" (Hume (1965), p. 547). In this way, giving up the rules of refined reasoning, like LNC, one is led without

direction by any whimsical idea one might happen to entertain; indeed, one is even led to contradictions. Nevertheless refined reasoning is for Hume self-defeating: “the understanding, when it acts alone, and according to its most general principles, entirely subverts itself” (Hume (1965), p. 547). Were one to follow refined reasoning to its end, one would be forced to reject reasoning itself, leaving one with no reason at all.

On the other hand, were one to adhere to “unrefined” reasoning instead, one would “run into the most manifest absurdities” (Hume (1965), p. 548). An example of what this would be like is difficult to imagine. Still, such absurdities might be most aptly characterized by some sort of dream state, where no rules seem to apply: one can at once fly and at the same time fall to one’s death. Hume’s notion of unrefined reason would aptly characterize a purely hypothetical consideration, where one’s consideration is entirely free of dogmatism (like that considered for Arcesilaus above). However, without rules that dictate which position one ought accept, a purely hypothetical position would not motivate any conclusions or offer any support to any position whatsoever. As a result, the unrefined position is what Hume refers to as false reason. Consequently, the choice between “false reason and none at all” is a choice between a self-defeating reason and an absurd reason (Hume (1965), p. 548).

Unfortunately, Hume’s philosophical rigor appears to be waning at this point. He fails to note that this dichotomy is the product of refined reasoning only.

If refined reasoning is taken as self-defeating, then two choices remain and both appear intertwined. One, Hume can abandon refined reasoning because it is self-defeating, which would then remove the absurdity of unrefined reasoning. Two, having abandoned refined reason and, thereby, seeing no problem with accepting unrefined reasoning, Hume could accept unrefined reasoning. However, having adopted unrefined reasoning, there would be no problem in the self-defeating nature of refined reasoning; the choice would now be between reason and none at all. Consequently, there appears to be a dichotomy that depends on one's initial position, whether it is refined or not. That is, whether one begins with rules such as LNC already in place or not will dictate whether the dogmatic adoption of LNC is problematic or acceptable.

The melancholic "Conclusion" of Hume's *Treatise* is interpreted by some (such as Richard Popkin) to show Hume's ultimate dismissal of scepticism. Those interpreters would have it that Hume, at first, is dismayed by the scepticism his inquiries have led him to, only to, at last, realize the futility of that scepticism and joyfully renounce it. However, it appears that Hume remains distraught to the last. Throughout the section, Hume refers to his own state as one that is characteristically "splenetic" or ill-humoured, as he cannot but laugh at the situation into which his reason has led him. This is the laughter of madness, the kind that pervades asylums, not the laughter of joy.¹⁴

¹⁴ I agree with Barry Stroud's assessment that Hume's despair arises from the irresistibility of the illusions nature forces upon humanity (Stroud, p. 234). In this light, it will not come as a surprise that I do not accept Richard Popkin's interpretation of Hume as a Pyrrhonist enjoying tranquility (Popkin, p. 405).

Hume, in much the same way as Sextus offers a similar caveat, roughly qualifies his entire position as free of dogmatic claims since all that he has presented is itself open to debate and far from certain (Hume (1965), p. 553). Perhaps, Hume realized that the caveat he describes is all too reasonable, since it is meant to anticipate the “reasonable” conclusion that Hume’s claims lead to the notion that Hume is dogmatic himself. Put another way, Hume’s caveat is itself a product of Hume’s assumption of LNC, despite the appearance that the caveat is meant to exclude him of such dogmatic assumptions. Had Hume not already been using his LNC-abiding refined reasoning, he would not have been able to foresee the objections that might require his caveat; for only in a world of strict natural laws, such as LNC, could one hope to make any prediction of what philosophers in the future might think. That is to say, predictions require regularity, and someone who saw everything as though it could have been otherwise, or *both* as it was and otherwise, could not make use of such regularity. Only someone with penetrating insight could foresee the “reasonable” responses that his writings might motivate; such insight, I believe, would have to be LNC-dependant itself. Whether or not this was apparent to Hume, it appears that such qualifying remarks only lend themselves to the interpretation that neither Hume, nor Sextus, ever escaped the labyrinth of reason. Such provisos do not achieve the objective justification prescribed by reason.

The next philosopher who plays an important role in the sceptical tradition is Thomas Reid. Reid, heavily influenced by his contemporary David Hume, championed an anti-sceptical position grounded in common sense. Reid's take on the sceptical debate is refreshing. Were one to present Reid with an argument to the effect that his senses will deceive him, Reid would simply suggest that perhaps the sceptic's brain is deceiving him! "Why, Sir, should I believe the faculty of reason more than that of perception; they both came out of the same shop, and were made by the same artist; and if he puts one piece of false ware into my hands, what should hinder him from putting another" (Reid (2000), p. 169). Reid maintains that the rules of logic which strike us as obvious are not superior to the information we get from our senses. The senses, along with rules of logic like LNC, get their authority from being obviously true or self-evident. Moreover, this authority is not some kind of eternal truth about the world, it is a product of humanity. "The rules of demonstrative sciences are discovered by our fallible and uncertain faculties, and have no authority but that of human judgement" (Reid (1983), p. 486). Thus, for Reid, the sceptic who disowns his eyesight because he reasons that it is deceptive thinks there is an asymmetry here when in fact there is not.

Reid also gives an insightful defense of his "first principles". For Reid, there are certain first principles that are characterized by their self-evidentness. Reid's first principles "need no proof" and "do not admit of direct proof" (Reid (1983), p. 230). Given that they are self-evident, Reid's first principles cannot be proven, as this would be tantamount to showing that they are not self-evident.

Indeed, this holds for any first principles, *qua* first principles. In fact, Reid describes one's knowledge of first principles as intuitive, rather than demonstrative (Reid (1983), p. 231). All one needs to do in order to see that something is a first principle is have the proper point of view.

Moreover, Reid argues that the first principles are a part of one's constitution (Reid (1983), p. 333). As part of one's constitution, one cannot help but believe the first principles. Even the self-purported sceptic cannot truly doubt the first principles. Reid uses Descartes as an example of someone who, though he tried, never seriously doubted his senses, his memory, or a multitude of other faculties (Reid (1983), p. 447). Inductive reasoning is also part of one's constitution (Reid (1983), p. 451). Reid does not immediately dismiss Hume's argument against induction, but he says that such arguments simply cannot succeed when they oppose one's constitution because those principles or beliefs are irresistible (Reid (1983), p. 452). In other words, like Aristotle's negative proof for LNC, Reid maintains that the self-evidentness of first principles is a product of their being undeniable. Moreover, as a first principle, one cannot demand a justification for induction, since being a first principle means being a basic belief, one for which no support can be given.

Reid's position on scepticism will prove helpful in the developing the most robust scepticism possible. Unfortunately, Reid's attacks on scepticism are not effective against a sceptic who goes so far as to doubt LNC. Indeed, while Reid

is happy to address the negative dogmatist's inconsistencies, the "total" sceptic is beyond speaking with. Reid believes he has no choice but to leave such people alone: "To a [thorough and consistent] sceptic I have nothing to say" (Reid (2000), p. 71). Despite this, it turns out that Reid's common sense position is not far from the conclusion reached in this essay.

Through thousands of years of thought and debate surrounding scepticism, one thread seems consistent: no thinker has presented a sceptical position so sceptical as to doubt what appears to be the most basic and primitive rule of reason; no sceptic has been so thorough as to question the veracity of principles such as LNC. Perhaps Aristotle foresaw this consistency when he presented his own "defense" of LNC. Nevertheless, as noted earlier in the discussion of Aristotle's views of LNC, no argument in support of LNC seems to have the strength needed to convince someone who does not already accept it. One who does not object to contradictions will not be persuaded by arguments that show his position to be contradictory.

Indeed, one might suggest, as Reid does, that someone who does not accept LNC is beyond convincing; such an individual cannot be persuaded. But here lies an interesting dilemma, one that is of great interest to the sceptical debate: how can one distinguish between a *reductio ad absurdum* and a proof of something completely new (John Woods has referred to this as "philosophy's most difficult problem") (Woods, (2003), p. 14-16 & 76-78)? If one cannot offer any support for

LNC, does this show that it is so basic as to require no support (*i.e.* it would be absurd to demand such support), or does it in fact show that there really is no reason (*i.e.* there is no support) for accepting LNC in the first place? This is similar to the choice Reid considers between accepting one's reason or one's senses: an argument to the effect that one's senses cannot be trusted gives one equal reason to distrust one's reason, because there is "obviously" a tower on the horizon, as it gives one reason to doubt one's eyesight.

In any case, demanding a justification for LNC appears to lead to an infinite regress. In fact, most sceptical debates boil down to an infinite regress problem. Moreover, one might even suggest that any demand for justification, of anything, leads to an infinite regress. However, LNC seems special in that the regress is immediately problematic, since no support for LNC seems possible at all without first assuming LNC. That is to say, the regress, in some sense, never even begins. Although such an outcome was long ago noticed, there is hope for ending the regress.

Chapter 2: Goodman, Haack, and Asymmetry

Our discussion will now leave LNC aside, having shown the lengths to which one must go in order to be a truly non-dogmatic sceptic, an undertaking that appears to be hitherto without a champion. Instead, we will now consider Susan Haack's position on the justification of deduction. This discussion will show that Haack is wrong in treating the justification of induction and deduction as symmetrical, for an important asymmetry exists in justifying the two forms of inference.

In her article "The Justification of Deduction," Haack argues for the position that no philosophers have shown that the accepted deductive rules of inference, such as *modus ponens*, preserve truth (Haack (1976), p. 112). Put another way, Haack maintains that the use of alternative rules of inference that are likewise deductively circular, such as *modus morons*, is as justified (equally without justification) as the use of the standard set of rules, such as *modus ponens* and *modus tollens*. *Modus morons*, a parody of *modus ponens*, is affirming the consequent: from *if a then b* and *b*, infer *a* (Haack (1976), p. 116). An argument like this is often obviously invalid. For example, if *a* is *Dave is cremated* and *b* is *Dave is dead*, it would be hasty to conclude that Dave is cremated from his being dead since he might be buried, or even still lying in his bed unnoticed. However, Haack believes *modus morons* is as supported as *modus ponens*. While she correctly observes the triviality of the claim that deduction is truth preserving

semantically, Haack believes one has no reason to take the syntactic schema as truth preserving (Haack (1976), p. 114). In other words, it has yet to be shown that the deductive syntax guarantees a true conclusion when that conclusion follows from true premises because there appear to be no arguments that can justify *modus ponens* that cannot also justify *modus morons*, *mutatis mutandis*. Haack argues that deduction suffers a justificatory problem analogous to the problem Hume pointed out for induction (Haack (1976), p. 114). While most philosophers believe that *modus ponens* (and other deductive rules of inference) guarantee the truth of the conclusion when it follows from true premises, Haack demands justification for that belief. Haack wants justification for the position that *modus ponens* is valid, and that *modus morons* is invalid.

To make sense of her claim, one must assume that Haack (as well as Hume) is accurate in her view that one must use one of two kinds of inference: inductive or deductive (such an assumption, detailed above, does not seem problematic) (Haack (1976), p. 112). Hume showed that one cannot justify the claim that *induction* preserves truth because a deductive justification would be too strong and an inductive justification would be circular (Hume, *Treatise*, part 4). Deduction is too strong because it does not allow one to make predictions that extend beyond the premises, thereby guaranteeing the preservation of truth. Similarly, Haack maintains that one cannot justify the claim that *deduction* preserves truth because an inductive justification would be too weak and a deductive justification would be circular.

Presented with Hume's inductive dilemma and Haack's "new" dilemma of deduction, one must ask an important question, one which promises to solve the dilemma. What kind of inference could Haack (or Hume) use that would allow an independent analysis of induction and deduction? In other words, if Haack maintains that deductive inference lacks justification, and that inductive inference cannot decide the issue, is her own argument based on some other type of inference, or is it deductive and likewise without justification? Haack's position makes sense only if induction and deduction comprise the only two types of inference available, so it serves her best interest to use one of the two; indeed, she appears partial to deductive inference. Put another way, as mentioned early in the essay, Hume's dilemma, as well as Haack's, makes sense only when the possibilities for justifying induction and deduction have been exhausted. Both maintain that this is the case when neither induction nor deduction is successful in doing the justification. Even if Haack were to argue hypothetically, or by *reductio*, that argument would still be deductive. Hume does not question deduction, and is thereby free (at least in his own eyes) to use deduction in his argument against the justification of induction. On the other hand, Haack agrees with Hume's position, that induction is insufficient because it is too weak; but she also believes that deduction suffers from a lack of justification as well. This leaves her without a justified method with which to present her own argument. Nevertheless, she appears to make use of deduction. As a result, her position appears to require that one accept deduction in order for her to show that one ought to be apprehensive in accepting deduction.

One might note that Haack's argument focuses on a particular rule of inference (*modus ponens*) rather than deduction as a whole (*modus ponens* as well as others like *modus tollens*). As a result, one might require evidence that her position relies on *modus ponens* in particular, rather than merely some kind of deduction, in order to show that it relies on the very rule in question. One would have no trouble producing such evidence, were it needed. One might characterize her overall argument as: *if modus ponens is not justified, then deduction is not justified; modus ponens is not justified; therefore, deduction is not justified*. The spirit of her argument, which she states as, "the problem of the justification of deduction [is the need to] show that MPP [*modus ponens*] is truth-preserving" (Haack (1976), p. 114), appears to rely as much on *modus ponens* as it does on any other deductive rule of inference. That is, her argument, not this claim, relies on *modus ponens*.

Perhaps, one might suggest Haack's position could be helped if it were recast in the form of *modus tollens*, or some other deductive inference, since that would make her treatment of *modus ponens* less circular. Indeed, this seems possible, but this approach would miss Haack's point. Haack's use of *modus ponens* is not significant, for she could make the same point referring to *modus tollens* and a variant of *modus morons* that corresponds to *modus tollens*. It would not be unfair to Haack to restate her position as "the problem of the justification of deduction [is the need to show] that [the particular rules of deductive inference are]

truth-preserving.” In other words, even if Haack only uses *modus ponens* inferences to argue that *modus tollens* is hitherto without justification, she would only leave herself open to the obvious complaint that the *modus ponens* inferences she uses to show this are likewise without justification. In fact, Haack’s reliance on deduction might typify just the sort of case Nelson Goodman has in mind when he speaks of “virtuous circularity” (Goodman, p. 64).

Given the aforementioned difficulties involved in providing a *supportive* circular argument, many will find it surprising that Nelson Goodman sees some circular arguments as “virtuous”, in that circular arguments can support a conclusion. Indeed, Goodman observes that a circular argument can (and does) justify the rules of deduction (Goodman, p. 65). Indeed, Goodman makes these remarks in his Fact, Fiction, and Forecast, a book in which Goodman presents his own variation of Hume’s problem of induction, the problem of “grue”. While the book is often seen as noteworthy for its assault on induction, there is an insightful, though brief, treatment of deduction as well. Before considering Goodman’s position in detail, it will be prudent to make it clear what deduction can and cannot do, and why it is such an appealing argument form.

As a first step, one might note the virtues of deduction itself (by “deduction” I mean the set of rules thereof, *e.g.* *modus ponens* is one such rule). A deductive argument moves from premises to conclusion in such a way as to preserve truth as one moves from premises to conclusion, whereas induction goes

beyond the premises and the preservation of truth is no longer guaranteed. For this reason, philosophers like Brian Skyrms take deductive arguments as the strongest available (Skyrms, p. 12). Again, deductive arguments do not go (logically) beyond what the premises contain; they merely manipulate those premises, or combine them in some new way, to produce an epistemically novel conclusion.

While philosophers find the guarantee of truth preservation appealing, one must ask how philosophers arrive at the truth of the premises in the first place. In other words, deduction works great, if one can establish some set of premises that is acceptable to oneself and one's interlocutor, but finding these premises seems to require a deduction before the deduction in question. Perhaps some other arguments support those premises. Yet, if the premises do rely on other arguments, those arguments would seem to require similar support themselves. In fact, in order for those arguments to have the kind of support one would like, *i.e.* some guarantee of truth, it seems those arguments must be deductive as well. As a result, it appears that an infinite regress will develop, in which case one will not have independent support for the premises of any of these deductive arguments. Moreover, this is not just any infinite regress, the idea here is to maintain the guarantee of truth found in the deductive argument the premises are meant for; this is an infinite regress of deductions. As with LNC, this regress is distinct from other regresses in that it ends as soon as it develops; the claim that cannot be justified is reached immediately.

In order to avoid the regress, one will find it prudent to simply assume the truth of the premises of a deductive argument. Indeed, when one considers an argument in isolation, the premises most often consist of background assumptions common to both the arguer and interlocutor. As Goodman puts it, “to justify a deductive conclusion therefore requires no knowledge of the facts it pertains to” (Goodman, p. 63). In other words, if one accepts the premises of a deductive argument, one can draw a conclusion without understanding the facts the premises involve. For instance: *the patient has either dengue fever or malaria; tests show the patient does not have malaria; therefore the patient has dengue fever*. The conclusion can be drawn without any knowledge of tropical diseases, so long as the premises are accepted. Accordingly, one presumes the truth of a deductive argument’s premises and (in so far as that argument is deductive) guarantees the preservation of that truth in the conclusion. However, on this line of reasoning, it appears that one merely assumes a deductive argument’s conclusion as well. Since the conclusion of a deductive argument does not extend beyond what the premises contain, assuming the premises is tantamount to assuming the conclusion. To clarify, one might find something new in the conclusion in an epistemic way, but the argument remains circular. Essentially, using a deductive argument assumes one’s conclusion in order to “prove” it: a clear case of circularity.

One might then suggest that a circular argument that reaches an epistemically novel conclusion is significantly different from a circular argument that does not. Indeed, this is one reason some philosophers see an important

difference between the claim “ p , therefore p ” and *modus ponens*. There is an intuition that tells one that the latter is acceptable, while the former is not. It is possible that this intuition comes from accepted conventions, but this speculation is not necessary. What one ought to consider is that novelty alone does not entail truth. If the conclusion is reached by means of a circular argument, one ought to question that conclusion the same way one would intuitively question a circular argument that does not provide an epistemically novel conclusion. Indeed, if circularity is seen as the problem with “ p , therefore p ”, perhaps circularity is a reason to reject the epistemically novel conclusion. In other words, one ought to recall that deductive arguments do not create truth in some way, they only preserve it; thus, since one must assume one’s premises to be true, one is effectively assuming the epistemically novel conclusion to be true, when in fact both premises and conclusion might be false. The “truth” of the novel conclusion reached by circular reasoning does not reciprocate some kind of acceptability upon the circular reasoning that brought that “truth”, for that “truth” was merely assumed in the circular argument’s premises.

At this juncture it is apparent that it is in Haack’s best interest to give a deductive argument in support of her position, thereby making her argument as strong as possible. If one accepts Haack’s premises, then one must accept her conclusion. Although Goodman could not have foreseen Haack’s argument, he may have had something like it in mind. Goodman, however, might have thought of Haack’s position as a *reductio ad absurdum*, or an *ad hominem* (as the Hellenistic

philosophers used the term: hypothetically adopting the opposing position, without attacking one's interlocutor). Recall, the Hellenistic philosopher Arcesilaus used *ad hominen* attacks on the Stoics. For example, he would adopt Stoic logic and use it to show that absurdities result from its use (Coussin). Similarly, one might interpret Haack's argument as a *reductio* as it absurdly suggests that deduction needs justification *and* must assume that deduction is justified in order to reach that conclusion (or else the argument would not hold sway), suggesting the contradiction of deduction being both justified and not justified. Such an argument might find the absurdity to stem from the notion that one cannot justify deduction circularly. Although one might question whether Haack had this in mind, and certainly Goodman might only have had something similar in mind (as he could not have read Haack's essay before writing *Fact, Fiction, and Forecast*), I will advance this position in defence of Goodman's notion of virtuous circularity. Indeed, it's most likely that Goodman did not have such a move in mind, for this move points toward an asymmetry Goodman did not see. On the contrary, Goodman appears to believe, like Haack, that justifying inductive and deductive inferences can be done in similar fashion – he sees the two as analogous, as does Haack (Goodman, p. 64). For that reason, I must note that I only intend to defend him regarding deduction, as I maintain an asymmetry prevents a circular defence of induction.

I maintain that one can observe an asymmetry between the justifications of induction and deduction. Haack presents the two as analogous, but this leads her to an absurdity. To remove the absurdity, one must consider the justification of

induction and deduction as asymmetrical. As Haack correctly observes (following Hume), one cannot justify induction circularly by using induction (Haack (1976), p. 112). On the other hand, (I maintain) one can justify deduction circularly. This might produce some alarm in the minds of those convinced that circular arguments are plain bad, but it makes sense for two reasons. Deductive arguments are themselves inherently circular and reasons for avoiding circularity (such as the independence and discriminate requirements) are products of deduction (and circularity) too.

It will be useful to pause here and briefly consider some of the objections that might accompany those alarm bells. As was argued earlier, there is no significant difference between premise-circularity and rule-circularity, at least as it concerns this paper. Therefore, endorsing a circular justification of deduction is not the endorsement of either premise- or rule-circularity individually, but only the endorsement of the circular justification of deduction, at least for now. The acceptance of deduction, it seems, demands an acceptance of circularity, whereas the acceptance of induction does not. For this reason, we may wish to allow for circularity only in the case of justifying deduction. However, once deduction is justified, then circularity appears justified because it is inherent in deduction. As a result, one might *then* offer a circular justification of induction in the form of a premise-circular argument, like the enthymematic one described earlier. Notably, this does not entail a symmetry because one must begin with deduction. In other

words, one could not justify induction circularly, then inductively justify deduction. We will return to these considerations later.

Clearly, Goodman chooses to adopt deduction because it conforms to what he considers acceptable inferences, which are also the very inferences that the rules of deduction justify (Goodman, p. 64). In this case, Goodman assumes one thing (the rules of deduction) and manipulates that assumption into another (the inferences those rules imply), or *vice versa*. In other words, Goodman might use the assumed rules to make any number of acceptable (according to those rules) inferences; likewise, he might take those inferences he sees as acceptable and use them to find out which rules ensure that they are the only acceptable inferences. Here we have a case of deductive circularity “justifying” the adoption of deductive circularity. In other words, Goodman presents a deductive argument for the purpose of supporting the acceptance of deduction.

Of course, at this stage one might object by claiming that the use of deduction to support the adoption of deduction offers no support at all, based on the independence and discriminate requirements. In other words, this clear case of circularity violates the two requirements, established at the beginning of this paper, for supporting a conclusion. However, as Haack argues, inductive justification is too weak to justify deductive inferences (Haack (1976), p. 112). Accordingly, this leaves only deduction. Since one cannot adopt an alternative, one might consider it fair to assume deductive inferences are truth preserving.

Surely, this sounds question-begging, and it is, but, presumably, in an acceptable way. The reason this would be question-begging in a good way follows from the notion that deduction is inherently question-begging too. If one is to value the circularity of deduction for its argumentative strength, its ability to guarantee the preservation of truth, then it seems fair to allow for, even desire, circularity elsewhere, even when arguing for the acceptance of induction. The case in question here is no exception. If the argument set forth in this paper is to be as strong as possible, it seems it ought to be striving for the same circularity found in deduction. To clarify, it was earlier shown that deductive arguments get their superior (Skyrms) argumentative strength from being circular. Accordingly, in an effort to strengthen this paper in accordance with the standards outlined earlier in this paper, it seems any circular claims ought to be praised rather than blamed. Notably, an argument's strength is not to be confused with an argument's power to support or convince, as this might turn out to be an unconvincing paper (this will be considered in more detail later).

However, once one realizes the equivalence between this assumption and the conclusion sought, the independence requirement appears to present a problem, or does it? The independence requirement demands a good reason for accepting the premises of an argument independent of any other support one might have for the conclusion. But, since one has no alternative to deduction (induction will not do),

one might allow that on this occasion the independence requirement is set aside. Still, this move is not conclusive.

Concerning the discriminate requirement, the circular justification of deduction fails. It is as circular as any argument of the sort. Thus, it seems one could use this form of argument to “support” *any* conclusion, *including the conclusion that one cannot justify deduction*. In other words, if one can justify deduction circularly, nothing seems to stand in the way of giving a circular argument against the justification of deduction.

However, one might not find this line of reasoning convincing. Most likely, one cannot make sense of an argument that purports to show that deductive rules of inference are without justification, even when such arguments are circular (in which case the argument *for* deduction should be supportive). In other words, it appears that one cannot give a circular argument against the justification of deduction; consequently, the justification of deduction appears unique. We will see shortly whether this justification of deduction justifies the adoption of *any* deductive rule of inference, including *modus morons*.

Brian Skyrms argues that one can show that the opposite of induction, what he terms *counterinduction*, can justify itself (Skyrms, p. 37). Counterinduction assumes that the future will never resemble the past. One might note that observations would suggest this to be false. For instance, one might have

noted yesterday that the sun has risen in the past, and then today observe that it rose again; so it seems the future tends to resemble the past. However, as Skyrms notes, for the counterinductivist, this does not present a problem. Since he believes that the future will not be like the past, the counterinductivist sees the fact that counterinduction has not been accurate in the past as evidence that it will be accurate in making future predictions.

Skyrms is responding to several philosophers who have attempted to justify induction in a rule-circular way (*e.g.* Max Black). These supporters of induction claim that induction has been a reliable method in the past, so, by inductive inference, it should be reliable in the future. For Skyrms, the fact that this same rule-circular method can support the opposite of induction, counterinduction, shows that it cannot support induction. This circular justification of induction fails to meet the discriminate requirement.

One might next consider whether there is a parallel to the counterinduction case for deduction. Is there a *counterdeduction* argument? The first problem one might consider would be that induction, as Skyrms presents it, seems to be a single rule, whereas deduction seems to consist of many rules. First, this is to overlook the fact that Skyrms has simplified induction for the sake of argument. He can do this because his simplified version could be applied to all rules of induction. If one were looking for a taxonomy, one could, for instance, make a parallel argument for *counterabduction*. Second, the deductive rules can likewise be summarized by

modus ponens, for it seems that if one could offer a counterdeduction argument for *modus ponens*, one could then offer one for *modus tollens* as well, *mutatis mutandis*. Thus, Haack's *modus morons* offers a counterdeduction of *modus ponens*, and an analogous version could be made for *modus tollens*. As a result, there is no problem with the notion of counterdeduction found in the number of rules considered. Therefore, the mere tally of rules one has on hand for deduction compared to induction will not be the source of the asymmetry between the justifications of deduction and induction.

Instead, the asymmetry is found in the inherent circularity (rule or premise) of all deductive rules of inference, those that are accepted *and* those that are not. It is the circularity that makes rules like *modus morons* deductive rules of inference and not new inductive rules of inference. Deductive inferences are essentially *if p, then p*. Thus, counterdeduction would take a form such as *if p, then not-p*.¹⁵ If one assumes such a counterdeductive rule, one cannot use it to support itself, for it will in fact negate itself: *assuming (if p, then not-p) to be true, if (if p, then not-p), then not (if p, then not-p)*. Counterdeduction cannot be supported by the same rule-circular reasoning that "supports" induction. This makes deduction distinct from induction: there is an asymmetry in the justifications of deduction and induction stemming from the fact that one can justify the opposite of induction with a rule-circular justification, but one cannot do the same for the opposite of deduction.

¹⁵ Haack's *modus morons* is not a form of counterdeduction. Instead, *modus morons* is an alternative rule of deduction, not a rule that is the opposite of deduction. Instead, *modus morons* is not even opposite to *modus ponens*, it parallels *modus ponens* the same way *modus tollens* does.

In fact, returning to the earlier discussion of rule- versus premise-circularity, one will recall that the circular justifications for induction, as well as counterinduction, are themselves deductive. However, there is no rule-circular justification for counterdeduction, thereby making deduction unique in this way as well. The circularity inherent in deduction prevents the rule-circular justification of counterdeduction, for this would be a rule-*circular* justification of the opposite of circularity. One might wonder then, if a simple premise-circular argument could show deduction to be without justification like counterinduction does for induction. It is easy to see that it cannot, for one would be arguing deductively, if one were arguing circularly; hence, one's attempt to discount deduction would require that one simultaneously endorse it.

Although one should find the justificatory difficulties for counterdeduction inconclusive for justifying deduction, it does offer support for the claim that deduction *is* justified. The notion that one cannot *disprove* deduction seems to offer some favourable support for its virtuously circular justification. Indeed, this position parallels Aristotle's *ad hominem* defence of LNC, where he maintains that LNC must be true since one cannot coherently deny it. Thus, by noting that one cannot coherently disprove deduction, which happens to be essentially circular, it seems there might be no choice but to allow circular reasoning in the form of deduction.

Still, one has yet to consider the most important consideration regarding deduction and circularity in any detail. It has already been mentioned that deduction is inherently circular. As such, one can present the dilemma facing those who believe deduction still needs justification quite differently than the way Haack puts it. The dilemma is not between a justification that is too weak and a justification that is circular (that is, rule-circular). The real choice is between allowing for circularity or closing the door on deduction altogether, bearing in mind the above conclusion that there is no important distinction between rule and premise circularity. This choice follows from the fact that deduction and circularity are 'a package deal': one cannot have the former without the latter. Indeed, it has already been shown that Haack relies on deductive inferences to make her case as well. Without assuming such inferences, one could easily play the role of Carroll's Tortoise and ask Haack to justify the rules of inference she utilizes before one accepts her position (Carroll). Notably, the inferences Haack must assume to make her case are as circular as they are deductive. This lends further support to the notion that her claim, that one cannot justify deduction circularly, is inconclusive. It is worth remarking that this argument against Haack's position only shows that her position is not convincing, rather than showing that she is wrong or that deductive inferences are justified.

Similarly, the independence and discriminate requirements are themselves a product of the same inherently circular, deductive reasoning. For instance, the (*reductio*) argument in support of the discriminate requirement runs roughly as

follows: *if an argument is not discriminate, then it would work for any conclusion; if an argument can be used to arrive at any conclusion, then it cannot offer any support for one over another; therefore, if an argument is not discriminate, it is not supportive.* One could sketch the deduction underlying the independence requirement in similar fashion. In either case, the requirements derive their support from deductive rules of inference. Consequently, abandoning deduction means abandoning the very motivation for abandoning deduction. In other words, without deductive inferences, one could not support the adoption of the independence or discriminate requirements. Thus, one needs to accept deduction in order to provide these supposed reasons for not accepting circularity, or deductive circularity, for “*p*, therefore *p*” is deduction in its most basic form.

Accordingly, there is no impediment to accepting a circular justification of deduction resulting from the *prima facie* reasons for not accepting a circular justification of deduction: circularity, the independence requirement, and the discriminate requirement. It is now time to offer something of a positive argument in support of using a circular justification of deductive inferences. To this end, one should consider the asymmetry between the justification of deduction and induction in some additional detail.

As mentioned above, the asymmetry between the justification of induction and deduction involves circular justification. Deduction can afford it, while induction cannot. The reason circular justification makes sense in the case of

deduction results from the way deduction continually supports its own adoption. When one assumes the truth preservingness of deductive inferences, one simultaneously assumes the permissibility of circular justification, both rule- and premise-circularity. Indeed, this needs to be contrasted with an inductive justification of induction (Black, Braithwaite). In the case of a rule-circular justification of induction, such a justification does not assume the permissibility of circular justification. Instead, the inductive justification of induction assumes that the future will resemble the past. It is only when that argument is made explicit that its circular nature presents itself in the form of deduction. Once again, the important point to note here is that assuming induction is to assume regularity in nature, whereas assuming deduction is to assume the permissibility of circular arguments. In other words, while both of these justifications are rule-circular in that both assume the very rule at issue, only the deductive one *assumes circularity*. This is how the adoption of deduction can support its own adoption. After the initial assumption, one has no problem defending one's adoption of deduction, for one can always refer to its (permissible) deductive justification, or its (permissible) circular justification. Indeed, the standards by which one would perceive such a defence as permissible are none other than the standards of deduction itself.

By contrast, one cannot support a circular justification of induction, or, for that matter, any other circular justification, in the same way. Indeed, the circular justification of deduction is *uniquely* virtuous and not a wholesale endorsement of circular reasoning. Induction is not inherently circular itself. Thus, it does not

require one to allow for circular justifications for its acceptance. Put another way, when one wishes to justify one's inductive inference, one does not wish to justify circular reasoning. However, when one is dealing with inherently circular deduction, one's attempt to justify deduction is an attempt to justify circular reasoning.

Unfortunately, it is not clear whether endorsing a circular justification of deduction will one day be shown to be tantamount to endorsing all circular justifications. Interestingly, it seems one could justify induction using the enthymematic rule-circular justification laid out earlier, once one has justified deduction. In other words, one could give a deductively circular justification for induction. Indeed, the same would be true of any circular justification. Despite the possibility that this might be the eventual outcome, it does not change the fact that deduction requires a circular justification, or that this particular use of circular argument seems appropriate or justified. It seems one could 'bite the bullet' and open the door to all kinds of unwanted justifications, or, like Haack and Hume, not allow for circularity *or* the justification of deduction along with it.

As mentioned above, induction consists of several kinds of predictive inferences (from observed regularities one can infer general claims about the world). On the other hand, deduction consists of several types of accepted deductive inferences, such as *modus ponens* and *modus tollens*, as well as several unaccepted deductive inferences, such as Haack's *modus morons*. Deductive

inferences all share the crucial feature of being circular. It is beyond the scope of this essay, if not beyond human comprehension, to justify any claims as to whether each type of deductive inference correctly describes reality. Nevertheless, one can clearly see that they all manage to preserve truth by virtue of their circularity. While Haack correctly argues that one cannot justify the use of one deductive inference over another (Haack (1976), p. 114), she is wrong to say that one cannot justify deduction as truth preserving, since the realization that deduction is circular does just that. In other words, any rule of inference whose conclusion does not infer beyond what the premises assume, whether it be *modus ponens* or *modus morons*, requires circular justification, although there is no criterion by which to justify the adoption of particular deductive rules of inference. Moreover, it is by observing that deductive rules of inference are circular that one simultaneously realizes that they are truth preserving, for nothing is lost and nothing is gained by way of truth.

Chapter 3: A Circular Justification of Deduction to Answer the Sceptic

In the first section we carefully presented the most robust version of scepticism we could imagine. It is of little use to attack a straw man scepticism, although it appears many have done just that. Instead, we will see whether one who is so free of dogmatic beliefs as to question the veracity of LNC can be given the sufficient justification he desires. Nevertheless, this desire for justification may be the sceptic's demise; not because justification is impossible, but because the demand for justification may be unjustified itself. Indeed, our non-dogmatic sceptic will accuse the likes of Aristotle of begging the question. Aristotle, the sceptic will say, depends on LNC in order to show that it is acceptable; thus, Aristotle's is a clear case of circularity. However, this presents a problem for a truly anti-dogmatic sceptic, for it would be dogmatic to accept the common notion that circularity is undesirable.

In fact, circularity is just what is at stake when one is dogmatic. Being dogmatic is tantamount to begging the question, or being circular in one's reasoning. The sceptic might as well question whether his goal of avoiding dogmatic claims is itself a dogmatic ideal. This is the beginning of the end for the sceptic. The sceptical ideal has long been argued to be naïve negative dogmatism. Sceptics often reply to this by noting the ways in which one particular sceptic might have been dogmatic, but suggest that they are better, less dogmatic. Unfortunately, these sceptics assume that their ideal is universal: everyone wants to free their

philosophies of dogmatic/unjustified claims. But this ideal is not always universal. So how can the sceptic support his ideal in the face of opposition? If one were to suggest to the sceptic that there is nothing wrong with dogmatic claims, nothing wrong with unjustified beliefs, it seems the sceptic would be unable to offer a retort.

Historically, the sceptic has been answered on the sceptic's terms, but one might as easily question those terms. Actually, one might phrase this more accurately: the negative dogmatist has been answered on his terms, those terms including a demand for dogma-free beliefs. There seems to be no obvious reason for accepting the sceptic's demand for a dogma-free, or non-question-begging, or non-circular justification of anything. Indeed, if one is prepared to question the legitimacy of LNC, one might just as easily (or, with just as much difficulty) question that of circularity. It might be that the best course of action is to accept dogmatic claims; the non-sceptic can write his own terms, ones that allow for the occasional, if not frequent, unjustified belief.

Unfortunately, it is at this point that the waters muddy, and it will be far more useful to consider LNC and circularity independently for a moment. First, let us turn our attention back to LNC and consider what it would mean if one were to abandon LNC. We do not need to decide here whether LNC will be abandoned altogether, or in some cases alone. The debate between dialetheists, those who accept some contradictions as true, and trivialists, those who accept all

contradictions as true, does not need to be decided in this essay (nor could it) (Priest, 1998, 2004, 2004).

So what would it mean to allow for at least some true contradictions; what would be the result of accepting LNC to be without justification? For one, we would not want to abandon LNC if this meant abandoning the very thought process that motivated its abandonment. As Reid puts it, “to pretend to prove by reasoning that there is no force in reason, does indeed look like a philosophical delirium” (Reid (1983), p. 485). For starters, it seems such a move would require one to give up *ad hominen* or *reductio ad absurdum* arguments, since both of these turn on contradictions to make one view appear more reasonable than the other. Recall the attacks Arcesilaus made on the Stoics, where he tried to show that their position is untenable because it leads to the absurdity of both making claims about the world (the traditional Stoic position) and suggesting that one ought suspend judgement on such claims (the “Stoic” position that Arcesilaus arrives at). But what is the absurdity here? It is a contradictory conclusion, one that is as dogmatically dependent on LNC as Aristotle’s “negative” proof. Therefore, it is only when one adopts LNC that one is forced to see Arcesilaus’s results as absurd.

However, *ad hominen* and *reductio* arguments present a peculiar problem. We saw earlier that if Arcesilaus did adopt the Stoic position, he really showed that the basic Stoic premises lead to a suspension of judgement, and that should not be problematic unless one refuses to give up a belief that one cannot suspend

judgement. Put another way, Arcesilaus did not necessarily refute Stoicism, one can just as easily see him as having shown some new aspect of Stoicism. Likewise, when one argues that one cannot consistently refuse to accept LNC (à la Aristotle), one cannot be sure whether it is the position of those who do not accept LNC that one has refuted, or whether one has refuted the sanctity of consistency itself. This is to say that a *reductio* or *ad hominem* argument offers no additional support for either of two possible conclusions: the position in question is absurd, or something new and interesting has been shown (Woods, 2003).

Now, to return to circularity, we discover a similar problem (Woods's "most difficult problem"). When one argues, as we have above, that deduction can only be justified in a circular way, does that argument show that deduction cannot be justified (because a circular justification is absurd) or that circular justifications are permissible? We have said that the sceptic is entirely dogmatic in his demand for a non-circular justification, but this would be acceptable if we allow circular justifications, for that is to allow for dogmatic justifications as well.

Despite the fact that few have thought to adopt circularity as a response to the sceptic, there seems little recourse for the sceptic to counter such a move. Moreover, the above consideration of the circularity inherent in deduction, which lies at the core of acceptable reasoning, lends weight to the idea of utilizing circularity in the sceptical debate. In fact, this is close to what Goodman meant by

“reflective equilibrium”, where one’s rules of inference are justified as much by what they entail as those entailments are justified by the rules (Goodman, p. 64).

In addition, we have shown that the main arguments against the adoption of circular justifications, the independence and discriminate requirements, are based in circular reasoning themselves. In fact, it is likely that these are the considerations the sceptic has in mind when he dogmatically accepts the impermissibility of circular justifications. Ironically, allowing for circular justifications allows for the justified adoption of deduction; but this in turn might allow for one to circularly justify anything, including the very requirements that oppose circular justifications (independence and discriminate).

One must at this point wonder whether permitting circular justification will allow for any “justification” at all. That is to say, one important aspect of what we take justification to stand for is that it differentiates between what one should accept and what one should not. Yet, if one can adopt circular justifications, it seems one can accept any conclusion whatsoever, for one need only appeal to that very conclusion for justification. For example, one would be able to argue that Zeus really exists and is at this very moment looking down on us from Olympus. And for support, one would need nothing more than the same proposition: *because* he really exists!

Unfortunately, the question of whether allowing for the circular adoption of deduction will force one to also permit circular justifications elsewhere cannot be answered here, if ever. In some sense it seems that deduction is unique in its ability to withstand a circular justification, but this is not conclusive.

Perhaps it is the notion that allowing for circularity would allow for anything to be justified that Hume envisioned as “the most manifest absurdities” (Hume (1965), p. 548). On the other hand, this might explain Whitehead’s claim that all of philosophy is but “footnotes to Plato” (Whitehead, p. 39), for Plato’s initial assumptions stand today and are but manipulated rather than questioned. It seems the spirit of Whitehead’s claim is that we have not come any closer to “truth” in all the time since Plato. We seek a truth that is free of dogma, but that is a dogmatic demand as well. We seek a truth that is objective, but we cannot escape our own subjective, we cannot have Nagel’s view from nowhere. Indeed, this entire thesis is entirely dependent on the very dogma it aims to expose, both LNC and the demand for non-dogmatic or non-circular justification. We might not even want this view from nowhere. Many would prefer to be *somewhere*; the point of philosophical discussion is for many that it might have some effect where they are.

Moreover, it is worth considering the notion that the demand for a non-circular justification of one’s position is an artefact of human thought, not an objective law to which one is bound. To borrow a term from Michael Bergmann, this demand is an ‘artificial handicap’, imposed on philosophers by philosophers

(Bergmann, 2006). If one cannot but be dogmatic, there is no reason to see dogmatic arguments as having any less merit; one simply cannot be so rigorous in one's thinking as to be without some dogmatic beliefs.

Thus, it seems the sceptic envisioned at the outset of this essay, one who is free of dogma, cannot be instantiated. Although we idealize a sceptic apart from the mere negative dogmatist, it seems one cannot be free of dogma. Accordingly, there is no need to answer to that sceptic's demands; dogmatic philosophy is as acceptable as it is necessary, if there is to be philosophy or rational thought at all. Assumptions held in common between interlocutors allow for discussion, though that discussion will have the stain of dogmatism. One needn't put an end to the infinite regress, since that regress is as acceptable as any assumption one utilizes for discussion. The sceptical debate ends when one sees the impossibility of entering into such a debate, for no side can be so free of dogmatism as to represent an ideal "sceptic".

Bibliography

- Albert of Saxony. Perutilis Logica. Selections from Kretzmann & Stump (eds.)
- Allen, James (2004). "Carneades." *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/carneades/>
- Alston, William. Epistemic Justification: Essays in the Theory of Knowledge. Cornell University Press: 1989
- Annas, Julia & Barnes, Jonathan (eds.). Outlines of Scepticism (Sextus Empiricus). Cambridge University Press: 2000
- Annas, Julia & Barnes, Jonathan. The Modes of Scepticism. Cambridge University Press: 1985
- Annas, Julia. "Plato the Skeptic." From: The Socratic Movement. P. A. Vander Waerdt (ed.). Cornell University Press: 1994
- Annas, Julia. "Ancient Scepticism and Ancient Religion." *Forthcoming*.
- Aristotle. "Metaphysics". Trans. Hugh Tredennick. Harvard University Press, 1979
- Aristotle. "Prior Analytics". Trans. Robin Smith. Hackett: Indianapolis, 1989
- Audi, Robert (1998). "Reasons for belief," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/P043>
- Austin, J. L. "Critical Notice". *Mind*, 61, 395-404. Oxford University Press, 1952
- Barnes, Jonathan, et al (eds.). Articles on Aristotle. London: Duckworth, 1975
- Barnes, Jonathan (1998). "Carneades," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/A027>
- Barnes, Jonathan (1998). "Arcesilaus," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/A015>
- Barnes, Schofield, et al.. The Cambridge History of Hellenistic Philosophy. Cambridge University Press: 1999

- Bergmann, Michael. Justification Without Awareness. Oxford University Press: 2006
- Bett, Richard. "Scepticism and Everyday Attitudes in Ancient and Modern Philosophy", *Metaphilosophy* 24, 1993, (363-381)
- Boghossian, Paul. "How are Objective Epistemic Reasons Possible?" *Philosophical Studies* 2001
- Bonjour, Lawrence. "A Critique of Foundationalism." Found in: Pojman, Louis (ed.). The Theory of Knowledge: Classical and Contemporary Readings (2nd ed.). Wadsworth: 1999
- Braithwaite, R. B.. Scientific Explanation. Cambridge University Press: 1953
- Brittain, Charles (2005). "Arcesilaus." *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/arcesilaus/>
- Burnyeat, Myles (ed). The Skeptical Tradition. University of California Press: 1983
- Burnyeat, Myles. "Can the Sceptic Live His Scepticism?" From: The Original Sceptics. Burnyeat & Frede (eds.), Hackett Publishing: 1997
- Carroll, Lewis. "What the Tortoise said to Achilles." *Mind*, 14, 278-280. Oxford University Press, 1895
- Chisholm, Roderick M.. The Foundations of Knowing. University of Minnesota Press, Minneapolis: 1982
- Corcoran, John. "Aristotelian Syllogisms: Valid Arguments or True Universalized Conditionals?" *Mind*, 83, 278-281. Oxford University Press, 1974
- Coussin, Pierre. "The Stoicism of the New Academy." From: The Skeptical Tradition. Burnyeat (ed.). University of California Press: 1983
- Descartes, Rene. Discourse on Method and Meditations. Trans: Lafleur, Laurence J. Prentice-Hall. Inc., Upper Saddle River, NJ: 1954
- DeRose, Keith. "Sosa, Safety, Sensitivity, and Skeptical Hypotheses." *Sosa and His Critics*, forthcoming
- Dogson, C. L. *Lewis Carroll's Symbolic Logic*. Ed. W. Bartley III. Clarkson Potter: New York, 1977

- Dretske, Fred. "Epistemic Operators." *The Journal of Philosophy*, 67, 1007-1023.
The Journal of Philosophy Inc., 1970
- Dummett, Michael. Truth and Other Enigmas. Harvard University Press, 1978
- Empiricus, Sextus. "Against the Logicians." Trans: R. G. Bury. (Loeb Classical Library) Harvard University Press: 1935
- Fogelin, Robert J. "Hume's Scepticism." From: The Cambridge Companion to Hume. David Fate Norton (ed.). Cambridge University Press: 1993
- Foglia, Marc (2004). "Michel de Montaigne." *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/montaigne/>
- Frede, Michael. "Stoic Epistemology." From: Barnes (ed.) 1999
- Goldman, Alvin. "Discrimination and Perceptual Knowledge." *The Journal of Philosophy*, 73, 771-791. The Journal of Philosophy Inc., 1976
- Goodman, Nelson. Fact, Fiction, and Forecast (4th ed.). Harvard University Press, 1965
- Haack, Susan. "The Justification of Deduction." *Mind*, 85, 112-119. Oxford University Press, 1976
- Haack, Susan. "Dummett's Justification of Deduction." *Mind*, 91, 216-239. Oxford University Press, 1982
- Hankinson, R. J. (1998). "Agrippa," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/A003>
- Hankinson, R. J. (1998). "Pyrrhonism," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/A102>
- Hankinson, R. J. (1998). "Sextus Empiricus," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/A106>
- Harman, Gilbert. "Reflection on Knowledge and Its Limits." *The Philosophical Review*, vol. 111, no. 3, 2002

- Harrison, Ross (1998). "Transcendental arguments," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/N059>
- Huet, Pierre-Daniel. *Against Cartesian Philosophy*. Trans: Thomas M. Lennon. Humanity Books, New York: 2003
- Hume, David. A Treatise of Human Nature. Clarendon Press, Oxford: 1965
- Hume, David. An Enquiry concerning Human Understanding. Tom Beauchamp (ed.). Clarendon Press, Oxford: 2000
- Irwin, Terence. Aristotle's First Principles. Clarendon Press, Oxford: 1988
- Irwin, Terence (ed.). Classical Philosophy. Oxford University Press: 2000
- Kenny, Anthony. Descartes: A Study of His Philosophy. Garland Publishing, Inc., New York: 1987
- Klein, Peter (2001). "Skepticism." *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/skepticism/>
- Kneale, W. & Kneale, M. The Development of Logic. Clarendon Press, Oxford: 1962
- Kretzmann, Norman & Stump, Eleonore (eds.). The Cambridge Translations of Medieval Philosophical Texts Vol.1. Cambridge University Press: 1989
- Laertius, Diogenes. *Lives of Eminent Philosophers*. From: Long & Sedley (eds.) (1987)
- Lear, Jonathan. Aristotle and Logical Theory. Cambridge University Press, 1980
- Lennon, Thomas M. (2003). "Pierre Bayle." *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/bayle/>
- Long, A. A. & Sedley, D.N.. The Hellenistic Philosophers, vol.1. Cambridge University Press: 1987
- Łukasiewicz, J. "Aristotle on the Law of Contradiction". From: Barnes (ed.)
- Łukasiewicz, J. Aristotle's Syllogistic From the Standpoint of Modern Formal Logic (2nd ed.). Clarendon Press: Oxford: 1957
- Nagel, Thomas. The View From Nowhere. Oxford University Press: 1986

- Norton, David Fate (ed.). The Cambridge Companion to Hume. Cambridge University Press: 1993
- Popkin, Richard H. "David Hume: His Pyrrhonism and His Critique of Pyrrhonism." *Philosophical Quarterly*, vol. 1, no. 5, Blackwell Publishing: 1951
- Priest, Graham (1998). "Paraconsistent logic," in Routledge Encyclopedia of Philosophy. E. Craig (ed.). Routledge, London. Retrieved February 18, 2005, from <http://www.rep.routledge.com/article/Y053>
- Priest, Graham (2004). "Dialetheism." *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/dialetheism/>
- Priest, Graham & Tanaka, Koji (2004). "Paraconsistent Logic." *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/logic-paraconsistent/>
- Reid, Thomas. "Essays on the Intellectual Powers of Man." From: The Works of Thomas Reid, D. D. Vol:1. (8th ed.) Sir William Hamilton (ed). James Thin, Edinburgh: 1983
- Reid, Thomas. An Inquiry into the Human Mind. Derek R. Brookes (ed.). The Pennsylvania State University Press, PA: 2000
- Richmond, Sheldon. "Can a Rationalist be Rational About His Rationalism." *Philosophy* vol. 46 (1971).
- Schmitt, Frederick F. "What is Wrong with Epistemic Circularity?" *Philosophical Issues*. Blackwell Publishing, 2004
- Schofield, Malcolm. "Academic Epistemology." From: Barnes (ed.) 1999
- Skyrms, Brian. Choice and Chance: An Introduction to Inductive Logic (4th ed.). Wadsworth Publishing, 1999
- Smiley, T. J. "What is Syllogism?". *Journal of Philosophical Logic*, 2, 136-154. D. Reidel Publishing Company, Dordrecht-Holland: 1973
- Smith, Robin. "Introduction". From: Aristotle, "Prior Analytics," Trans. Smith
- Sosa, Ernest. "How to Defeat Opposition to Moore." *Philosophical Perspectives: Epistemology (Nous Supplement)*, vol. 33, 1999

- Stroud, Barry. "Hume's Scepticism: Natural Instincts and Philosophical Reflection." *Philosophical Topics*, vol. 19, no. 1, 1991
- Thorsrud, Harold (2004). "Ancient Greek Scepticism." *The Internet Encyclopedia of Philosophy*, James Fieser (ed.), <http://www.iep.utm.edu/s/skepanci.htm>
- Warnock, G. J. "Reason." *Encyclopedia of Philosophy*, vol. 7. 83-85. Macmillan: 1907
- Whitehead, Alfred North. Process and Reality. Free Press, 1979
- Williams, Bernard. "Descartes's Use of Skepticism." From: The Skeptical Tradition. Burnyeat (ed.). University of California Press: 1983
- Williamson, Timothy. "Knowledge and Scepticism." To appear in: Jackson and Smith (eds.) The Oxford Handbook of Analytic Philosophy. Oxford University Press: *forthcoming*
- Woods, John. Paradox and Paraconsistency: Conflict Resolution in Abstract Sciences. Cambridge University Press: 2003