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AN ENQUIRY INTO ALVIN PLANTINGA'S CLAIM TO HAVE PRESENTED A NATURALISTIC ANALYSIS OF WARRANT

by

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The purpose of this thesis is to explore Plantinga's claim that his theory of knowledge is naturalistic because the only normative notion it invokes is proper function.

Preliminary Orientation

Much epistemological theorizing in this century has attempted to understand knowledge through an analysis of justification. Such theorizing posits justification as whatever it is that differentiates knowledge from mere true belief and then seeks to define this third condition. Alvin Plantinga undertakes to unify and criticize some of the main contemporary views on justification in Warrant: the Current Debate. He argues that the numerous present-day definitions of justification can be traced back to the epistemic deontologism of Descartes and Locke. Both held that knowledge requires that one do his or her epistemic duty to believe only what is true or reasonable. Through their influence, being justified—ie. doing one's duty—came to be nearly synonymous with the third condition of knowledge. According to Plantinga, current theories of knowledge are to be understood in terms of this precedent, either as carrying it on or rejecting it to some degree.[1] He refers to theories which hold to this precedent as "deontological."

Plantinga's theory of knowledge is among those which deny that satisfying the third condition for knowledge is primarily a matter of fulfilling one's epistemic obligations. This denial follows directly from

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[1]The proceeding comments are taken from the Preface to Warrant and Proper Function, p. vi. The widespread concern of many contemporary epistemologists with justification is documented on pp. 6-10 of Warrant: The Current Debate.

his central premise that any account of warrant fails which does not "take appropriate account of the notion of proper function" [WPF[2], 4] He argues that deontological accounts cannot do so.

Non-deontological accounts of justification, Plantinga's included, frequently refer to the third condition for knowledge by some other term than "justification." Since justification suggests freedom from blame, and freedom from blame suggests that one has done what duty requires of her, the word is misleading when used as a label for the third condition in the context of non-deontological discussions. For this reason, Plantinga uses the term "warrant" to refer to the third condition for knowledge.

Plantinga presents his account of warrant in an accompanying volume, Warrant and Proper Function. His account builds upon his claim that the proper functioning of the subject's belief-forming and belief-maintaining apparatus is a necessary condition for warrant, arriving eventually at the following definition.

> As I see it, a belief has warrant if it produced by cognitive faculties functioning properly (subject to no malfunctioning) in a cognitive environment congenial for those faculties, according to a design plan successfully aimed at truth. [WPF, viii-ix]

After spending the first two chapters of WPF developing, qualifying and defending this definition of warrant, Plantinga raises the question of whether his account of warrant is naturalistic (cf. WPF, 45-46). He begins his answer with the statement that "perhaps the essence of a naturalistic form of epistemology has to do with normativity." [WPF, p.

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[2]WPF refers to Warrant and Proper Function (Alvin Plantinga, Oxford University Press: 1993); WCD refers to Warrant: the Current Debate (Alvin Plantinga, Oxford University Press: 1993).

45] He then goes on to claim that his account is naturalistic because it contains no normative notion other than proper function. Proper function is purportedly a normative notion because we say that a properly functioning organism or artifact—an undamaged pancreas, knee, or brake shoe, for example—operates the way it ought to. In a later summary, Plantinga links the concept of proper function to his claim to be a naturalist as follows:

> The account of warrant I propose is an example of naturalistic epistemology: it invokes no kind of normativity not found in the natural sciences; the only kind of normativity it invokes figures in such sciences as biology and psychology. [WPF, 194]

We shall proceed by investigating four claims that Plantinga presents as his work progresses toward the claim at the end of the second chapter of WPF that his is a naturalistic account of knowledge.

(1) All deontological theories of knowledge fail because they do not take adequate account of the notion of proper function.

(2) Proper function is a normative notion.

(3) His analysis of warrant has recourse to no other normative notion than proper function.

(4) His analysis is naturalistic because it has recourse to no other normative notion than proper function.

Chapter one will investigate the first, chapter two the second, three the third, and chapters four and five the fourth claim.

Opening Concerns

We begin under the inspiration of Plantinga's maxim that the only way to make progress in epistemology is to discern how the members of a class of basic epistemological terms are related to each other and to members of other classes. [WCD, vi] In our case, the class encompasses

warrant, deontology, internalism, proper function, normativity, and naturalism. Norms will be our primary focus because considerations about them are present in all the other conceptual relations. They figure somehow in Plantinga's rejection of deontological accounts of warrant in favour of one which includes proper function as a necessary condition, and they link this change of approach with his claim to be a naturalist. The fact that Plantinga gives less attention to epistemic norms than the concepts to which he relate them provides an added impetus for focusing our attention on them.

Relating normativity to these other epistemological concepts would be easier if we knew what it means to "invoke a kind of normativity" or raise "normative questions about warrant." Talk of "normativity" is arcane. The suffix "-ivity" indicates a state or quality of being; for example, passivity is the state or quality of being passive. So normativity is the state or quality of being a norm or normative. What then does Plantinga have in mind when he speaks of "invoking a kind of normativity?" In common discourse, to invoke a norm would be to appeal to some kind of standard in order to confirm or sanction a particular decision or course of action. It would seem then that to invoke an epistemic norm is to appeal to some kind of standard which sanctions or confirms knowledge claims. Presumably, normative questions/questions about the normativity that goes with warrant would concern themselves with what sorts of things these standards are and how they are to be applied.

Perhaps an analogy with ethics can assist us at this point. The phrase "normative questions about warrant" is redolent of attempts in ethical theory to prescribe standards of behaviour as opposed to attempts

to analyze ethical terms. The analogy would seem to indicate that normative questions about warrant are concerned with prescribing standards (ie. norms) for rational thought and that one acquires warranted beliefs by adhering to these epistemic norms in the same way that one does good acts by adhering to moral norms. It also sheds some light on the relationship between normativity and deontology: presumably there is some link between following norms—moral or epistemic—and doing one's duty.

But taking epistemic norms to be analogous to moral norms gives rise to a problem. Moral norms are imperatives that instruct us how to act rightly. Epistemic norms, if we follow the analogy, are imperatives that instruct us how to think rightly. Like their ethical cousins, they take the form of commandments: "This is how thou shall think--_____."[3] Accordingly, normative questions would concern themselves with what goes in the blank. But how then could Plantinga speak of proper function as a normative notion? We do not command people to function properly. The analogy would seem to make normativity exclusively a property of rules, not biological organisms or the life-processes they carry out. By so doing, it appears to turn the phrase "the normative notion of proper function" into nonsense.

Having gained some insight from this analogy with ethics, and having observed the limitation spoken of above, we shall now investigate epistemic norms more fully. In the first chapter we shall consider how they figure in an analysis of warrant. We will begin by seeing how a

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[3]There might be norms which cannot be stated without being qualified by a set of antecedent conditions. Such norms might take a form similar to the following: "When the following conditions are present-- _____, this is how thou shall think -- _____."

commitment to deontology affects one's conception of the normativity that goes with warrant and then consider some of the arguments that Plantinga and others have raised against the deontological approach. The second chapter will deal with the problem just mentioned by considering how the notion of epistemic normativity changes when deontological theories of knowledge are rejected in favour of those which take cognitive processes into account. Special attention will be given to Plantinga's claim that such processes must function properly if beliefs are to be warranted.

I

EPISTEMIC NORMS AND WARRANT

1.1 The Traditional Conception of Epistemic Norms

The word "norm" has a rich etymological heritage. It derives from the Latin word norma, which is a rule or pattern. More precisely, it referred originally to the squares which carpenters used as a means of keeping right angles true while building. Similarly, "normative" and "normal" derive from the Latin word normālis, which means patterned after or made according to a carpenter's square. The word has ties to the Greek word gnomon, that which knows or indicates.

The imagery surrounding the Latin root is informative. A norma was quite literally a tool that guided someone in some activity, and/or a tool by means of which someone could assess the activity of himself or others. In the carpenter's case, the end is a structure with right angles and the square the authority by which the carpenter determines whether the corner he is constructing is square. The square can function in this capacity because it has a pattern or form which the building, if properly constructed, must conform to. Generalizing, a norm is a pattern which is both the means by which an action is guided to some desired end and the means for evaluating that action.

But must the norm for something always function as both a guide and a means of measurement? Patterns are often spoken of as being norms, as when we say that someone's heart is normal, meaning that it accords with the pattern for hearts in general. We might say that this pattern enables us to evaluate the health of the heart, but would we say that it guides

its actions? It doesn't guide in the sense that a ruler guides the actions of a mason, but if we stretch the meaning of guidance we could say that it guides as what Aristotle called a formal cause. That is, the structure of the heart is responsible for its functioning the way it does. Nevertheless, even if we make such a concession, these considerations incline one to think that something's being a pattern is more essential to its being called a norm than its guiding and assessing, even though the paradigmatic mason's ruler had both functions.

But what do epistemic norms function as patterns for? Descartes' answer is the standard one: affirming what is true and not affirming what is not true. [WCD, 12] So it seems that epistemic norms are patterns which, at least in paradigmatic cases, both guide and assess the cognizer's effort to assent only to what is true and disbelieve what is false.[1] But to form beliefs in accordance with a standard which enables one to assent only to the truth and disbelieve what is false is to have knowledge. Thus, conforming to epistemic norms becomes synonymous, or nearly synonymous, with being warranted. We might say that epistemic norms so conceived are like the immortal handmaidens at the reigns of

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[1]By conceiving of norms as what conduce to truth, one moves away from the analogy between deontology in epistemology and deontology in ethics. For the deontological approach in ethics seeks to deduce ethical norms directly from a foundational awareness of moral duty, as opposed to deducing them from considerations of their consequences. But our present considerations seem to indicate that norms of rationality are obligatory precisely because they lead the intellect to truth. A strict analogy with ethics would require calling deontological only those accounts which claim that a rule is normative for me--modus ponens as opposed to modus tollens for example--because I intuit the former to be obligatory for me as a rational agent, as opposed to those which claim that the rule's normative status derives from its being a means to an end to which I am obliged, namely believing only what is warranted and true.

Parmenides' chariot, speeding it through the gates of truth.[2]

This definition of epistemic norms does not indicate what kind of things they are. The standard answer to that question is that they are truth-preserving principles of reasoning, the principles that people must follow in order to fulfil their obligation as rational creatures to accept truth and avoid error.[3] According to Plantinga, this standard answer has its origins in Classical Enlightenment philosophy, especially in Descartes and Locke. Twentieth-century Anglo-American epistemology continues to work under its shadow, displaying a notable if not bewildering number of variations on its central theme. Our next concern is to gain an

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[2]Defining epistemic norms as the means to true belief may be unacceptable to those who have concerns with the metaphysical claim that a belief counts as knowledge just in case it corresponds with "things that are as they exist independently of human thought" (Such concerns could be motivated by traditional skepticism about the inability of thoughts about phenomena to refer to anything outside of human thought, or by the view that science seeks unified explanations of phenomena rather than correspondence with being, or by other concerns) Not wishing to digress, I will simply point out that if someone so wished, she could define epistemic norms as the standards to which thought must conform in order to achieve cognitive excellence and then go on to define cognitive excellence in some way other than truth conceived of as correspondence with being. That said, Plantinga, the primary focus of this discussion, equates cognitive excellence with knowledge, and knowledge with warranted true belief. So, for Plantinga, epistemic norms are standards adhered to by those who hold warranted true beliefs.

[3]This answer has been standard only since the Enlightenment. The classical monism which preceded it, in both its Platonic and Aristotelian manifestations, was inclined to identify the standards for knowledge directly with the forms or ideas abstracted from particulars (or perhaps grasped in their presence) through an act of universal understanding. One gains knowledge, it was thought, by becoming what one knows. (In scholastic parlance, knowing is the actualization of an abstracted essence in the passive intellect) The notion that the norms for knowledge are patterns or forms waned with the decline of transcendent ontology, but it reappeared in Kant, who calls the categories, when considered merely as the conditions for the possibility of thought, forms. As the principles for all possible experience, the categories are the norms for knowledge in a most fundamental sense. [cf. Kant, Prolegomena to Any Future Metaphysics, section 23]

understanding of the traditional conception of the normativity which goes with warrant which will suffice to make Plantinga's departure from it comprehensible.[4]

1.1a Traditional Norm Internalism

Descartes and Locke both regarded a belief to be known only if it is reasonable. They took a belief to be reasonable when a cognizer possesses evidence, a reason, for its truth. A person who possesses a reason for something, they thought, could be certain that the thing is not other than believed to be. An obvious question then arises.

Under what conditions is a belief reasonable? That is, what is it for a person to be in possession of evidence for the truth of a belief?

The Enlightenment answer is that one attains reasonable beliefs by employing a proper method of thinking. For example, Descartes, in the second part of his Discourse on Method[5], states that he is searching for "the true method of arriving at the knowledge of everything my mind was capable of obtaining." He then goes on to list several principles to regulate his thinking by. To mention but one as an illustration, he resolves to ". . .include nothing more in my judgments than what presented itself to my mind with such clarity and distinctness that I would have no occasion to put it in doubt." [Descartes, 10]

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[4]The following is based on the first chapter of WCD, where Plantinga relates deontology, justification, and internalism. It aims to give a coarse summary of his discussion and to locate epistemic norms within the context of a deontological notion of justification. Readers are referred to his more detailed discussion.

[5]Descartes, Discourse on Method and Meditations on First Philosophy, Donald A. Cress, trans., (Indianapolis: Hackett, 1980) 9.

Descartes claimed that one who followed the principles he had outlined would not fail to obtain knowledge. Now we earlier defined epistemic norms as the standards which sanction or confirm knowledge claims. Since this is precisely what Descartes intended his principles to do, it is appropriate in our present context to refer to them as norms, even though, to my knowledge, Descartes did not use that term. Locke apparently did not use the term either, but he too took knowledge to rest primarily on thought in accordance with right principles of reasoning.[6] It is therefore consistent with both a Lockean and Cartesian understanding of knowledge to identify the norms for knowledge with principles which regulate judgement.

The Enlightenment understanding of knowledge is internalistic. That is to say, it takes the warrant status of a belief to depend entirely upon factors or states which are in some sense internal. To borrow from Chisholm's meticulous word-stock, we could say that it depends entirely upon purely psychological properties to which the agent has privileged access through reflection." [cf. WCD, 48, 50-1] How so? The accounts we have been considering tell us that our cognitive success depends entirely on whether or not we choose to assent only to those beliefs for which we have sufficient evidence. Now the condition of being supported by the evidence is one whose fulfilment or lack of it is within our power to ascertain. A person can determine whether or not a belief has sufficient evidence by thinking about her other beliefs to see if it they support it. (Unless of course it is a self-evident belief, in which case she need only

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[6]Locke does not identify all knowing with judgement in accordance with right principles. For he thought that self-evident propositions are intuited, not demonstrated. See WCD, 14.

understand it to know it is true) Beliefs and the principles of judgements by which we relate them to one another are directly accessible in reflective thought. Therefore, each of us can determine through reflection alone whether or not a given belief is warranted for us.

We can recast this point in terms of norms. Suppose we conceive of the norms for rational thinking as a set of conditions that a belief must satisfy in order to be warranted. The above accounts are internalistic because they hold that each of us can determine in reflection alone whether the norm conditions for a given belief are satisfied. For example, a person can determine in reflection alone whether a belief is clear and distinct.

The Enlightenment understanding of knowledge is also deontological. That is to say, it regards the possessing of knowledge to be very closely related to the condition of having done one's epistemic duty. Locke, for instance says the following,

> For he governs his assent right, and places it as he should, who in any case or matter whatsoever, believes or disbelieves according as reason directs him." [Locke, in WCD, 13]

Similarly, Descartes held that one acts <u>rightly</u> when he abstains from believing what is not clear and distinct. [WCD, 12] Both held that as rational creatures, we deserve blame if we fail to believe only what is reasonable. Since they took reasonable beliefs to be certainly true, (or, in Locke's case, probable with respect to what is certainly true) both thought that fulfilling one's duty would lead one to believe only what is true (or probably true in Locke's case). Conversely, believing what is not true is indicative of irresponsibility.

To put the same point differently, a deontological position claims

that we are culpable not merely for failing to do the best we can but for failing to succeed, that is, culpable for failing to believe only what is warranted. That claim implies not only that we have the power to do or fail to do something which will free us from blame, but also that our responsibly-formed subjective determinations about whether an assertion is warranted coincide with the determination that is actually appropriate.[7] [8] Internalism makes deontology possible because it makes both implications plausible.

First, internalism holds that whether a belief has warrant depends on conditions which are internally accessible. More specifically, it holds that a belief cannot have warrant for a person unless he is in possession of a reason for its truth. Each of us can choose whether or not to reflect upon a belief as to whether or not there are reasons for accepting it before giving assent to it. Since it is up to us whether or not we follow the voice of reason, we can be blamed for not doing so and be free from blame if we do. So internalism renders the claim that we have the power to free ourselves from blame plausible.

Second, internalism believes reasoning in accordance with the right set of rules to be sufficient for warrant, that if someone assents to an unwarranted belief it must follow that she has not reasoned properly. For

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[7]See WCD, 15-22 for an elaboration of this point.

[8]An analysis of knowledge can be non-deontological in this sense and retain a deontological component. For example, it could argue that non-standard environment conditions could cause me to assent to a belief which is unwarranted for me even though I have done my best to fulfill all of my epistemic responsibilities and thus do not deserve blame for my failure. Such a position is consistent with the claim that people have an obligation to seek truth and avoid falsehood, even though it denies (i) that epistemic failure is always indicative of a dereliction of duty, and (ii) that warrant can be analyzed completely in terms of duty fulfillment.

if warrant did not depend solely on following obeying epistemic principles, it would not depend on purely psychological properties. This internalist supposition, that rule-following is sufficient for warrant, must be properly interpreted. It does not merely claim that a cognizer has privileged access to what we might call subjective norms for reasoning--rules which she <u>believes</u> will preserve truth; rather, it claims that she has access to what we might call objective norm conditions--those which do indeed preserve truth. For knowledge requires that a belief is in fact warranted, not that someone believes it to be.

So the deontological claim that we are culpable for holding an unwarranted belief is implausible without the internalist thesis that we can determine through reflection alone whether a belief has warrant. If we could not do so, it would be possible for someone to do his duty--accept only what he judges to be supported by the evidence--and yet hold a belief which fails to satisfy the norms for warrant through no fault of his own, in which case he would not deserve blame.

Perhaps the point can be made clearer through a contrast. Suppose that warrant rests on conditions we cannot determine through reflection alone. For example, suppose that belief B is not warranted for S unless condition C obtains[9], even when B appears to be reasonable. Suppose again that C does not obtain that S is ignorant of this fact, and that B accords with all principles of reasoning. These conditions would lead S to assent to B even though it is unwarranted. Moreover, S would not be culpable because he has done his duty to the best of his ability.

Plantinga claims that deontology motivates internalism. The meaning

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[9]C = the process which generated B is reliable, for example.

of this claim is not entirely clear, but our above considerations suggest an interpretation. The premise that the thinking subject deserves blame not merely for failing to do her best to believe the true and avoid the false but also for failing to succeed in her efforts presupposes that whether or not she succeeds in getting truth and avoiding error is entirely up to her and within her power. But that presupposition is tenable only if the conditions for warrant are internal. Hence, a commitment to deontology motivates a commitment to internalism.

With this consideration we conclude our investigation into the traditional conception of the norms for warrant. These considerations are relevant to our investigation of Plantinga's account of warrant because the school of thought that he is criticizing and departing from has inherited these commitments to deontology and internalism. They lie behind the numerous and varied attempts by twentieth-century Anglo-American epistemologists to analyze knowledge in terms of justified true belief.[10] (As mentioned earlier, calling the third condition of knowledge justification suggests that warrant is a matter of fulfilling one's duty and by so doing to escape blame, hence deontological) All have preserved to some degree the fundamental premise that the norms for warrant are internal. To take notice of how this premise has been preserved in contemporary analyses of knowledge is our last task before we turn to consider Plantinga's rejection of it.

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[10]The reader is referred to pp. 25-29 for a survey of these positions and to subsequent chapters of WCD for an in depth critique of them.

1.1b Contemporary Norm Internalism

Some contemporary accounts identify the third condition for knowledge with being justified in the fully deontological sense. Chisholm, for instance, in his early writings, defines knowledge as, put roughly, reasonability together with truth and belief, and then conceives the reasonableness of some proposition p to be a matter of S's intellectual requirement or responsibility as an intellectual being having been better fulfilled by assenting to p than q. [Chisholm, in WPF, 33][11] Fulfilling one's intellectual requirement is, to put it most simply, a matter of forming beliefs in accordance with epistemic principles. Other epistemologists may offer different principles than Chisholm, but, as Plantinga indicates, there is a unifying conviction amongst many contemporary analytic epistemologists that people attain knowledge by fulfilling their obligation to be epistemically responsible and that doing so is a matter of governing assent by means of principles of rational acceptance. In this way, the third condition for knowledge remains synonymous with fulfilling one's epistemic requirement by giving assent to those beliefs which satisfy the norm-conditions for warrant, the principles for rational acceptance.

Since a person can determine through reflection alone whether a belief of hers satisfies these conditions, these deontological accounts preserve the internalist motif.

It should be noted, however, that the Enlightenment demand that anything worthy of acceptance must be certain or probable with respect to

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[11]Chisholm later supplanted this analysis of positive epistemic status with one which disavows deontologism. The latter is discussed in the third chapter of WCD.

what is certain has been superseded. Modern epistemology conceives of the norms for rational acceptability in various ways, notably in terms of an assertion's being likely or its being the most reasonable or intrinsically preferable option.

Other contemporary analytic epistemologists have continued to identify the third condition for knowledge with justification but have marginalized or done away with the notion that justification consists in fulfilling one's epistemic duty. They still consider justification to be the third condition for knowledge, but they conceive of it, to use Plantinga's expression, in an analogically extended sense. Some define justification in terms of accepting propositions for which one has adequate evidence and devote most of their energy to discussing what adequate evidence consists in. Others define justification in terms of giving assent to propositions which are rational or which help one to attain her epistemic goals. The view that epistemic norms are a set of internal conditions can flourish in these contexts, even though the notion that we are culpable for accepting beliefs which do not satisfy those conditions dwindles or disappears entirely.

Still others analytic epistemologists define justification in a completely non-deontological sense, analyzing it in terms of a belief's being rendered "permissible" by the reliable processes that generated it. We shall consider the question of how to conceive of norms in such contexts shortly.

1.2 Plantinga's Rejection of Deontological and Internal Norms

Having learned how analyses of knowledge containing a deontological and/or internalistic understanding of warrant conceive of the norms for warrant, we can now enquire into how the rejection of this understanding of warrant motivates a revision of the concept of epistemic normativity. We shall first concern ourselves specifically with Plantinga's rejection of deontology and then turn to consider his internalistic approach to analysis in general. Finally, we shall relate the normative consequences of Plantinga's rejection of internalism to other arguments against the mainstream Anglo-American approach to analyzing knowledge.

1.2a Plantinga's Rejection of the Deontological Approach

We begin with a syllogism which will make the normative consequences of rejecting deontology plain. (Here " â " stands for the universal quantifier, and " <--> " for if and only if):

âx (x is warranted <--> x conforms to the norms for warrant)

âx (x conforms to the norms for warrant <--> x is consistent with the fulfilment of epistemic duty)

Therefore,

âx (x is warranted <--> x is consistent with the fulfilment of epistemic duty)

This syllogism needs to be qualified. First, note that it is somewhat of an oversimplification of deontological accounts of warrant. Most qualify the generalization between warrant and norm-conformance with some kind of

codicil, especially when confronted with Gettier cases.[12] Second, note that the syllogism does not specify the object of discourse. Just as it is a contestable point in ethics whether actions, motives, habits or persons are the proper objects of judgements about goodness, so also in epistemology is it a debatable point whether propositions, belief states, faculties, or persons are the proper objects of epistemic evaluations. To maintain neutrality I shall refrain from specifying what sort of individuals fall or fail to fall within the extensions of the predicates in the syllogism. Third, the claim that epistemic norms are standards which a warranted cognizer adheres to leaves open the issue of whether or not it is possible to reduce an epistemic norm to a set of non-epistemic facts. That is, it does not take sides on the issue of whether a proper description of norms, in this case a description of what it is to do one's duty, must itself be free of any normative notions.

Insofar as it represents Plantinga's position, the above syllogism sheds light upon how a rejection of the idea that warrant is deontological is of consequence for how one conceives of the norms for warrant. Plantinga presents cases where a person does her duty but is not warranted. The typical reason for such anomalies is that the person is not functioning properly. For example, someone suffering from a brain lesion could conceivably fulfil his epistemic obligations and yet fail to

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[12]Gettier-type cases are instances where a person arrives at a true belief fortuitously and hence is not warranted. For example, A believes the testimony of B that P. B in fact is intending to deceive A, but P is the case for some fortuitous reason unbeknown to either. Or, to give an example involving proper function, A has a brain lesion which produces numerous delusions, among them the belief that he is suffering from a brain lesion, which is true by coincidence. See WPF, 40.

be warranted.[13] Such cases render the conclusion of the syllogism false. If a valid argument has a false conclusion, one of the premises must be false.

Perhaps we could avoid having to revamp our definition of norm conformance by rejecting the first premise. But if we did that, we would defeat the purpose of our enquiry. For our aim is to make sense of Plantinga's contention that rejecting a deontological conception of warrant in favour of one which takes proper function into account leads to a revised notion of the normativity that goes with warrant. Plantinga's presumption that there is a "normativity which goes with warrant" in non-deontological accounts suggests that he regards conforming to norms to still be essential to being warranted. And well it should be when epistemic norms are defined as the patterns or standards for warrant.[14]

For this reason, we will regard the second premise to be the unacceptable one. An acceptable analysis of warrant must reject the notion that the norm conditions for knowledge are satisfied just in case people fulfil their epistemic obligations because that notion does not take account of the necessity of proper functioning for warrant, which, as

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[13]cf. WCD, 39-42 & 44-45.

[14]That is not to say that this definition is a tautology. Perhaps one could argue that adhering to epistemic norms, properly understood, is an aspect of knowing but that it is not possible to define knowledge or warrant in terms of them. For instance, one could continue identifying norms with rules and just say that there are other conditions for warrant in addition to norm adherence. That particular position would preclude taking proper function as a normative notion, so we will set that understanding of epistemic norms aside until later in this essay. Alternatively, one might possibly consider proper function to be the only normative notion involved in warrant and yet deny that proper function is the only condition for warrant. The end of chapter two will consider the question of how Plantinga's claim to invoke no normative notion but proper function relates to his other conditions for warrant.

Plantinga's counterexamples show, it must.

Plantinga's counterarguements give us cause to reject the notion that we are culpable for accepting beliefs which do not satisfy the norm conditions for warrant. Culpability requires that these norm-conditions are such that one can determine if they are satisfied through reflection alone. Being known through intuition and/or following from what is already known through some principle of inference that preserves truth or at least leads to the most preferable option seem to be the best candidate norm-conditions of this sort, and so duty-fulfilment is identified with regulating affirmation by means of principles. But once we reject the culpability premise, we are no longer bound to the assumption that right rule-following must be sufficient for conformance to the norms conformance to which constitutes epistemic warrant.[15] That rejection makes it possible to conceive of norm-conditions which are not rules for thinking, preparing the way for Plantinga's argument that properly functioning is one of these conditions.

1.2b Plantinga's Rejection of the Internalistic Approach in General

Suppose we were to accept Plantinga's counterarguments to deontological accounts of warrant and thereby concede that warrant cannot be analyzed into fulfilling one's epistemic duty. Why not salvage the claim that epistemic norms are thought-governing rules to which we have privileged access in reflection by defining norm-conformance directly in

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[15]Plantinga also argues that there are cases where rule-following is not necessary for warrant. We shall set aside this claim for now. Parts of chapter three are relevant to the question of whether forming a belief always involves rule-following.

terms of following the rules for right reasoning? Our syllogism would then look as follows:

âx (x is warranted <—> x conforms to the norms for warrant)

âx (x conforms to the norms for warrant <—> x conforms to the rules for right thinking)

Therefore,

âx (x is warranted <—> x conforms to the rules for right thinking)

(Once again the qualifications spoken of above apply) This new analysis continues to regard epistemic norms to be rules of thought and thus continues to take it to be possible for someone to determine whether or not she is warranted through reflection alone, even though it no longer attempts to ground this conception of normativity in the tenet that reasonable believing is an epistemic obligation.[16]

Plantinga has two lines of argument against such a position. One confronts non-deontological but nevertheless internalist accounts of warrant directly with altered counterexamples. Plantinga offers instances where people fulfil the conditions for warrant contained in a non-deontological but nevertheless internalist account and yet fail to be warranted. Again, one of the primary reasons why the people in his examples fail is their having malfunctioned in some way.

Here is an example. In his more recent work, Chisholm argues that a belief has warrant just in case, put roughly, it occurs in conjunction with an evidence-base which is a member of the set of evidence-bases

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[16]Plantinga cites Chisholm's account of justification as presented in the second edition of his book Theory of Knowledge as an example of this kind of internalism. Coherence theories similar to those of Lehrer and Bonjour also fit into this category.

conjunction with is necessary for warrant. (Of course one's evidence base is a purely psychological property.) Plantinga argues that a belief which stands in a relationship to an evidence base can have differing degrees of warrant in different circumstances. I could be so altered by cognitive malfunction or an evil demon or Alpha Centaurian scientists that, upon examining a series of numbers beginning at 23 to identify those which are prime, I experience the phenomenology that goes with intuiting that a number is prime with every third number I consider. So I would deny that 23 and 24 are prime, believe that 25 is, deny that 26 and 27 are, believe that 28 is, and so on. When I got to 67, I would believe it is prime. Since, in this situation, my evidence for the belief "n is prime" is constituted by these acceptance phenomenologies, my belief that 67 is prime would occur in conjunction with the right evidence base. Thus it would satisfy Chisholm's norm-condition for warrant but would not be warranted.[17]

Plantinga's second line of argument against non-deontological internalism is that to deny that warrant is a matter of fulfilling one's duty is to lose the ground upon which the claim that epistemic norms are assent-governing rules stands, leaving that claim unmotivated.

> deontology implies internalism; but if we move away from deontology, if we suppose that what confers justification is not my being above reproach or acting responsibly, in accord with my duty, but rather a certain appropriateness of belief to evidence-base, then we loose that reason for accepting the internalist motifs. [WCD, 53]

Suppose we grant that deontology requires internalism. Is the demand that we be culpable for our epistemic failure the sole or even chief motivation for the presence of internalist presuppositions in much

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[17]See WCD, 59-60. Similar counterexamples appear on pp. 81-82.

of the Anglo-American analytic tradition and its historical precedents? Or is it possible that a denial of deontology follows from a prior denial of internalism by modus tollens? Since time and space do not permit a critical examination of Plantinga's claim about the motivation behind deontology, I shall instead suggest but not defend a possible alternative motivation for internalism. Could it not be that the true motivation behind internalism is the Cartesian and post-Cartesian attempt by those who might loosely be termed rationalists to ground knowledge in the certainty of the _res cogito_?

Our judgements, it was reasoned, are not valid for everyone everywhere through all time. But a true system of knowledge, _ie.,_ science, would contain judgements which are universally valid. Such a system could only be produced, it was supposed, by formulating in advance of any particular judgement a set of rules which, when used to regulate assent, would produce out of subjective experiences judgements which are certainly true and thus universally valid. Hence we observe Descartes formulating a series of principles which would allow him to "arrive at a true method of arriving at the knowledge of everything my mind was capable of attaining" and then doubting everything that could not be validated through them. [Descartes, 10] Kant's internalism would likewise seem to be motivated by the demand for certainty. He begins his enquiry into pure reason with the claim that the propositions of both pure mathematics and pure natural science are _apriori_. The professed aim of his critique is to enquire in to how such propositions are possible. It is from this premise that he argues that objectively valid judgements must be formed through the subsuming of representations under a "consciousness in general," a

pure concept of the understanding which unites them into a judgement whose universal validity is intuited. So it would seem that Kant's internalistic claim that science results from the subject's application of the principles apriori of possible experience to representations in consciousness is motivated by the demand that what is known must be certain. Whether these monumental efforts to establish certainty are grounded in an even more primitive commitment to the premise of epistemic culpability is a question whose answer is not immediately obvious.

Whatever the verdict on this issue, the argument that internalism is motivated by a desire for certainty might play into Plantinga's hands just as well as the argument that internalism is motivated by a desire for culpability. Many modern accounts of knowledge no longer demand certainty for knowledge, settling instead for epistemic preferability or likelihood of truth. Perhaps one could argue that we need not insist that the norm conditions for warrant are internal if having the best or most likely belief is our aim.

Our present aim is not to explain the historical motivation for internalism but rather to understand how a rejection of deontology and internalism affects one's conception of the norms for knowledge. The above syllogisms have shown how Plantinga's arguments against deontological and internalistic approaches to analyzing warrant make the idea that the norms for warrant are rules for reasoning unacceptable. If we want to preserve the assumption that warrant can be analyzed in terms of adherence to the right norms, we shall have to revise our notion of an epistemic norm. But what alternative conception of the norms for knowledge does Plantinga propose as a replacement for the one he rejects,

that they are rules of reasoning that we ought to follow?

Plantinga's counterexamples do little to answer this question except to suggest that the notion of proper function must figure in any revised understanding of epistemic norms. We could try to cull Plantinga's alternative to internalist norms from his exposition of his own views about warrant. However, those discussions mention norms only in passing, making cryptic comments to the effect that the only normativity involved his account is the normativity that goes with proper function. Our efforts to integrate those comments into the conceptual framework we have been developing needs to be facilitated. Philip Kitcher's essay "The Naturalists Return"[18] provides a vista from which we can gain a fuller understanding of both the impulses behind the recent exodus from rule-based, internalistic conceptions of warrant and the normative consequences of the various arguments against internalism, of which Plantinga's counterexamples are an instance. The esteemed Kitcher, described by one of his peers as "one articulate proponent of the new [ie. naturalistic] approach,"[19] portrays naturalism as a rejection of the post-Fregean conceptual analysis approach to the problem of knowledge in favour of one which focuses on properties of cognitive processes. This portrayal suggests that naturalists regard the cognitive processes which produce beliefs, rather than the beliefs produced by them, to be what must conform to epistemic norms if warrant is to be present.

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[18]Philosophical Review, Vol. 101, No. 1 (January 1992): 53-115.

[19]Jaegown Kim, "What is Naturalized Epistemology," Philosophical Perspectives, 2, Epistemology, (1988): 381-405; quotation taken from p. 395.

1.3 The Naturalistic Turn Toward Process-based Conceptions of Warrant

Our first task will we to gain a more complete perspective on why naturalists reject rule-based analyses of warrant and to locate Plantinga's counter-examples within this broader context. This will prepare us for our second task, to see how naturalists might attempt to recast the norms for knowledge. For naturalistic arguments against the old norm conditions inform the new norm conditions they offer in their stead, conditions which are supposed to be immune to the arguments levelled against their predecessors.

1.3a The Motivation for the Turn

According to Kitcher, epistemologists in the earlier part of this century thought that a belief is warranted just in case it stands in the right logical relation to other warranted beliefs, right logical relations being truth-preserving patterns of inference. [Kitcher, 56] In this context, we can say that norms for warrant are methodological principles of logical thinking which govern people as they form and assess beliefs. (To employ Kitcher's idiom, they are goals and strategies for cognition.) Kitcher's claim that apsychologistic analyses of justification are concerned exclusively with establishing normative logical relations between belief states parallels Plantinga's discussion of the deontological and internalist motifs in analytic epistemology.

But, for various reasons, the old epistemological maxim that a belief's warrant is determined by whether or not the logical relations between it and other beliefs in the web, house, or circle of knowledge are normative has given way to an analysis of knowledge which attempts to

define the warrant status of a belief on the basis of whether the cognitive processes that generate it put the knower in the right relation with the facts known. [cf. Kitcher, 60-1] (I shall sometimes refer to them as warranting processes) To rephrase this change in the language of norm-conformance, some of the more recent theories attempt define a belief p's warrant in terms of conformance of the cognitive processes involved in p's generation to norms rather than in terms of its being logically related to other warranted beliefs in a way which is consistent with the norms for right reasoning.

The reasons given for this move toward attributing normative status to processes are many and varied. Kitcher claims that one of the most powerful reasons is the argument that a subject might hold a belief that stands in justification-conferring logical relationships with other propositions she justifiably believes and yet be unjustified because the psychological connections among her states of belief have nothing to do with the logical relations. [Kitcher, 60] The implication is that epistemic status depends not only upon a belief's logical relations with other beliefs but upon the psychological processes that caused the belief to be generated.[20] On a different vein, Gettier-type arguments show that there are numerous cases where justification-conferring logical relations do not guarantee justified true belief. Such arguments appear to undermine the premise that warranted beliefs are those which can be justified by their logical relation to other beliefs.

Another motivation for the move to defining warrant in terms of the

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[20]Alvin Goldman and Gilbert Harman are key proponents of this line of argument.

properties of processes is the failure of the project of conceptual reduction. Logical empiricists earlier this century attempted to translate statements about bodies into a set of analytically-equivalent statements about perceptual experiences. This attempt failed. The conceptual project was concerned with the meaning of empirical propositions, not with the conditions under which a person knows they are true; however, analytic epistemology sought to reduce epistemological questions about warrant to questions about conceptual analysis. Observational sentences were supposed to be self-justifying. If a logical analysis could show that B's beliefs about things in his world are inferable from self-justifying observational sentences by means of truth-preserving logical inferences (deductive or perhaps inductive), then this analysis would prove that they are justified, or at least justifiable, for B.

Thus, as long as the hope of conceptual reduction persisted, The problem of knowledge, if considered a problem at all, could by solved by specifying those logical relations which lead non-accidentally from observation to pictorial relations (ie. propositions) which correspond to states of affairs. But the failure of the attempt to translate beliefs about the world into relations between self-justifying perceptual experiences created a vacuum within Anglo-American analytic epistemology. If warranted belief cannot be defined in reference to a set of relations involving sense and apriori certainties, then how can it be defined? Naturalists suggest it is to be analyzed in terms of the properties of processes.

One could argue that the recent blurring of the distinction between analytic and synthetic sentences also gives indirect support to processed-based analyses of warrant. An analytic sentence is defined as one whose truth is a function of its meaning and independent of fact; truth is a function of meaning just in case both sententional components have the same meaning. Quine has argued convincingly that it is impossible to define what it is for two expressions to have the same meaning without appealing back to analyticity. Supplementing this argument with a criticism of the claim that every individual statement has its own empirical content, he claims that even judgements about the truth of analytic statements are made in reference to a system of beliefs, and as such are conceivably subject to rejection.[21]

That claim may undermine the demand for a rule-based account of warrant. Historically, many philosophers have argued that principles for reasoning must be self-evident; otherwise they would require an empirical justification, which is circular, since they themselves are used to justify empirical propositions. Now suppose that no statement is justified independently of other statements to which it is logically connected. It follows that no principle of reasoning is self-justifying. Now perhaps we could preserve a rule-based conception of warrant in this context by conceding that the normative status of any principle of reasoning depends not merely on its form but also in part upon its propensity to generate, lend support to, or at least cohere with empirical beliefs that we give credence to. However, someone might counter that

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[21]cf. "Two Dogmas of Empiricism", From a Logical Point of View, 2nd ed., (Harvard: Harvard University Press, 1961), pp. 20-46.

once the warrant status of a rule is taken to be determined in part by its implications for empirical propositions, there is nothing to impede us in principle from taking empirical information about the reliability of the cognitive processes which produce this rule in us into account when attempting to determine the warrant status of both empirical beliefs and the rules we follow in our thinking. So the breakdown in the analytic-synthetic distinction, though it does not directly support the naturalistic turn toward processes, removes a potential threat to it, the claim that empirical investigation of cognitive processes is irrelevant to knowledge because the rules that these processes cause us to follow are apriori.

The acknowledged difficulties of understanding knowledge as a calculation out of sense certainties counts against rule-based analyses of warrant, and the weakening of the analytic/synthetic distinction removes a powerful objection to process-based analyses, but what positive reasons are there for favouring the latter? The above-mentioned arguments that an inference pattern must be psychologically instantiated in order for warrant to be present provide one such reason.

Perhaps the criticisms levied by foundationalist and coherentist accounts of justification against one-another suggest that a movement away from rule-based accounts is the only way to overcome the impasse that their respective foils generate. Counterexamples like Plantinga's which are difficult to explain away in reference to evidential and/or coherence norms also encourage appeals to the properties of processes as the most plausible means of solving them.

The reasons for the failure of the translational project might also support the turn to a process-based analysis. The translational project seems unable to respond adequately to criticism that what logical implications for experience an individual statement about an object has depends on whether circumstances are normal for the perceive. Normality here must exclude a broad spectrum of possibilities: Gettier cases, disease, delusion, illusions, unusual environments, and others. It is exceedingly difficult if not impossible to spell out these conditions within the stark vocabulary of logical empiricism. We might try by stipulating that an observer would pronounce circumstances normal, but then we must stipulate that the observer is normal, which leads to a regress.

Naturalists could argue that this need to stipulate that conditions are normal indicates that our epistemic success depends upon contingent facts about us and the world we live in; hence an analysis of warrant must take those contingencies into account. But it is difficult to imagine how it could do so if it regards warrant to be a function of the application of rules for thinking to beliefs. Faced with this difficulty, and encouraged by other arguments spoken of above, naturalists have opted to analyze warrant in terms of the properties of the cognitive processes which produce beliefs.

1.3b The Normative Consequences of the Turn

We have attempted to define warrant in terms of conformance to norms and norm conformance in terms of adhering to standards or patterns. Within the framework of this syllogism, the naturalistic claim that

warrant depends upon properties of processes implies that the norms for knowledge are patterns or standards for warrant-conferring processes, that processes, not the beliefs they generate, are what must conform to epistemic norms for those beliefs to have warrant.

But this implication brings us back to the question raised at the end of the prologue. It seems to be essential to something's being a norm that we bring an act or thought into accordance with it by becoming cognizant of it and employing it in judgement. Just as a carpenter takes up a ruler to build and assess his constructing, so also we take up norms like the plus rule and the golden rule to regulate and assess our adding or our moral choices. We take such norms up because we understand that they will enable us to achieve some end such as truth or goodness or perhaps that they are intrinsically valid.

The rules of reasoning posited as normative in rule-based accounts are by definition reflectively accessible and employable in judgement. Perhaps a process-based analysis of warrant could continue to appeal to this sort of norm-condition if it held that we can determine through reflection alone whether our cognitive processes conform to the norms for warrant, but process-based accounts could conceivably abandon this premise, claiming that there are norm-conditions for warranting processes whose satisfaction a cognizer cannot or need not determine through reflection alone. For example, they might say a process is warranting just in case it reliably produces belief states which are accurate representations of states of affairs. Or they might say that a process is warranting just in case it is aimed at truth, well-designed, and functioning properly in an appropriate environment. An adequate response

to the attacks against conventional attempts to analyze warrant outlined above would seem to require that process-based theories take this next step.

But reliability and proper function do not function as regulative principles; we do not become reliable or healthy by thinking about reliability or health. How than can we speak of such attributes of processes as norms? Can norm-conformance still stand as a middle term between warrant and its analysis? Chapter two will address this question.

But first a final disclaimer. Our discussion has not questioned the assumption that rejecting an internalistic, rule-based approach to warrant in favour of a process-based approach suffices to make one a naturalist. It could be that a theory must have additional features before it deserves to be designated naturalistic. We shall examine this issue later, but not until chapter four.

II

THE NATURALISTIC UNDERSTANDING OF EPISTEMIC NORMATIVITY

We now turn to examine how process-based conceptions of warrant continue to analyze warrant in terms of norm-conformance. The examination will have three sections. Section 2.1 will investigate how it is possible for naturalists to continue talking about norms. Section 2.2 will examine some prominent naturalistic discussions of normativity to demonstrate that they have its altered its meaning in various ways. Section 2.3 will investigate Plantinga's claim that proper function is the kind of normativity which goes with warrant and relate this claim to both his own analysis of warrant and to aforementioned naturalistic discussions.

2.1 The Question of the Possibility of Calling Cognitive Processes Normative

It would seem that to claim that warrant is to be analyzed in terms of the properties of cognitive processes rather than in terms of the deontological or logical properties of principles of inference is to eschew the use of normativity as a middle between warrant and its analysis. For normativity is a property of rules, and rule-following plays no part in many cognitive processes.

On the contrary, Plantinga claims that his analysis of knowledge is concerned with epistemic norms even though he denies that warrant it is to be understood deontologically.

> The sort of normativity involved is not that of duty and obligation; it is normativity nonetheless, and there is an appropriate use of the term 'ought' to go with it. This is the use in which we say, of a damaged knee, or a diseased pancreas, or a worn brake shoe, that it no longer functions as it ought to. [WPF, 45]

We may answer on behalf of Plantinga and other naturalists that the notion of the normativity which goes with warrant, though it may at times involve dutiful adherence to deliberative rules of truth-preserving inference, is broader in scope than the notion of following rules. It is this broader meaning which allows Plantinga and other naturalists to analyze warrant in terms of normative cognition even though they reject rule-based or duty-based conceptions of warrant.

My answer to this objection will have two parts. The first will elaborate on the objection raised above and then consider some inadequate responses to it. The second will examine the concept of normativity to see how it can extend to more than right rules of inference.

2.1a Why it seems that Cognitive Processes Cannot be Normative

Naturalist criticisms of rule-based accounts of warrant would tell us that applying truth-preserving principles of inference to warranted beliefs (self-warranting beliefs if one is a foundationalist or systemically-warranted beliefs if one is not) will not guarantee warrant. For there are cases where a person can follow any of the various sets of rules proposed and still not be warranted. Instead, these critics say, the warrant status of S's belief that B depends at least in part upon the properties of the cognitive processes which generate B, properties such as being reliable, or of functioning properly, and so on.

This new understanding of the conditions for warrant appears to be

irreconcilable with older efforts to analyze warrant in terms of adherence to norms. For adhering to norms is synonymous with regulating and measuring one's conduct by means of rules. To return to our analogy with ethics, an ethical norm is, to borrow from St. Thomas' definition of law, a "rule and measure of acts" according to their goodness. [ST I-II, 90, 1][1] Norms so conceived are general principles which when applied to particular courses of action inform the agent as to whether the action is good or evil.[2] Accordingly, epistemic norms present the subject with a rule and measure which informs not his practical reasoning about the goodness of some act but rather his speculative reasoning about whether it is the prima facie appropriate to ascribe a given concept in those circumstances or prima facie inappropriate.[3] But thought-informing general principles must be brought to mind before they can be employed in judgement. Just as I must have some notion of justice to recognize that bearing false witness is morally inappropriate, so must I have some notion

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[1]Note that Aquinas' reference to a law's being both a rule and measure of acts parallels my claim that a norm is both a guide and a standard for judgement.

[2]To perform the good act the agent must will to perform it.

[3]In saying that a concept informs my judgement about the circumstances in which it is appropriate to ascribe it or its complement, I am not implying that there is nothing more to the truth-condition for the ascription of a concept than the satisfaction of the empirical conditions which justify it. That is to say, I am leaving open the possibility that the truth of an ascription requires more than the satisfaction of (idealized) justification conditions. Someone might claim that an evil demon or crazed brain scientist could so alter me or my world that I would have all of the experiences which go along with the justified ascription of a concept and yet possess a belief which is false. Not wishing to commit myself to one side of that debate, I am merely claiming that possessing a concept enables me to ascribe it in circumstances where its use is at least prima facie appropriate. For instance, if I possess the concept green I will be able to discriminate green from non-green experiences.

of green in order to recognize that something is appropriately called green. Let us call norms which cognizers recognize and employ in judgement norms for consciousness.

We can now epitomise the objection to defining warrant in terms of norm-conformance as follows. First, any attempt to define warrant in reference to norms for consciousness fails: the warrant status of a belief is determined by properties of the cognitive processes which produced it, and the presence or absence of these properties is not a function of the recognition and application of a norm for consciousness. Second, all epistemic norms are norms for consciousness. Therefore, it is impossible to define warrant in reference to norms.

2.1a.1 Some Objections to the Objection

Someone might attempt to undercut this the above objection to the continued use of norms in a naturalistic analysis of warrant by claiming that normativity is attributed to processes relatively. Suppose some cognitive process P corresponds to the plus rule. We might say that when I become aware that the plus rule is a norm, P is normative for me not because I am aware of P itself but because I am aware of the rule which corresponds to P. Thus a process is called normative because it causes a person to follow a norm for consciousness as she thinks, just as a tennis racket can be called fast because it causes balls with which it is struck to move fast.

The problem with such a position is that there are many belief-producing cognitive processes which are not correlated with any act of rule-following. Take the cognitive processes which generate perceptual beliefs as an example. The retinal images that the right eye supplies to

the brain are horizontally disparate from those supplied by the left eye. The brain's visual system instinctively takes the two disparate images, compares their corresponding parts, and (with the help of other binocular cues) synthesizes the two images into a unitary, three dimensional perception of a single object, complete with corresponding determination about its width, its distance from other objects, and so on.[4] All of this goes on in humans without any conscious effort at all.

Furthermore, the implausibility of determining the warrant-conferring status of processes solely in reference to norms for consciousness extends even to many cognitive processes whose operation can be characterized in terms of the application of a norm for consciousness to beliefs. For processes which take beliefs as inputs and produce other beliefs in accordance with the rules of logic are belief-dependent processes. Belief-dependent processes generate non-accidentally true beliefs only if the input beliefs are non-accidentally true. So even though a process may involve a cognizer's adherence to norms for consciousness, the warrant status of the belief it generates often depends in part on requisite properties of processes whose warrant-conferring status cannot be analyzed in terms of normative rules.

Alternatively, someone might attempt to undercut the above objection against continuing the attempt to analyze warrant in terms of normativity on the grounds that by identifying norm-adherence with following norms for consciousness it presents an outmoded oversimplification of what it means to follow a rule. Characterizing judgement in terms of intuiting a norm

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[4]taken from Zimbardo, Psychology and Life, 12 ed., (Scott Foresman & Co.: Glenview, Illinois, 1988), 203.

for consciousness implies that there is no difference between the expression of a rule and the action of someone which can be interpreted as conforming to that expression. [cf. Wittgenstein, Philosophical Investigations, 198] That claim would in turn imply, among other things, that anyone who is able to act in accordance with a rule has in some sense already applied that rule to infinity, which is not true. [cf. Wittgenstein, sections 187, 218-219] Since any serious treatment of this issue would take us far afield, I shall merely remark that to describe rule-following as recognizing and applying a norm for consciousness is not to be insensitive to such concerns. Describing the practice of following a rule as the recognition and application of a norm need not imply that the ability to follow a norm entails the ability to state it rigorously and apply it universally. Conversely, neither does the ability to state a rule entail the ability to follow it. Perhaps there are circumstances where a cognizer is able to make a warranted assertion about the next member of a series even though she has nothing to go on except an inarticulable feeling that the number she finds within is indeed the next member. Perhaps there are circumstances where a the right formula occurs to the cognizer even though she does not understand; perhaps her actions at this moment are not derived from an "act of universal understanding" but are rather the product of her engaging in a habit formed through conscious awareness of the right rule in the past, or of following a habit learned from others who could state the rule, or something of this sort. But surely even those who contend that the practice of following a norm cannot be identified with or described in terms of any particular quintessential cognitive experience [cf. Wittgenstein, 173] will agree

that the experience of being influenced by a standard to make a determination about something else in virtue of some kind of sameness between the two is an undeniable aspect of human life, however one attempts to explain it. Our present concern is merely to address the semantic consequences for epistemology of the failure of attempts to analyze warrant solely in reference to such experiences.

Another related objection is that the depiction of rule-following given above makes following a norm to be something that only people with training in formal logic can do, which is absurd. But the ability to detect the misapplication of a rule does not presuppose an ability to state the rule. If I draw an unsupported conclusion on the basis of the equivocal use of a word, or commit the post hoc fallacy, I, and others along with me, can, in many cases, see that I am committing or have committed an error, that I am failing to or have failed to correctly follow the rules which govern rational thinking. Now there is no doubt that formal studies in logic assist people to make such judgements, but people unschooled in logic are capable of making judgements of this kind, at least in straightforward cases, even though they cannot articulate the various fallacies and syllogisms.

Finally, someone might object to the objection by saying that the operation of a process can be called normative because it accords with an algorithm that characterizes a process. It is possible that cognitive science could give a logical description of the formation of a perceptual belief in the same way that scientists have detailed the algorithm for the honeybee dance. These algorithms would then be the norms for warrant.

But conforming to an algorithm is not the same as conforming to a

norm. For algorithms are external descriptions of actions according to an imposed formula. Norms for consciousness are not external descriptions of actions according to a formula but rather rules that the thinking subject feels directed by. A biologist might be able to correlate a honeybee's dance with a set of directions to a flower patch, but the honeybee's success at giving directions to other workers doesn't depend upon her having cognitive access to the logic of her dance.

Since the objection cannot be refuted by any of these means, I conclude that it is not possible to define warrant in terms of norms for consciousness under the premise that warrant depends on the properties of cognitive processes such as reliability or proper function, whose presence cannot be determined through reflection alone. How then can Plantinga and other naturalists continue to speak of the norms for knowledge?

2.1b The Multifarious Meanings of Norm-Following

The answer is probably obvious by now. When we draw back from the identity between epistemic norms and norms for consciousness that the analytic tradition has inherited from the Enlightenment and remember that the concept of a rule or norm for thinking in its broadest sense refers to any sort of rule or standard for excellent cognition, we are reminded that "it can be said that what we call a rule of a language game may have very different roles in the game." [Wittgenstein, P.I., 53] Rather than eschewing talk of normativity, naturalists have expanded it to include standards to which the subject of normative appraisal does not necessarily have privileged reflective access.

We can gain an appreciation of the multifarious senses of norm-

following by thinking about some of the various sense in which standards are employed. A builder's square is a standard in the paradigmatic sense. It guides him to build rightly and can be employed by him or someone else to appraise his handiwork, able to do both because the form or pattern of straightness will be common to both it and its user's handiwork.

But something can function as a standard in a less paradigmatic sense. Sometimes a standard helps assess but plays no guiding role; for instance, people dip inflated automobile tires in a tub of water to check for leaks. The act of dipping is not part of the process by which the tire is manufactured but rather a test to determine if the tire is good. Sometimes there are standards like printing templates that guide the activity of a printing press but have no use for assessing the quality of a print job.

To invoke a different analogy, consider the different kinds of rules there are in a hockey game. There are some rules which are normative in a paradigmatic sense, those about how one scores a goal for instance. But then there are other rules which are used to check whether the game is being played properly but are not part of the play. For instance, imagine the referee has a "rule of thumb" for estimating whether goalie sticks are the right size. And then there are rules which guide the play of the game even though no-one involved in the play thinks about them as they play. For instance, there are rules about the dimensions of the skating rink and boards.

In the section which follows I will contend that many process-based accounts of warrant continue to regard norm conformance to be essential to warrant and that they do so by positing norms which play a much different

role in cognition than the norms spoken of in conventional analytic epistemology. A sampling will show that revisions to the notion of the norms for warrant/justification have not been uniform and that this lack of uniformity has resulted in a fragmentation of the term's meaning.

I will subsequently contend that Plantinga identifies the norm for cognition with the design plan for our cognitive faculties, which enables him to portray proper cognitive functioning as a kind of norm conformance. Identifying the norm for a cognitive process with its design is perhaps the closest one can come to a paradigmatic conception of a norm for a cognitive process, for this identity appropriates the classical insight that the principle of something's excellence is its form. Substantial disagreements between Plantinga and other naturalists notwithstanding, his central claim that the norm for cognition is operation in accordance with the design plan for the mind/brain can incorporate and perhaps even reconcile to one another many of the claims about the norms for warrant advanced by other process-based accounts of warrant.

The foregoing contentions are the focus of section 2.2 and the first third of section 2.3. Section 2.2 will argue that process-based discussions have altered and fragmented the notion of an epistemic norm. Section 2.3a will argue that proper function is the paradigmatic normative notion for descriptions of what processes in general "ought" to do. The remainder of section 2.3 will address issues that will arise from Plantinga's appropriation of this more generic notion of norm-conformance.

2.2 The Fragmentation of Normativity Exemplified

The justification-based conception of epistemic normativity, adequate or not, was catholic. Philosophers who disagreed with one another over how to define the principles for right reasoning nevertheless agreed that one meets the standards for proper cognition by reasoning in accordance with right principles. But naturalists of different persuasions differ from one another in their understandings of what conformance to epistemic norms consists in and in their understandings of what a person is doing when she makes a normative evaluation. That they have altered the meaning of norm conformance and altered it divergently must be proved from their own writings. Since time and space do not permit an exhaustive investigation, I have chosen two naturalistic discussions of the norms for warrant as samples. The first is John Pollock's, for among eminent naturalistic discussions his is arguably the one which gives the most prominence to epistemic norms. The second is Alvin Goldman's, for he is the grand-daddy of reliabilism.

2.2a Pollock's Conception of Epistemic Norms

Pollock defines epistemic norms as the norms governing right reason, reasoning being the cognitive process of adopting new beliefs and rejecting old ones.[5] Norms can be the kind of explicitly articulated rules that people are taught in logic classes, but more often than not, epistemic norms govern behaviour without being explicitly thought about. (cf. Pollock, p. 129) His bicycle-riding example illustrates this point.

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[5] John Pollock, Contemporary Theories of Knowledge (Rowman and Littlefield, Totawa: New Jersey, 1986), p. 125.

One might object that the claim that norms need not be explicitly thought about in order to guide processes on the grounds that knowledge that is now procedural, riding a bicycle for example, started out as declarative knowledge. In other words, one might say that conscious awareness still attaches essentially to any epistemic norm because behaviour that is now automatically channelled by the norm was once produced as a result of conscious awareness of the norm. But that is to misunderstand Pollock. Just as people can learn to ride bicycles, and to walk for that matter, without first bringing explicitly formulated rules to mind, so also can they form beliefs, perceptual and memory beliefs for instance, without first learning any rules. And, since epistemic norms are posited as what governs the adoption and rejection of beliefs, these processes too are governed by epistemic norms. Such an interpretation of Pollock agrees with his claim that

> Of course, unlike most norms our epistemic norms may be innate, in which case there is no process of internalization that is required to make them available to us for use in guiding our reasoning. [Pollock, 132]

Let us try to fit this brief description into the framework I constructed in the first chapter. In company with other naturalists, Pollock rejects what he calls "doxastic theories of knowledge," that is, theories which maintain that a belief's justificational status is a function of one's other beliefs. He does so on the now-familiar grounds that the justifiability of a belief—that is, its warrant—is a function not only of the subject's other beliefs but of non-doxastic properties of autonomic cognitive processes (especially memory and perceptual processes in Pollock's case). Since Pollock claims that "a belief is justified if and only if it is licensed by correct epistemic norms," [Pollock, 125] a

denial that the third condition of knowledge is satisfied by a set of rules that the cognizer follows through conscious awareness and conscious application entails a denial that norms can be identified with such rules.[6]

Thus Pollock is compelled to go on to formulate a new concept of epistemic normativity. His formulation is guided by ". . .the fact that epistemic norms guide the acquisition of belief and not just their after-the fact evaluation." [128] Here we see Pollock refusing to abandon one of the paradigmatic aspects of norm-conformance mentioned above, that norms are not merely standards for assessing beliefs but also play a guiding role in acts of cognition. This refusal in turn motivates his so-called internalism, an insistence that norms be "accessible to the mechanisms in our central nervous system that direct our reasoning." [p. 134]

Pollock is able to maintain one of the old properties of epistemic norms—that they guide the cognizer's acquisition of beliefs—only at the expense of others, that they are always rules which are consciously employed. Other naturalists have revised the notion of a norm in a different way, minimizing their involvement in the production of belief. Alvin Goldman's discussion of epistemic norms exemplifies the latter approach.

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[6]To speak in Pollock's own idiom, we would have to say that reasoning could not be governed by epistemic norms if the functioning of epistemic norms were to be identified with the functioning of explicitly articulated norms. [cf. Pollock, 127] I take it that only norms for consciousness must be explicitly articulated in order to function as norms.

2.2b Goldman's Conception of Epistemic Norms

Goldman first distinguishes two "styles" of normative evaluation.

> A regulative system of norms formulates rules to be consciously adopted and followed, for example, precepts or recipes by which an agent should guide his conduct. A nonregulative system of evaluation, by contrast, formulates principles for appraising a performance or trait, or assigning a normative status, but without providing instructions for the agent to follow, or apply. They are only principles for an appraiser to utilize in judging.[7]

Having distinguished regulative from non-regulative systems of norms, he goes on to claim that cognitive processes can be evaluated by the latter.

> Many epistemologists have sought regulative precepts: principles to guide a cognizer's reasoning processes. But it is also possible to do epistemic evaluation—even in a rule-based framework—without seeking action-guiding principles. Indeed, when it comes to fixed or automatic psychological processes, it is pointless to offer principles of guidance. [Goldman, 25-6]

So it is possible to evaluate the warranting status of belief-producing psychological processes, even autonomic ones whose warranting status does not depend upon thought in accordance with norms for consciousness, in reference to epistemic norms. More precisely, it is possible to say that the products of such processes are warranted if and only if they are "permitted" by a set of justificational rules. [cf. Goldman, 61] How so?

> Talk of rules naturally suggests a regulative conception of evaluation; an attempt to provide advice, decision guides, or recipes, for making doxastic choices. But the rules I shall be discussing should not be understood as rules for guiding a cognizer's intellect. A person need not even understand the rules, and if he does, he need to be able to apply them in the process of belief formation. [Goldman, 59]

Norms no longer guide the cognizer to form and assess beliefs; rather, they are merely a tool by which the epistemologist who is examining a cognitive process determines the warrant status of the beliefs it

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[7]Alvin Goldman, Epistemology and Cognition (Harvard: Harvard University Press, 1986) 25.

generates. They are explicitly brought to mind, but by someone doing an after-the-fact evaluation: instead of informing a cognizer that a belief is reasonable, Goldman's norms inform an epistemologist that the process-type which generated the belief in questions is reliable. They are as involved in the generation of a belief as a battery tester is in the generation of an electric current.

This comment must be qualified. Goldman's understanding of normative evaluation does not rule out the possibility that there are cases when an epistemologist can offer principles of guidance, but it does rule out the possibility that the norms mentioned above can.

> Perhaps the rules advanced by some theorists could serve as (first-person) decision guides; perhaps I too would endorse such rules for secondary epistemology. [secondary epistemology examines the acquired methods of disciplines, as opposed to native psychological processes, cf. p. 93] But the rules I envisage for primary epistemology do not have this property [Goldman, 59]

The theories of Pollock and Goldman are two examples of how naturalists have revised the concept of an epistemic norm in order to accommodate it to the naturalistic premise that warrant status does not depend entirely on the application of norms for consciousness to beliefs. They also show that these revisions are not uniform. According to one revised conception, epistemic norms guide our reasoning faculties either as rules that have been internalized or as innate structures which form beliefs by nature. According to the other, epistemic norms are principles by which an external agent assesses the warrant status of a cognitive process (technically, the status of a process-type), in which case norms are not involved at all in the production of beliefs.

Having sampled the diverse ways in which naturalists alter the notion of norm-conformance, we shall next consider Plantinga's claim that

the normativity involved in warrant is that of proper function.

2.3 Proper Function: The Fundamental Normative Notion for a Process-Based Analysis of Warrant

Plantinga claims that the only sort of normativity involved in warrant is the kind which goes with a heart or engine throttle functioning as it ought to and that we specify how such things ought to function by describing what they do when they function properly. He elaborates on these contentions by supposing that human beings, like houses and car engines, are constructed in accordance with a set of specifications, which he calls their design plan. [cf. WPF, 14] Included among the various parts or "segments" of the design plan for humans are specifications for our cognitive faculties. The segments relevant to a given cognitive module contain a tripartite specification: for each of a wide range of circumstances, they specify the beliefs it will produce when it is functioning properly and the purpose those beliefs serve. This purpose is usually knowledge of what is true, but not always.

Plantinga's claim that the design plan for a particular cognitive module specifies what it "ought" to do would seem imply that the design-plan segments relevant to the functioning of a cognitive module are the norm for that module. For what is a norm if not a description of what something or someone ought to do? This apparent implication confronts our investigation into how to conceive of epistemic norms in the context of a process-based analysis of warrant with three groups of questions.

First, how does the claim that the design plan for a cognitive processes is its norm relate to our prior survey of naturalistic discussions of the norms for belief-producing cognitive processes? We

might regard Plantinga's claim to be merely one of many analogical departures from the central notion of norm-conformance as it appears in rule-based theories, that norm-conformance is wholly a matter of consciously or habitually obeying norms for consciousness. Such an attitude would tend to regard revisions by process-based theories of warrant to this notion of epistemic norms as somewhat arbitrary, to accept the fact that Plantinga, like Goldman and Pollock, is altering the original and primary notion to suit his own purposes, and to accept as inevitable the confusing fragmentation that exists today. Alternatively, taking a cue from Plantinga's investigation into the history and hermeneutics of "justification," we could attempt to trace the numerous contemporary discussions of the norms for cognitive processes back to an older fountainhead in the hope that doing so will enable us to attain a clearer insight into contemporary non-internalist viewpoints. The second approach holds more promise and is therefore worth at least an attempt.

Second, suppose we grant that warrant depends on the properties of cognitive processes and that, consequently, warrant cannot be defined in reference to rules for thinking. How much right does this impasse give Plantinga and other naturalists to subvert the established understanding of what it is to follow a norm? In Plantinga's particular case, is the claim that proper function is the <u>only</u> normative notion involved in warrant legitimate? Or is the idea that a norm is something that one follows by thinking about it so entrenched in philosophical discussion as to render Plantinga's claim that proper function is the only normative notion involved in an adequate analysis of warrant unacceptable. This question is related to the first. However, while the answer to the first

will attempt to make Plantinga's claim that proper function is a normative notion intelligible by grounding it in the classical notion of virtue, the answer to the second will confront his claim to invoke no normative notion other than proper function with the immensely powerful precedent of regarding the rules that guide reasoning to be the primary norms for intellectual virtue.

Third, how does norm-conformance relate to warrant? We have been working until now in a framework which takes norm-conformance to be necessary and sufficient for warrant. Yet in the definition of warrant to which we were introduced earlier,[8] Plantinga takes proper functioning to be only one of several conditions. There are tensions between the claim that proper function is the only normative notion involved in warrant and the claim that warrant requires more than proper function which need to be addressed. Since this has not yet been done, I will for the time being refer to cognitive processes which function properly and the beliefs they produce as virtuous, leaving the question of how exactly cognitive virtue and warrant are related for later.

Subsections 2.3a, 2.3b and 2.3c will consider each of these questions in turn.

2.3a The Design Plan as the Principle of Cognitive Virtue

Plantinga's claim that the design plan for a process is the norm for the beliefs it produces is not so much an analogical departure from the original meaning of norm-conformance as an appeal to genus rather than specie, at least if one goes far enough upstream to that great and ancient

[8]See the Preliminary Orientation.

fountainhead of teleology, Aristotle. A look back at the classical notion of virtue will show that proper function is the central or paradigmatically normative notion for processes in general.

Talk of virtue, if unqualified, suggests human virtue and especially moral virtue. So taken, virtue is a disposition to make appropriate deliberate moral choices. According to classical ethics, the virtue of a choice and the resulting act is grounded in its being a means to our ultimate good. But what is our ultimate good? At this point the classical account appeals to function. For instance, Aristotle has the following to say in the Nichomachean Ethics

> "For just as for a flute-player, a sculptor, or any artist, and, in general, for all things that have a function or activity, the good and the well is thought to reside in the function, so it would seem to be for man, if he has a function. I.7.1097b.25.]

Aristotle then goes on to identify man's function as "activity of soul in accordance with, or not without, rational principle." [NE, I.7.1098b.5] To this way of thinking, the goodness of a choice or action is grounded in its being a means by which the rational soul achieves its end and thereby fulfils its function, namely choice in accordance with rational appetite.

Activity of soul in accordance with rational principle extends not only to prudent choices about the best course of action but also the act of reasoning to what is true. And so classical ethics posits not only moral virtues but intellectual virtues as well. These are ways of thinking which enable people to discover principles and judge and order knowledge claims in reference to them. The point to be taken is that a particular way of thinking, like a particular way of acting, is called virtuous because it leads the rational soul toward its perfection. In the words of Aquinas,

> The virtues of the speculative intellect are those which perfect the speculative intellect for the consideration of truth, for this is its good work. [S.T. I-II, q57, ar 2]

Given that the norm for an act is the pattern it must conform to in order to be excellent and that this pattern serves as a rule and measure of its operation and effect, the norms for right reasoning are rational principles. For such principles, being truth-preserving, rule and measure our discursive reasoning from what is known to what is not yet known, which is the good work of the speculative intellect. If cognitive virtue depended entirely on right reasoning, the principles by which we reason would be the only relevant norms for cognition and we would need no others.

However, according to Plantinga's process-based account of warrant, cognitive virtue (which is at least necessary for warrant) depends not only on right reasoning—ie., reasoning that conforms to norms for consciousness—but on other conditions as well, the same kinds of conditions necessary for a thermostat to properly regulate an engine's temperature or for a kidney to properly dispose of metabolic waste.

Artifacts and many if not all natural objects have an operation that aims at some end; when such things operate efficaciously we can call both the operating thing and its operation virtuous. In this way the notion of virtue can be generalized not merely from moral actions to reasoned judgements in general but to any activity that aims at some end. The norms for cognitive virtue (and hence warrant) as Plantinga understands it must rule over and measure this generic kind of activity.

But what is the rule and measure of proper operation taken generically? Only an intellect proceeds to its proper end by means of

rational principles, but non-intellectual operations follow principles too: each thing operates properly by conforming to what we might call "the principle which determines its specific nature." An eye for instance is doing what it ought to when it functions according to the principle of sight. This would seem to suggest that the rule and measure of any genus is best identified with its principle. [cf. Aquinas, ST I-II, q90 al.] How then do we characterize the principles and hence the norms for life-processes in general and cognitive processes in particular?

Thomists would appeal to eternal reason at this point. They would claim that the ultimate principle from which natural things derive their respective inclinations to their proper acts and ends is the divine mind, who has pre-determined the end and means of every natural agent. Thus, a Thomist could say that the pre-existent exemplar in the divine mind is the rule and measure of a creature's operation.

Such appeals are largely disavowed today, but the classical axiom that the rule and measure of any genus is its principle can be detached from its unsavoury or at least contentious metaphysical connotations so that it becomes plausible to modern thinking. Suppose we set aside the medieval contention that everything which acts for an end is the product of intelligence. Suppose that we take talk of a thing's nature to refer only to, put crudely, its inherent physical properties, especially those used by taxonomists and phylogenists to characterize biological species. And suppose that we do not insist that the proper end of all living organisms is the actualization of a form to the glory of God, that we settle instead for survival and reproduction (or perhaps the perpetuation of genetic material) for sure and remain agnostic about all else for the

time being. The classical maxim would then merely suggest that we discover the norm for a thing and/or the processes it carries out by looking at the reason why it has the constitution and/or function it does.

The modern life-sciences are not averse to appealing to purpose in order to explain why a living organism or organ has the design it does. When asked what makes a four-chambered heart with such and such properties a good heart for mammals, science describes how its design contributes to the survival and reproduction and ultimately the selection of various members of the mammalian class in a range of ecosystems. When asked what makes a certain specie of insect a good scavenger, science hypothesizes that its design made it better at functioning as a scavenger in its niche than its competitors, and so on.[9] Now Plantinga's design plan, a specification of how something responds to a given circumstance and the purpose or function of this response, is an answer to the very question of what purpose a given operation or feature serves and how it accomplishes that purpose. It would seem therefore that the descriptions of constitution and function contained in the design plan are paradigmatically normative for life-processes considered generally.

The Aristotelian understanding of the relation between virtue and proper function cannot be accepted uncritically, resting as it does on largely-discredited ontological assumptions. Nevertheless, it gives us a reference point, a set of semantic guidelines which can assist us to chart the various contemporary discussions of naturalism. The ancient maxim that a thing's virtue resides in its proper function supports Plantinga's

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[9]Plantinga cites several instances where modern biologists speak of our cognitive faculties having a purpose. See for instance WPF 5, 13, & 19.

appeal to design plan as the norm for cognitive virtue, given that the efficacy of cognitive processes to produce knowledge depends not only on adherence to principles of reasoning but on the same sorts of conditions on which non-intellectual operations depend.

A qualification is in order before we proceed. A design can be normative without being statistically normal. Just as a moral principle can be normative—lead to moral excellence—even though the majority of people do not obey it, so also a design segment can be normative even though not statistically normal: a design-plan that causes us to project the predicate green of emeralds rather than grue[10] is normative and would continue to be even if, by some bizarre cosmic circumstance, the latter were to become normal.

2.3a.1 Design Plan Norms Are Extrinsic

Plantinga's insight that cognitive processes conform to their norms in the same manner as life-processes in general has a sweeping consequence. It implies that the norms for cognitive excellence are extrinsic. Unlike norms for consciousness, which function as norms by being brought to mind and consciously adhered to, extrinsic norms do not have to be thought about in order to be normative. They guide cognition only in the sense that a thing's structure guides it. That is not to dismiss the possibility that someone could be guided by his thinking or could make self-assessments by considering whether a given belief is the product of a properly functioning faculty. But there is a difference between being guided by one's design, an extrinsic norm that guides in an

[10]Green if discovered before the year 2000 and blue if discovered afterwards.

external sense, and thinking about one's design in order to make a judgement, in which case the design-plan itself is not the norm for consciousness but rather a belief that the cognizer has formed about it.

We have seen that Goldman's position that epistemic norms are involved only in third-party appraisals of warrant flows from a residual attachment to the internalistic understanding of norms, that something cannot be an epistemic norms unless someone somewhere is thinking about it. He rightly observes that the success of many cognitive acts does not depend upon adherence to norms for consciousness and then infers that the norms for justification/warrant play no part in the production of belief, a position which Pollock rightly criticizes, as norms not only measure actions but rule them. A better way of speaking would be to say a given process is reliable and therefore warrant-conferring in virtue of its design and that this reliable design is the norm for its proper operation.

Perhaps Pollock's dismissal of all externalistic accounts of warrant can be similarly confronted. Pollock claims to refute all non-internalist accounts of warrant on the grounds that epistemic norms must figure in the production of belief and not merely in after-the-fact assessments. But, as we have seen, extrinsic norms do figure in the production of belief even though they are not directly accessible to our cognitive faculties in reflection. Imagine a mechanic looking at a brake-shoe, looking up its design specifications on a diagram, and then concluding that the specimen in front of him does not accord with its norms and therefore might not fulfil its function. It would be wrong to argue that since his observation plays no part in how well the brake shoe functions (unless he subsequently fixes it), the pattern upon which he based that determination

plays no role in the proper functioning of the object. On the contrary, the brake shoe is able to fulfil its function precisely because it has the pattern described in the book. Something similar holds for cognition. The design of the mind-brain causes it to produce warranted beliefs in the same way that the structure of a brake causes it to slow a wheel down when pressed against the hub. In Plantinga's words, the design plan for cognition "governs" the production of belief. [cf. WPF, 17] Pollock could not object to this sense of governance, for he himself says that "norms can govern your behaviour without your having to think about them." [Pollock, 129]

We have seen that Plantinga provides strong arguments for his position that the norms for cognitive processes are just like the norms for processes in general, ie. extrinsic. However, there are also reasons for the reluctance of other process-based analyses of warrant to divorce norm-conformance from conscious thought altogether. For rule-following and perhaps other conscious experiences play an essential role in many cognitive processes. We have seen that there are many ways in which a thing can be said to follow a rule, but the claim that proper function is the only normative notion involved in warrant—that one conforms to the norms for knowledge merely by functioning in accordance with a design plan successfully aimed at truth (etc.)— violates a precedent, almost universally present in both historical and contemporary philosophical discourse, of calling the rules by which we regulate our thinking norms.

2.3b An Incontrovertible Semantic Precedent

The notion of adhering to a norm refers primarily to thought in accordance with rules of which one is cognizant, not to action in accordance with a design plan. Our previous investigation into the historical roots and ordinary meaning of the word "norm" showed that it was originally a ruler used to guide and assess masonry. It seems odd to exclude the experience of having one's thoughts guided by a rule from the meaning of normativity when a norm, in its original meaning, referred to a tool which is itself consciously taken up and used as a guide.

The propriety of taking normative questions to be concerned with articulating rules which guide thinking is buttressed by the fact that a great number of philosophers have long identified and continue to identify epistemic norms with the rules that guide us as cognizers when we think and/or use language. This generalization applies even to those ancient philosophers who appealed to a generic notion of excellence. Thomas, for example, took virtue, if unqualified, to refer to human virtue.[11] And while he believed that all things are ruled and measured by eternal law, he also regarded the principle of any genus to be the rule and measure of that genus[12]. Thus man's acts, moral and intellectual, being those of a rational animal, are primarily ruled and measured by reason, not in the generic sense that they are the products of faculties whose operation can be ruled and measured, but in the unique sense that a man is able to use his reason to rule and measure his own actions. It would seem strange therefore for Plantinga to not call the rules that direct our reasoning

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[11]S.T., I-II, q 61, a1.

[12]S.T., I-II, q 90, a1.

norms, given the affinities that we have observed between his analyses of warrant and the Aristotelian/Thomistic notion of virtue.

Even though the medieval notion of law appears to be an ancestor of Plantinga's notion of a norm for warrant, it is a very remote ancestor. What then of precedents in more modern discussions of epistemic norms, especially those written in English? The historical use of the words "norm" and "normative" in English-language philosophical discourse goes back at least as far as 1877, when E. Caird used it in A Critical Account of the Philosophy of Kant. In it he writes the following: "The mind must find in itself the norm or principle of unity upon which it works." [Phil Kant, iv.66, as recorded in the Oxford Dictionary of English.] Here a norm is identified with a principle of unity, which for Kant is a rule which cannot be deduced from any rule above it. (Principles for Kant are those rules which bring appearances under pure concepts of the understanding, ie., the principles apriori of objectively valid—scientific—judgements) [Prolegomena, section 23]. Clearly norms are identified here with rules which cognizers use to regulate their judgement.

Subsequent discourse in analytic circles has followed this precedent. F.P. Ramsey once told Wittgenstein that logic is a normative science. Wittgenstein (showing a regrettably rare appreciation of the potential ambiguities inherent in discussions of normativity) offers the following remark in response.

> I do not know exactly what he had in mind, but it was doubtless closely related to what only dawned on me later: namely, that in philosophy we often compare the use of words with games and calculi which have fixed rules, but cannot say that someone who is using language must be playing such a game. [P.I. 81]

This quotation suggests that Wittgenstein would identify philosophical concerns about normativity with efforts to articulate the rules by which our language games proceed, or perhaps with meta-logical questions about whether such an articulation is possible. But both of those concerns are addressed more closely to attempts to define the right principles for consciousness than they are to the project of describing the conditions under which one's feeling that he knows the rules makes it very likely that he does. Furthermore, in the section which follows this quotation Wittgenstein suggests that these rules are not hypothetical, observational descriptions of someone's use of a word, but signposts, analogous to a numeric character which could identify a certain kind of building stone in a language game. As such, the rule is something that is used in the game itself.

The use of the word "norm" to refer to rules which guide our judgement has likewise been perpetuated in more remote philosophical traditions. For instance, Heidegger, a philosopher extremely careful in his choice of words, is translated as saying,

> If the principle of reason is supposed to be the highest of all fundamental principles, then by this multitude of fundamental principles, we mean the various first fundamental principles that are directive and normative for all human cognition [emphasis added] [13]

Even the vast majority of Plantinga's fellow naturalists have a conception of normativity which extends to rule-following. Quine, the grand-daddy of naturalized epistemology, refers to norms as rules for

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[13]The Principle of Reason, R. Lilly, trans., (Indiana: Indiana University Press, 1991), 8.

thought. In The Pursuit of Truth[14] he refers to the empiricist principle that nihil in mente quod non prius in sensu as a "the most notable norm of naturalized epistemology." This shows that Quine takes epistemic norms to be guidelines for proper methods of forming beliefs. That he understands epistemic norms to be guidelines for thinking is further evinced by his going on to say that epistemic norms guide the framing of scientific hypothesis. "Moreover, naturalized epistemology on its normative side is occupied with heuristics generally — with the whole strategy of rational conjecture in the framing of scientific hypothesis." [Quine, p. 20] [15]

Naturalists since Quine have continued to take epistemic norms to refer to rules which are part of the cognizing subject's own thinking. Pollock, although he thinks that many epistemic norms are innate or

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[14]Quine, The Pursuit of Truth (Harvard: Harvard University Press, 1990), 19.

[15]That is not to say that we must read Quine as taking normative judgements to be exclusively concerned with rational conjecture. Immediately prior to the sections quoted above, he says that in his system "normative epistemology gets naturalized into a chapter of engineering: the technology of anticipating sensory stimulation." [page 19] Perhaps by "technology" he means the methods of science whereby we become better able to predict and control phenomenon, in which case the expression "epistemic norms" refers exclusively to rules for scientists to follow as they go about their business of investigating all manner of phenomena. But Quine also says in "Epistemology Naturalized" that naturalized epistemology, as a branch of psychology, studies the human subject by according it experimentally controlled input and studying the relationship between this input and the output. [Quine, p. 24] Viewed in light of that statement, the "technology of anticipating sensory stimulation" might be taken to refer also to the belief-generative psychological processes as described by logical analysis and/or empirical psychology. In that case, a description of that technology would be akin to Plantinga's design plan. When we put that together with Plantinga's point that valid functional generalizations in psychology require a qualification about proper function and proper environment, we might be able to say that Quine too is concerned with descriptions of how cognition works when we function properly. In this sense, normative epistemology in the Quinean sense would be concerned with describing the thought-processes of healthy human beings.

acquired habits that we follow automatically, is adamant in is his claim that no account of norms is rationally acceptable which denies that norms are reason-guiding concepts. He writes, "no non-internalist theory can provide us with epistemic norms that we could actually use. Correct epistemic norms must be internalist." [Pollock, 136-7] Pollock's idea of what it is for our cognitive faculties to "use" norms minimizes the role that consciousness plays in their use, but the affinity between norms and rule-following is still present. Even Goldman, when he speaks of normative schemes, has conceptual principles for making judgements in mind. [cf. Goldman, p. 25] (As we saw earlier, Goldman thinks that these norms are for the employed exclusively by the epistemic appraiser and not the person whose warrant-status is in question).

Philip Kitcher is another prominent naturalist who identifies normativity with rule-following. His characterization of the normative project in "The Naturalists Return" is especially pertinent to semantic questions about normativity because he is seeking in that essay not merely to present his own particular perspective but to provide a unifying account of a variety of naturalistic epistemological discussions. To the degree that he is successful, the meaning he assigns to "the normative project" is representative of the general understanding of that expression within the naturalistic approach.

Kitcher does not talk specifically about epistemic norms but speaks instead of the normative enterprise, the attempt to formulate epistemic goals and specify strategies for their attainment.

> If epistemology is to be a normative discipline, then, as we have seen already, its task is to specify those strategies which promote attainment of cognitive goals" [Kitcher, 79]

That Kitcher's "strategies" are rules for thinking and not principles of design is made evident by his claim that "traditional naturalism," along with other schools of epistemology, contains among its theses the following "basic conception of epistemology,"

> The central problem of epistemology is to understand the epistemic quality of human cognitive performance, and to specify strategies through whose use human beings can improve their cognitive states. [Kitcher, 74-5]

Kitcher envisions that human beings can improve their cognitive states by following the strategies that the normative enterprise seeks to specify. In other words, these strategies are meliorative. [cf. Kitcher, 69] Meliorative strategies can be put to use to form new representations and appraise representations already presented. Now putting a strategy to use in order to better form and appraise representations means bringing that strategy to mind and using it to regulate one's thinking. The only sort of "strategies" that we put to use in this way are cognitively-accessible rules. So Kitcher's normative strategies are thought-guiding rules, not principles of design.

Furthermore, Kitcher identifies his depiction of the central problem of epistemology with past thinkers such as Descartes and Bacon. [Kitcher, 74n, & 113] By placing his talk of the normative project in this context, Kitcher identifies normative questions with the traditional pursuit of regulative principles. This identification would seem to imply that to abandon the pursuit of regulative principles is to abandon the normative project altogether.

Neglecting to call regulative principles norms for knowledge would be a transgression against the expression's conventional and genuine meaning. Plantinga expends considerable energy sorting through all of the

confusion which has resulted from the continued use of the word "justification" to refer to a third condition for knowledge in contexts where it has lost its original deontological connotation.[16] Clarity in epistemological discussion is likewise impeded when the expression "epistemic norms" is stripped of its thought-regulating connotation.

Plantinga's theory would be better articulated if he were to continue calling rules we follow as we think normative instead of claiming that proper function is the only normative involved in warrant. This juxtaposition of extrinsic norms with norms for consciousness raises the question of how the experience of following a norm for consciousness figures in one's having satisfied the extrinsic norm-conditions for warrant that Plantinga presents. This question will be examined in chapter three. Before we do so, though, we need to address the third and final question raised above, namely, the relationships between conformance to extrinsic norms, proper function, and warrant.

2.3c Warrant, Norm Conformance, & Proper Function

We have posited epistemic norms as the standards/patterns which rule and measure knowledge claims. This posit led us to suppose that satisfying the norm conditions for warrant is necessary and sufficient for possessing it. We then saw that there are reasons for denying that obeying norms for consciousness is necessary and sufficient for warrant. This denial has motivated process-based accounts of warrant to redefine norm-conformance as something other than obedience to principles of

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[16]Its continued use by reliabilists like Goldman is one such case. See WPF, 7, 27.

inference. Plantinga's claim to invoke no normative notion but proper function suggests that he identifies norm-conformance with proper function. Assuming that to function properly is to not malfunction, this suggestion implies that not malfunctioning is necessary and sufficient for norm-conformance.

But these two biconditionals have an unacceptable implication when we put them together: One is warranted just in case one meets the norm-conditions for warrant; proper function is the only norm-condition for warrant; therefore, one is warranted just in case one functions properly. This conclusion is both obviously wrong and in disagreement with what Plantinga actually says. There are many cases where properly functioning people have false beliefs, and Plantinga presents not one but several conditions in his analysis of warrant. The relationships between warrant, norm-conformance and proper function need to be better identified.

We begin with Plantinga's formal definition of warrant, which reads as follows,

> as I see it, a belief has warrant for me only if (1) it has been produced in me by cognitive faculties that are working properly (functioning as they ought to, subject to no cognitive dysfunction) in a cognitive environment that is appropriate for my kinds of cognitive faculties, (2) the segment of the design plan governing the production of that belief is aimed at the production of true beliefs, and (3) there is a high statistical probability that a belief produced under those conditions will be true. Under those conditions, furthermore, the degree of warrant is an increasing function of degree of belief. [WPF, 46-47]

This definition does not mention epistemic norms explicitly. However, the first condition identifies a faculty's lack of dysfunction with its doing what it ought to. This identification would seem to confirm the foregoing suggestion that norm conformance is synonymous with operation in accordance with design plan specifications, ie., with merely satisfying

the first clause of condition (1) above. The consequence would be that warrant could not be equated with conforming to norms. However, a closer look will reveal the notion of something functioning as it ought to is ambiguous.

2.3c.1 Not Malfunctioning vs. Functioning in Accordance with a Good Design

Suppose a professor from Edmonton, Alberta visiting Tijuana, Mexico mistakenly purchases a car battery so poorly made that it will not work when temperatures drop below fifteen degrees Celsius. There is a sense in which the battery is still doing what it "ought to" when it fails to start the car on that fateful cold morning back in Edmonton: the battery is not malfunctioning, its failure is due to its being in an inappropriate environment and/or its being poorly designed. But a battery's purpose is to start cars, not just cars in Tijuana, and since this battery is not fulfilling its purpose, in a another sense it is not doing what it ought to be. Sometimes when we speak of something doing what it ought to, we are not merely claiming that it ought to function as designed, but also that its design ought to enable it to fulfil its purpose when it is not malfunctioning.[17]

The notion that to do what it ought to a thing cannot merely function as designed but must also accomplish its purpose suggests that norm-conformance involves more than functioning as designed. We cannot call any old design the norm for a certain process, but only a good design, that is, one which confers a high probability of success upon its possessor. We would not call a very poorly designed car battery

[17]Plantinga's example of a radio that receives no channels makes the same point more forcefully. It is mentioned below.

normative. It is therefore reasonable to infer that norm-conformance involves Plantinga's condition for knowledge that the design be a good one.

Plantinga's point that warrant requires an appropriate environment is likewise relevant to any attempt to specify norm conditions. For we cannot specify whether or not a design is good without referring to the environment it is designed to operate in. We would expect a well-designed car battery to start a car in minus 10 degrees Celsius weather, but not at minus 85 degrees. Similarly, the kidneys of freshwater fish do a very poor job of reabsorbing water compared to, say, mammalian kidneys, but a fish has no need to conserve water while excreting metabolic waste. (Indeed, the extra energy that water reabsorption requires would be wasted in an aquatic environment) On a similar vein, our perceptual faculties would not serve us well on a world where light is much dimmer than it is on ours or on a world where elephants are invisible and cosmic radiation causes lucid grey-coloured hallucinations. [cf. WPF, 6-7] So describing what a faculty ought to do involves stipulating the environment in which one expects it to fulfil its purpose.

To summarize, a thing's functioning is best called proper or norm-conforming not in the mere absence of malfunction but rather when it functions in accordance with a good design, where a good design is one with a high probability of success within appropriate environmental parameters.

Although he identifies proper function with the mere absence of malfunction in his definition, Plantinga gestures toward this broader notion of proper function elsewhere. At one point he offers the following

remark:

> If the radio does not perform the function it was designed to perform (it only admits a loud hum and does not receive any stations at all) it isn't working properly, even if it is functioning in accord with its design plan. [WPF, 28]

He goes on to say that the notion of proper function cannot be analogically extended to cases where a thing functions in accordance with its design plan but doesn't at all perform the function its designer was aiming at.

2.3c.2 Cognitive Excellence vs. Epistemic Excellence

Does the stipulation that the norm for a process is a good design make norm-conformance sufficient for warrant and thereby save our attempt to define warrant in terms of norm-conformance? It does not, for warrant requires conformance to a good design that is aimed at a particular excellence, namely knowledge of the truth.

Let us call this excellence epistemic excellence. Perhaps we could save our attempt by stipulating that a cognitive module is good—conforms to its norms—just in case it successfully aims at truth in an appropriate environment. In other words, we could stipulate that a cognitive process is properly called excellent only if it is epistemically excellent.

But why identify cognitive excellence *simpliciter* with epistemic excellence? Doing so assumes without argument that only a cognitive faculty which has truth as its proper end is excellent. Consider S's overly-optimistic belief that he will survive a life-threatening illness. That belief is produced by a segment of his cognitive faculty which has some other end than truth as its purpose, namely survival. [cf. WPF, 13] On what grounds are we to say that cognitive processes which aim at survival and reproduction rather than truth are not excellent in the

fullest sense, that they do not conform to design-plan norms, that they are not doing what they ought to be? Such a claim might be possible within the framework of a metaphysical system in which proper operation follows essence and in which the mind is taken to be a spiritual substance, but those assumptions are not available to us. Without them, it appears that a thing's functioning as it ought to—in accordance with a good design—does not guarantee warrant. It would follow that it is not possible to define warrant in terms of norm-conformance.

There is a way out of this problem. As epistemologists we are only concerned with the norm conditions for epistemic excellence. We can salvage our attempt to define warrant in terms of norm-conformance by distinguishing design-norms from epistemic norms. We can say that the conformance of a process to its design norms results in the excellence of proper function and not in epistemic excellence, but that design norms become norms for knowledge when a process is aimed at truth because in such cases proper operation (in a right environment) results in non-accidentally true (ie. warranted) beliefs. However, this way of speaking might still be problematic. There may be norm conditions for biological excellence which are not necessary for warrant. An inefficient or unadaptable human brain could nevertheless produce warranted beliefs so long as its bearer managed to stay alive. It may or may not be possible to translate Plantinga's four conditions for warrant into norm-conditions for cognitive excellence coupled with a set of residual conditions under which norm-conformance and warrant go together.

Any doubts that such a translation is possible place the syllogism we have been using under strain. Nevertheless, norm-conformance,

conceived of as accordance with the design plan, is still the locus of Plantinga's account of warrant and the basis upon which he presents his claim to be a naturalist. Our efforts to relate his claim to have recourse to no kind of normativity other than proper function to his analysis of warrant have shown that he considers the norms for warrant to be extrinsic and have suggested that naturalism is fundamentally committed to extrinsic norms. Perhaps this suggestion can be worked into a comprehensive characterization of naturalism. However, before we examine that possibility we must first consider if and how it is possible for reasoning in accordance with norms for consciousness to be ruled over and measured by extrinsic norms.

III

THE DESIGN PLAN AS THE NORM FOR COGNITION

Chapter two reminded us that the norm for a process is best identified with, speaking scholastically, the principle which determines its specific nature. Stripped of its metaphysical connotations, talk of determining principles reduces to a description of the purpose a given operation or feature serves and the design which enables it to accomplish this purpose. Such a description is Plantinga's design plan. So when Plantinga says that his account of warrant has recourse to no kind of normativity other than proper function, he is, arguably, suggesting that the norm for a cognitive process is a good design.[1] But design norms are extrinsic: the design plan rules/guides and serves as a measure/standard for a process without being thought about and being brought to bear on experiences in judgement.

Take the design plan for a rubber ball as an example. If we stretch the meaning of guidance, we could say that a rubber ball is guided by its shape and composition to absorb impact forces and rebound in the opposite direction and that these behaviour characteristics are guided by its need to function as a play thing. If we wanted to assess the performance of the ball we could evaluate how closely its behaviour in different situations corresponds to design-plan specifications and to what degree this behaviour makes it a good play thing. Note however that while something's design plan can function as a norm for someone seeking to

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[1]We shall set aside for the time being the difficulties associated with identifying design-plan segments with the norms for warrant we discussed in chapter two.

evaluate its operation, whether or not someone uses it to do so it is accidental to its being the norm. For example, the design plan for metabolic processes in trilobites (which have been extinct since the end of the Cambrian geological period) was normative for such animals.

But there is a great difference between successful cognition and, for example, successful osmoregulation. Cognition involves conscious experience and especially conscious thinking. Chapter two also reminded us that cognition proceeds to its proper end, knowledge of the true, by means of norms for consciousness: the intellect uses principles of reasoning to regulate and assess its reasoning from what it knows to what it does not yet know. It would appear that these norms are not design-plan norms, for it is essential to their functioning as norms that a consciousness recognize them and use them to rule and measure its own judgements. If norms for consciousness are not design plan norms, then how can the design plan, being extrinsic to acts of cognition, be the norm for conscious thought?

Our investigation into this question will proceed under the auspices of Plantinga's claim that the only normative notion in his account of warrant is the normative notion of proper function that figures in biology and psychology. It will have three parts. Section 3.1 will examine the unique manner in which cognition proceeds to its proper end and raise the question of whether this uniqueness makes it impossible to differentiate successful cognitive acts from the unsuccessful in reference to design-plan norms. Section 3.2 will attempt to answer this question by considering how an extrinsic account of warrant could describe the cognitive operation of judging in reference to concepts as an instance of

design plan conformance; a distinction between the conditions for a belief's being warranted and the reasons why someone believes it is warranted will emerge from this exploration. Section 3.3 will address a noteworthy feature of Plantinga's analysis that arises from the considerations in the second section.

3.1 The Unique Property of Belief-Producing Cognitive Processes

Peripatetic philosophy and its descendants would tell us that the specific difference of the human specie resides in its possessing the power of universal understanding, that is to say, the power to know the universal nature of a species considered in abstraction from individual beings.[2] But this unique property of cognition must first be rendered intelligible to modern epistemology, to much of which talk of abstracting a specific nature is anathema, before an attempt at differentiate norm-conforming cognitive acts in reference to design-norms can be attempted.

3.1a Thought Makes Use of Concepts

There are numerous cases where we use a single word like "man" or "green" or "emerald" to refer to class of things or perhaps a class of experiences. These words are concept-words because they gather many different things together and represent them as being the same in some respect. They refer not to what is named here and now, but to a range of things, or perhaps possible experiences, which are the same in some aspect. Sometimes we use these words to categorize individuals; sometimes

[2]See for example Thomas Aquinas, ST q85, a2.

we make categorical assertions about the general terms themselves.[3] Aristotle and those he inspired explained the universality of a concept word in terms of its having been abstracted from the corporeal individuals in whom it exists as the principle of their specific nature. Empiricists have dismissed this explanation, but they continue to acknowledge that much of our reasoning take place by means of concept words.

This acknowledgement requires them to provide an explanation of how it is possible for humans to discover and use concept words which denies that the one which stands for the many is an abstracted formal principle. Historically they did so by claiming that concept is either learned apriori through the mere operation of thought without dependence on any facts in the universe (ie., is such that a denial of something affirmed of it would be self-contradictory) or learned through an inductive generalization from repeated experience of contiguous empirical impressions. They claimed that a new experience will occasion the recollection of archetypical impressions it resembles, the result being that the qualities associated with the archetype will be ascribed to the new experience. Newer brands of logical empiricism offer more sophisticated answers. For example, they might claim that a general term is nothing other than a function which stipulates all of the values which will generate a meaningful proposition when substituted into its variable.[4]

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[3]Some have argued that even our knowledge of particulars requires concepts on the grounds that a particular cannot be known as a unity without them.

[4]See, for instance, F. Ramsay, The Foundations of Mathematics (London: Routledge & Kegan Paul, 1931), p. 8.

The question of what concepts are or what our coming to knowledge of them consists in is not our concern. I mention empiricist discussions of concepts only to insist that even they acknowledge that concepts play a normative role in judgement: many (some might argue all) of our judgements have as a condition for their being warranted and true that we possess right concepts.

Perhaps the following consideration will make this claim clearer. Suppose I were to believe that mass is proportional to velocity in a free fall, or that the ability to fly is essential to being a bird, or that having a large nose is essential to being a philosopher, or that being blue after the year 2000 is essential to being an emerald, or that being observed by me is essential to something's being red, or that the function (2+n) generates the series (2,4,6,8,8,8. ..). Were I to believe such propositions, I would possess an improper concept of mass, of bird, of philosopher, of emerald, or of plus. If I were to put these improper concepts to use elsewhere, they could lead me to accept what is false and/or deny what is true. I would dismiss any claim by a small-nosed person to be a philosopher, I would expect emeralds undiscovered before the year 2000 to be blue, I would believe that twelve cannot possibly be a multiple of two, and I would believe that penguins are not birds. Conversely, right concepts, though perhaps not sufficient for right judgements, would at least make them possible.

Concepts play a normative role in reasoning by guiding consciousness to make correct (at least correct prima facie) ascriptions. Being guided by a concept to form a belief or consider its truth is something I am aware of: I cannot attribute being guided by a concept to myself without

affirming that I was having a conscious experience at the time. Once again an example might help. Suppose someone shows me the series (2,4,6. . .) and asks me what the next member is. I think about it and answer "eight." When I reflect on how I came to this answer, I realize that my transition from what was given to my answer involved my finding a unity in the series and being guided by it to my new belief.[5] The point to the example is that in many cases my reasoning from what is given to what is not yet known is guided by an inner conviction that I have found the concept which unifies the things I am trying to group together and that I will be able to tell whether or not some particular thing that I come across is the same in the relevant respect as the other things to which the concept refers.

We noted in chapter two[6] that we cannot simply equate the ability to use a concept word properly with someone's ability to state a rule or with a performance which accords with it, for it is possible for someone to state the rule or behave as if she were applying it even though she is unable to use it properly. But this concession was accompanied by an appeal to the undeniable experience of being guided by a standard--obeying it--as one moves from belief to belief.

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[5]Perhaps, being versed in algebra, I identify the function (n+2) and then apply it to the last member, thus coming to realize that 6+2 and 8 are the same. But identifying an algebraic function is not necessary here. The series (2,4,6 . . .) could cause someone who has no knowledge of algebraic variables to see that eight stands in the same relation to six that six stands to four.

[6] see section 2.1a.1.

3.1b Plantinga's Appeal to Impulsional Evidence

Appeals to the undeniability of this experience notwithstanding, some have contended that since we cannot discern through public observation or measurement whether or not a person has "grasped" and been guided in her judgement by the right rule, we should define right judgement solely in terms of dispositions to a certain behaviour in a given set of circumstances. For instance, knowing the meaning of red, it could be argued, is nothing more than manifesting the ability to separate red objects from non-red objects when fed controlled inputs. Such contentions, though noteworthy, are not directly pertinent to our present attempt to preserve the notion that thought proceeds through principles of universal understanding. For Plantinga, whose account of warrant we are investigating, describes a diverse range of judgements in mental terms, terms which invariably include feelings of being guided.

When speaking of perception, he claims that when he is led by some sensuous experience to believe he is perceiving a particular kind of thing, this belief is accompanied by a non-sensuous experience, a feeling that such a belief is appropriate in those circumstances: when one is undergoing tree experiences, the thought, "that is a tree," is accompanied by a felt inclination toward acceptance that would be absent from the thought "that is a walrus." [cf. WPF, 92] Our prior considerations would suggest that the feelings of appropriateness which accompany the former are indicative of the normative function that concepts serve in thought: Plantinga's concept of tree sanctions its ascription to his tree experiences, his concept of walrus does not.

In the same passage, Plantinga says that "feelings of

appropriateness" go with apriori and memory beliefs as well. In his discussion of apriori beliefs, he refers "a feeling of rightness or correctness" which accompanies a deduction. [WPF, 104] He says that we form an apriori belief

> . . .with that peculiar sort of phenomenology with which we are well acquainted, but which I can't describe in any way other than as the phenomenology that goes with seeing that such a proposition is true. [WPF, 106]

Later in the text he describes this phenomenology as "impulsional evidence" and once again claims that it accompanies every belief we have.

> In all these cases [of perceptual belief], therefore, there are at least two kinds of phenomenology: there is the sensuous being-appeared to type of phenomenology, but also the perceived or felt inclination to believe. Indeed, the same distinction holds throughout the length and breadth of our noetic structure and across all the sorts of beliefs we form: in nearly all cases there will be both sensuous imagery of a certain kind—at its most vivid and compelling in the case of sense perception—but also a sort of felt inclination or impulsion toward a certain belief. [WPF, 191-2]

We might add that a belief about an experience, at least in some cases, relates that experience to a kind and hence to a concept. In such cases the accompanying impulse is an impulse toward the ascription of a concept.

Plantinga goes on to clarify that this evidence on its own does not guarantee warrant. The warrant status of non-basic beliefs require other evidence. And even basic propositions (propositions whose warrant status does not depend on the truth of other propositions) have other conditions for warrant. But, though fallible, impulsional evidence is evidence nevertheless, and any claim to which we give credence is accompanied by it.

It should also be noted that to claim that judgement is guided by impulsional evidence—or that judgement is guided by a concept which is accompanied by such evidence—is not to claim that one can acquire right

concepts entirely through private experiences. It could well be that while learning to add or to identify colours or trees I will feel as though I have got a hold of the right concept when in fact I am still in error. In other words, as I learn, I might possess impulses toward pseudo-concepts. Someone could argue that a person cannot overcome these erroneous impulses without correction from other members of his community. Such a position would be consistent with the claim that the practice of properly following a rule must result from training. Plantinga gestures in this direction when he says that coming to knowledge of a concept involves a complicated interplay between testimony, perception, and induction (and, where apriori concepts are concerned, intuition).[7] [cf. WPF, 101, 105]

But suppose we grant that the ability to obey a rule properly cannot proceed without training from others. It does not follow that an action of rule-following does not involve in some fundamental way the experience of being guided by the rule to make such and such a judgement.[8]

We have been reminded that concepts are normative for consciousness, normative because in many cases the mind cannot move from what it knows to what it does not yet know without their guidance, and normative for

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[7]This consideration suggests that there may be ways of relating Plantinga's account of how we acquire concepts to the private language argument. That said though, Plantinga would ground our common rule-following practices in our proper function. So while he might agree that our coming to understand and properly apply a rule requires an involvement in a linguistic community, his agreement would not be based on the claim that the rightness of a practice of rule-following derives ultimately from its being participated in by a community which shares a common form of life. [cf. Wittgenstein, PI, pp. 226-227]

[8]Wittgenstein himself speaks of "going by a sign-post" or "obeying a rule" even as he presents his private language argument. See P.I., # 198, 202.

consciousness because being influenced by a standard as one judges is necessarily a conscious experience. But given that thinking which leads to warranted true belief and/or distinguishes it from what is unwarranted or false frequently proceeds through concepts that are normative for consciousness, is it possible to distinguish beliefs which are warranted and true from those which are false or true by accident on the basis of whether the cognitive processes which produced them satisfy a set of extrinsic norm conditions? In other words, can an analysis of warrant which conceives the norms for cognitive excellence to be analogous to the excellence of kidneys and radiators—ie. conceives of them as design plan norms—account for judgement by means of norms for consciousness?

3.2 Thought and Proper Function

It seems that warrant cannot be analyzed solely in terms of conformance to design plan norms. For design plan norms are extrinsic, but coming to understand and judge in accordance with norms for consciousness is essential to having knowledge.

On the contrary, "the design plan is such that under certain conditions we form one belief on the evidential basis of others" [WPF, 15]

I answer that the design plan for cognition includes specifications for the discovery and application of rules. Once again, we shall first look closer at the objection, then look at an improper way of responding to it, and finally look for an adequate response.

3.2a Why it seems that Norms for Consciousness are not Involved in Design Plan Conformance

Function in accordance with design norms does not depend upon

knowledge of those norms. The biochemist's intimate knowledge of the inner workings of his kidney's nephrons and any judgement he makes about his own kidneys do not in any way regulate his kidney's functioning or cause them to function any better than the kidneys of the English professor across campus who just never could find the time to study physiology. Excellence merely results from autonomic conformance to design. The analogy between cognitive excellence and proper functioning suggests that our cognitive faculties will produce warranted belief simply by conforming to the design plan and that their doing so is not dependent upon our having knowledge of this design or on our using that knowledge to justify the beliefs it produces.

But people guide and evaluate their thinking means of norms for consciousness. As we have just seen, a judgement in reference to such a norm requires an awareness of that norm. Hence there is a kind of norm-conformance involved in the formation of warranted beliefs other than conformance to design norms. And so it appears that an analysis of warrant must invoke a kind of norm-conformance other than conformance to design plan, namely being guided in one's thinking by norms for consciousness. But Plantinga's theory, as it invokes no normative notion other than proper function, does not invoke this other kind of norm.[9] And

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[9]It should be noted that this apparent problem follows directly from a feature of Plantinga's design-norms that we observed in section 2.3a.1, that an extrinsic norm does not have to be thought about in order to guide something's operation. This feature is unique to Plantinga's externalism, as a comparison with Goldmanian reliabilism illustrates. As we saw in section 2.2b, reliability is normative for Goldman because it is a principle for third-person epistemic appraisals of whether a belief is justified/warranted for someone: judgements about justification are made entirely through judgements about whether or not the cognitive process which produced the belief in question is reliable. So Goldman's norms guide consciousness. Of course, calling reliability the norm for

so it appears to be unable to account for judgement by means of them.

3.2b Being Guided by a Norm for Consciousness is not the Same as Knowing What the Design Plan Calls For

The substance of the objection we are considering is that design-plan norms, the only norms involved in Plantinga's account, are not the norms that we discover in consciousness and use in judgement. Perhaps we could try to respond to it in the following way. We have noted that cognition is unique in that we are guided by conscious phenomenological inclinations to identify concepts and judge in accordance with them. Why not suppose that in the case of cognition, we come to understand and use a concept by becoming aware of the segments of our own design plan which are relevant to the use of that concept? For example, experiences which lead me to learn the concept red occasion my becoming aware of the situations in which my design-plan calls for me to form "that is red" beliefs. And when I am inclined to continue the series (2,4,6) with 8, my inclination is the result of my having learned that my design plan calls for that belief to be formed in this circumstance. On this supposition, my design-plan modules themselves function as my norms for consciousness.

The supposition that our deliberating is based on an awareness of what the design plan calls for would necessitate our having a much more detailed knowledge of our design than Plantinga requires to account for warrant. Plantinga's analysis requires knowledge of the design plan only

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justification because it guides external appraisals makes Goldman susceptible to Pollock's criticism that norms must guide the after-the-fact reasoning not only of an epistemic appraiser but of the person forming beliefs, but that is a different objection than the one we are presently considering.

for the purpose of providing conditions for paradigmatic cases of warranted true believing, for the purpose of dealing with general sources of knowledge like induction, testimony and mathematical reasoning, and perhaps for the purpose of responding to significant philosophical challenges to his account, such as illusions, over-optimistic beliefs, and the like. But if a design plan-module were to function as a norm for consciousness, then we would need to know its particular specifications in order to know how to judge in such cases.

However, let us suppose for the sake of argument that we have such knowledge. The claim that S knows that a rule is normative because he has knowledge of those segments of his design plan relevant his discovering and applying it—that is to say, because he knows that these segments call for him to follow that rule in those circumstances—is untenable. That it is untenable can be shown from three considerations. The first is that the experience of being guided by a rule is not the same as being guided by knowledge of the design plan, the second that a judgement by S that a concept is normative or that a belief formed by means of it is warranted is not the same as a judgement that the design plan calls for that rule or that belief, the third that there are many cases where our rejection of a concept which was prima-facia normative is not based on new knowledge of our design plan.

First, the object of consciousness is the rule itself, not the design plan segment which calls for its application. Suppose someone were to ask me to justify my judgement that the next member of the series is eight. I would respond by saying it feels like it fits or perhaps by citing the rule that I have inferred from the earlier members. The only

kind of guidance I have any awareness of is the experience of being guided by the other members of the set or perhaps by a rule that fits them together. Any knowledge I may or may not have of my design has nothing to do with my discovering the answer. I do not have any experience of being guided by my design plan. I do not compare the proposition "6 + 2 = 8" to my design plan in order to determine whether it is true or false. And I do not bring any thoughts about my design plan to bear on my deliberation about what the right rule is or how I am to apply it. When I "grasp" or apply a concept I do not think about my design plan at all. I merely focus my thoughts upon the other numbers and lo, I find that I know the answer. Even if I were to gain cognitive access to a generalized description of proper functioning in these circumstances (let's say I were to research it in some fantastic library), it would not be my knowledge of this description that causes me to have the conviction that eight is the right answer to give, but rather my intuitions about the plus rule.

Second, an malfunctioning or poorly designed cognitive faculties, or cognitive faculties aimed at survival, relief from suffering, the possibility of loyalty, successful reproduction and so forth [cf. WPF, 16] may produce a firmness of conviction which does not match a belief's degree of warrant. Even the lustre of self-evidence is not sufficient. In such cases it is not possible for a judgement about what the design plan calls for to be identical with a judgement about whether the rule is right. Suppose that our design plan calls for people to commit the gambler's fallacy. (Perhaps those among our primate ancestors who thought their luck would improve if they kept on hunting in the face of a string of unsuccessful attempts had a selective advantage over those who gave up

after reasoning correctly that they were likely to starve anyway) Suppose that some modern person continues to commit the gambler's fallacy at the craps table. Suppose again that the above thesis is the case, that there is no distinction between a judgement that a rule is right and the judgement that the design plan calls for the application of that rule. Now, the judgement that the design plan calls for the commission of the gambler's fallacy is true, but the judgement that the odds will improve is false. If the objection were true, the same judgement would be both true and false, which is absurd.

Now let us suppose that this person somehow comes to the belief that her concept of marginal probability is wrong, that she realizes that her odds will not improve after a run of bad luck. It would follow from our assumption that she would then know that her design plan does not call for her to commit the gambler's fallacy, when if fact it does.

One might be tempted to respond that when we follow a norm for consciousness we are aware not only that the design-plan calls for that response in such cases but also that the design plan is aimed at truth. However, we must be able to explain not only the experience of being guided by concepts which are in fact normative for consciousness but also the experience of forming and having our thinking guided by concepts which we believe are normative even when they are not. If becoming aware of a concept meant becoming aware of its design-plan triple, purpose and all, then whenever we became aware of a concept not aimed at truth we would immediately know that it isn't. But people often get ahold of wrong concepts and believe they are right. For example, they commit the gambler's fallacy.

A consideration of the line of reasoning which leads us to reject a rule which is prima facia normative will provide a third reason for not identifying following a norm for consciousness with becoming aware of a design-plan triple. Suppose I am led to doubts about my betting instincts by repeated inconsistencies between (unfulfilled) expectations and other warranted beliefs of mine—memories of the actual course of past events in those situations, beliefs about probability calculus, and so on. Now if I wonder why I have those instincts, I might be led by such considerations and perhaps by others—sociological or anthropological considerations for instance—to the hypothesis that the cognitive module of my design plan which generates these expectation is not successfully aimed at truth. The point is that while it is quite possible to reason from incongruities between belief B and other warranted beliefs in my cognitive possession to a belief about the design-plan triple relevant to the production of B, that it is not successfully aimed at truth in this instance, my coming to believe that the rule which led me to B is not normative for thinking can be based directly on these incongruities themselves: my rejection of that rule is not parasitic upon a new belief about the design-plan triple. This would seem to indicate that we cannot equate our coming to reject a prima-facia normative rule with our gaining new knowledge of our design plan.

So even in relatively straightforward cases—possessing a concept of probability according to which a string of bad luck makes imminent good luck more likely or possessing a corrected notion according to which it does not for instance—we cannot equate being guided by a norm for consciousness with knowing what the design plan calls for.

To conclude, we cannot identify understanding and being guided by a norm for consciousness with being aware of one's design-plan triples. Given that we cannot, and given that much if not all of our thinking cannot proceed without an experience of coming to understand and having one's thought guided by norms for consciousness, it would seem that warrant cannot be analyzed exclusively in terms of conformance to design norms. Furthermore, since Plantinga claims that his theory invokes no other normative notion than proper function, the impossibility of so analyzing warrant would seem to be indicate that his account cannot account for judgement by means of norms for consciousness.

3.2c How to Construe Judgement by Means of Concepts as an Instance of Proper Functioning

Even though being warranted involves the experience of being guided by norms for consciousness, it can nevertheless be analyzed in terms of conformance to a normative design plan because the design plan for thinking, unlike any other design plan segment, specifies what ought to happen in consciousness when a cognitive faculty is functioning properly. Since right concepts are essential to the production of right beliefs, the design plan for cognition includes specifications for the formation and application of concepts which are appropriate to a given circumstance. (And, since concepts are formed on the basis of a perception that particulars are the same in some respect and/or belong to a natural kind, the design plan will also include specifications for appropriate notions of similarity and/or kind)

Including such specifications makes it possible to both preserve the necessity of reasoned affirmation in warranted judgement and define

warrant in reference to extrinsic norms. The normative claim that "this is the rule that ought to be followed" becomes, setting aside subtleties, reducible to the expression, "The design plan states that in this circumstance, a properly functioning cognizer will call the following rule/concept to mind, and then, using this rule, will come up with the following belief."

Plantinga's summary at the end of his chapter on induction illustrates his accommodation of the experience of following right rules to his contention that the design plan is the ground of normative cognition. The summary follows a section where he notes that people, his daughter for instance, naturally acquire concepts by means of right rules instead of by means of pathological ones: they naturally project green rather than grue, interpret "red" to mean the colour red instead of red-and-observed-by-me, and interpret "+" to mean plus and not quus. Having noted this, he says,

> The explanation in each of these cases is the same: what makes the concepts she acquires the right ones, what makes the others wrong, is that a properly functioning human being will acquire the first kind; acquiring the second in those circumstances will be pathological, out of accord with our design plan. So the normativity involved is the normativity that goes with proper function. [WPF, p. 136]

As discussed earlier, it is essential to design-plan normativity that conformance be autonomic, not involving cognitive awareness of design, for to conform to design is merely to produce the specified output for the specified purpose by according with efficacious structural specifications. But in the case of cognition, even though I may be ignorant of these extrinsic conditions for warrant and may never think about whether or not they are fulfilled, my design will cause me to take a specific rule-

following practice to be normative for me. I will be conscious of that rule and of its reasonableness—its employment will be accompanied by the kind of impulsional evidence spoken of earlier—and yet the design-plan segment which causes such thoughts and is the origin of their appropriateness will nonetheless be extrinsic.

The insight we have gained into how convictions of reasonableness fit into the extrinsic normativity of design-plan conformance allows us to add in the final clause of Plantinga's formal definition of warrant, which our earlier discussion purposely set aside: "Under those conditions, furthermore, [the other conditions for warrant], the degree of warrant is an increasing function of degree of belief." [WPF, 47] We are so constructed that our design plan naturally causes us to have acceptance convictions which are functionally related to the degree of warrant the belief possesses.

Finally, to address the original objection directly, norms for consciousness are indeed essential to cognition, but they themselves are the product of a process which conforms to design-plan norms in an extrinsic sense. Consequently, unconscious conformance to extrinsic norms produces the conscious adherence to norms for consciousness upon which warrant depends.

3.3 Some Noteworthy Features of Plantinga's Analysis

3.3a Conditions for Warrant vs. Conditions for Justification

The response to the above objection reveals one of Plantinga's fundamental commitments, a commitment which separates him from much of

traditional epistemology and which, as we shall see later, is central to his claim to be a naturalist. We saw above that the warrant of B for S is contingent upon her functioning in accordance with an epistemically virtuous design. We also saw that warrant does not require that S know that she is functioning properly or that the other conditions hold. Thus, Plantinga's position implies that there are conditions necessary for knowledge of which and of whose satisfaction we can be unaware and still have knowledge.

We can clarify this interpretation of Plantinga by drawing a distinction between the reason why a belief is warranted and the reason why a cognizer takes his belief to be warranted. If a reason is to count as a ratio cognoscendi for me, I must have cognitive access to it. Perhaps some philosophers who argue that warrant is completely determined by properties of our beliefs to which we have privileged access might say that the ratio cognoscendi and ratio essendi for warrant coincide.[10] But according to Plantinga, the two do not coincide for the cognizer. For the cognizer, the ratio cognoscendi that some belief is warranted is a phenomenological inclination toward acceptance which guides the cognizer to give or withhold assent and which accompanies a belief intuitively or by way of support that other beliefs provide for it. Plantinga holds that there is a functional relation between the strength of these convictions and the degree to which a belief is warranted just in case the other conditions for warrant obtain—the absence of malfunction and an appropriate environment, a good design, and truth's being the aim of the

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[10]Plantinga ascribes this view to both Locke and Descartes. See WCD, 21.

process. But when we reflect upon our own experience of judging, we see that our judgements are not based in considerations about whether these conditions are satisfied. Indeed, we do not have reflective knowledge of their pertaining, and there are many cases where we do not think of them at all. There may even be cases where we are unable to tell by any means whether they obtain. So they are not part of our ratio cognoscendi. Nevertheless, since warrant requires the presence of these conditions, they are part of the ratio essendi that a belief is warranted. So there are conditions which are necessary for warrant of whose satisfaction we need not be aware to be warranted.

Furthermore, we need not be aware of the norm-conditions Plantinga posits to make third-person assessments of whether a belief has warrant. Such an assessment could quite conceivably be made in reference to a different set of criteria. For example, I might judge that you have learned to distinguish the concept of a slab from the concept of a beam—and are hence warranted in your belief "that is a slab"—by means of a set of criteria from which all of Plantinga's extrinsic norms are absent, even though you could not come to such knowledge without meeting those extrinsic conditions.

Plantinga's theory of perception exemplifies his divergence from conventional foundationalist theories. Such theories regard knowledge claims about public objects to be based on beliefs about private mental experiences. In opposition to this view, Plantinga holds that knowledge claims about public objects are properly basic, that is, warranted without argument from perceptual experiences, even though the warrant status of a claim about a public object is contingent upon the satisfaction of the

conditions for warrant Plantinga presents in his definition. [cf. WPF, 95–97] By saying that there are cases where I can possess a belief whose warrant is both (i) contingent and yet (ii) does not need to be established by reasoned argument, Plantinga implies that warrant does not necessarily require knowledge of extrinsic contingencies or of their satisfaction.

Some qualifications are in order. First, the above section is intended as an elucidation of some of Plantinga's central commitments, not as *a* criticism. That is, I am not charging him with of being guilty of circularity on the following grounds: to know that my inclination to accept B is a reliable indicator that B is warranted, I must know that the conditions which make my inclination reliable are satisfied. But to know that, I must be able to rely on my inclinations to accept beliefs about the design plan, which means that I must assume that which I am attempting to prove. Plantinga responds by claiming that there are numerous cases, memory beliefs for instance, where we do not need to know that intuitions are reliable indicators of truth in order to arrive at warranted beliefs by way of them. [cf. WCD, 44]

Second, someone might wonder if Plantinga's claim that warrant depends on extrinsic contingencies of which we need not be cognizant is not disproved by cases where these contingencies are not satisfied. A flask of wine which tastes bitter today could prove sweet tomorrow. Or I could drive through rural Wisconsin and see barns at every corner which I take to be real even though they are fakes put up to fool tourists. Do such cases not prove that such beliefs are not properly basic?

I think that Plantinga would admit that there are situations where

people are fooled, despite their best efforts to avoid error. He might go on to claim that it does not follow from the fact that perceptual beliefs are not certain that they are not basic, that to be known they must be proven from experiential propositions, advancing his claim on the following grounds. (1) Mistakes such as these are our lot in life as finite creatures living in a world we did not create; (2) The onus of proving that all beliefs about objects outside of consciousness are therefore not properly basic falls back upon his opponent. (3) Such arguments if pushed to their logical conclusions, imply that we have knowledge of nearly nothing, which is absurd.[11] Of course I am only gesturing in the direction of a defense here. A fully-developed investigation of Plantinga's attack on classical foundationalism is not our present aim.

Third, Plantinga does not deny that there are defeasibility conditions for taking intuitions to be reliable or that there are cases where considerations about extrinsic conditions enter into judgements about warrant. If I have a reason for supposing that an extrinsic condition for warrant might not be satisfied—perhaps because my present belief is incongruous with others—I will need to consider these possibilities to be warranted. Beliefs about the sweetness of wine or the presence of barns cease to be properly basic if I have reason to believe that sickness might be impairing my taste or that the local farmers might

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[11]Plantinga elaborates on this argument, which he attributes to Thomas Reid, in WCD, 84-85. Plantinga sometimes employs a different argument against the claim that any warranted belief must either be self-evident or derivable from another claim which is. He accuses such positions of being self-referrentially inconsistent. See for example his response to Hume's claim that induction is unfounded. [WCD, 127]

be acting deviously. In such cases, warrant might require me to consider the evidence for and against these undermining possibilities. [cf. WCD, 40-42]

Qualifications duly noted, it may be possible to challenge Plantinga's position in the following way. Suppose we grant that warrant does not require an infallible knowledge of extrinsic contingencies and their satisfaction. It might nevertheless require that the cognizer have some sort of "epistemic perspective"[12] on the situations under which she can justifiably rely upon a particular cognitive capacity. That is, it could be that the cognizer must have some kind of meta-belief about the conditions under which a particular faculty is reliable which has been gained on the basis of inductive projection from past successes and failures, a belief which enables him and others to ascertain the limitations of his competency to make justified assertions within in a given field of knowledge.[13] Plantinga would probably respond that there are language games which do not require such meta-beliefs. We might add that even in cases where knowledge does require a perspective on one's own reliability and its conditions, the ratio cognoscendi for this perspective, in all likelihood a simple induction from past successes and failures, is still distinct from the its ratio essendi, accordance of the

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[12]The phrase is borrowed from Ernest Sosa.

[13]Perhaps such a position could be utilized to defend Plantinga against the above charge of circularity. A perceptual claim might count as knowledge today because the subject has an inductive justification of past successes and failures, but knowledge of the rightness or wrongness of those past episodes upon which the induction is based does not presuppose that very induction; it might have been gained from the speaker's elders while he was learning to become a functioning member of his linguistic community. (This is Wilfred Seller's argument)

process which generated it with design-plan specifications.

3.3b Plantinga's Account of Warrant Alters the Relation between Analysis and Doctrine

We have observed a feature of Plantinga's analysis of warrant, that in many cases the conditions upon which the warrant status of a belief depend differ from the reasons upon which the subject bases her acceptance of it. This feature alters the relationship between the theoretical project of analyzing the meaning of warrant and the doctrinal project of instructing people about how to go about the business of forming and appraising beliefs.

This distinction has affinities to the distinction between meta-ethics, an enquiry into what the good is, and normative ethics, an enquiry into how we ought to act. Analogously, there is a distinction in epistemology between enquiring into what it is to be warranted and enquiring into how one should govern his or her assent.

Some qualifications are in order before we proceed. First, as previously, analysis here refers to the attempt to analyze or define warrant, not with the conceptual reduction of statements about bodies. Similarly, the doctrinal side of this distinction, in attempting to prescribe norms for rational or justified thought, does not presume that justification consists in proper inference from empirical observation to scientific doctrine. Second, since normative questions in the ethical dichotomy are concerned solely with prescribing standards for moral behaviour, a doctrinal issue, they do not enter in meta-ethics, the ethical analog of an analysis of warrant. But normative questions do enter into our present attempt to analyze warrant because we have

designated any standard or pattern for excellence a norm, not just rules for moral or intellectual deliberation. Rather than identifying normative concerns solely with doctrinal concerns, we distinguish the analytical question, "what are the norm-conditions for warrant?" from the doctrinal question, "what are the norms for consciousness which will best enable me to believe what is warranted and true and avoid what is false or unwarranted?" That said, however, the well-founded precedent of taking normative concerns to refer first and foremost to the latter question must not be overlooked.

Let us continue with our main flow of thought. Analytic and doctrinal questions tend to be closely related in an internalist context. Because they work from the premise that the conditions for warrant are cognitively accessible through reflection, internalists tend to posit norm-conditions for warrant which are or can quickly become normative in the second sense. That is to say, an internalistic analysis of warrant tends to produce a list of principles which a cognizer can must put to use in order to determine whether or not a belief is justified or reasonable for her.

For example, Chisholm, in Theory of Knowledge, identifies positive epistemic status (his expression for warrant) with reasonableness and reasonableness with doing one's best to accept only true propositions. [cf. WCD, 32]. He subsequently defines doing one's best intellectually in terms of epistemic principles which specify the conditions under which a person and a proposition are so related that the latter has warrant for the former. [WCD, p. 36] Now principles of this sort can be taken up directly by the cognizer and employed to regulate his or her decisions to

give or withhold assent. Thus, according to our present way of speaking, they are normative in two ways, because they describe the conditions under which a belief has warrant for someone, and because they will enable a cognizer who follows them to fulfil her intellectual requirement (or, in later Chisholm, to attain the intrinsically preferable doxastic attitude).

This is not to say that Chisholm's principles are of much practical use for people constructing scientific theories or even for people in common-sense situations. Nevertheless, they stipulate what a person ought to believe in a given set of conditions—tell her what belief is most reasonable for her in those circumstances—and are therefore normative in the second sense. Moreover, since a person can determine through reflection alone whether those conditions attain, she can determine what she ought to do just by thinking about them, without having to think about any other norms first.

However, the extrinsic norm-conditions which Plantinga introduces in his analysis of warrant are not immediately normative in the second sense. As we saw above, even though the proper functioning of a cognitive module aimed at truth etc. is necessary for being warranted, there are many cases where a cognizer can arrive at a warranted belief without taking any of these conditions into account. So in such cases, these conditions do not provide any guidelines to the thinking subject on how to govern her assent: normative concerns of the traditional kind are not addressed. Perhaps there are some situations where S's insight that warrant requires these conditions are relevant to her considerations about whether to accept or reject a belief. For instance, someone could glean the following advice Plantinga's analysis: "If B is produced by a faculty

which is malfunctioning in such a way that it generates unreliable beliefs then don't believe it." Only rarely is our assenting guided by such considerations. And even in exceptional cases where such considerations are relevant, Plantinga's analysis gives us little or no advice on how to become aware of them or on how they should alter our thinking.

Thus the extrinsic norm-conditions Plantinga presents in his analysis are only remotely relevant to doctrinal questions about how we should go about the business of regulating our assent. The fact that the norm-conditions he presents as an answer to the question of what warrant is leave the other sort of normative questions unanswered is not necessarily indicative of a deficiency, but it creates a potential problem. For Plantinga, in apparent unison with other naturalists, claims that naturalism is characterized by how it addresses normative questions. Do these professing naturalists all have the same sorts of questions in mind? Chapter four will address this matter.

We have been attempting to understand Plantinga's claim to invoke no normative notion but proper function. We have interpreted that claim as follows. Cognitive processes produce warranted beliefs by conforming to the norms conformance to which constitutes warrant. Such conformance consists in function in accordance with a good design, goodness requiring, arguably, probable success within a range of environmental parameters and that the success aimed at is truth. We have observed that such norms are extrinsic: their ruling and measuring an action does not entail that the subject of that action become aware of them and govern its operation by means of that awareness. We have also learned that Plantinga portrays the

mental act of using norms for consciousness to rule and measure reasoning as an instance of design plan conformance. We turn next to his claim that his is a naturalistic account of warrant, a claim which Plantinga rests squarely on the one we have examined at length.

IV

NORMATIVITY AND NATURALISM:

NATURALISM AND THE NORMATIVITY THAT GOES WITH WARRANT

Plantinga argues that he is a naturalist because his account of warrant, by invoking no other normative notion than proper function, invokes no normative notion not found in the sciences. This appeal to what one might label a scientific understanding of the norms for knowledge seems to be consistent with several prominent characterizations of the naturalistic approach to epistemology. Hilary Kornblith defines the naturalistic approach as taking the position that "descriptive questions about belief acquisition have an important bearing on normative questions about belief acquisition."[1] Philip Kitcher characterizes naturalism as opposed to the claim that the deliverance of traditional sources of normative principles can be validated a priori [Kitcher, 78] and in some cases to the claim that there can be a universal normative epistemology. [Kitcher, 80] On a related vein, Quine remarks that naturalized epistemology becomes a chapter of psychology and hence of natural science, [Quine, "Epistemology Naturalized," 24] a remark interpreted by some to mean that naturalized epistemology repudiates the normative project of establishing criteria of justification in favour of establishing law-like regularities between input and beliefs.[2] It appears that each of these three prominent naturalists agree with Plantinga that some kind of

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[1]Hilary Kornblith, from the Introduction to Naturalizing Epistemology," cited in WCD, 45.

[2]See for example, Kim, "What is Naturalized Epistemology," 389-90.

revision to the concept of the norms for knowledge is essential to the naturalistic approach.

But, as we saw in chapter three, the notion of "the norms for knowledge" is ambiguous in the context of an analysis of knowledge which admits extrinsic conditions. It can refer to norm conditions in reference to which warrant is to be properly analyzed, or to a set of rules which are normative for reasonable and truth-preserving thought. Plantinga's statement of purpose implies that he takes normative questions to be concerned entirely with the former: "I aim at an analysis of warrant." [WPF, ix] So by claiming that the essence of naturalism has to do with normativity, he implies (perhaps unintentionally) that the essence of the naturalistic approach has to do with how it goes about analyzing warrant, not with the kind of methodological doctrines it proposes.

This chapter will attempt to find in Plantinga's discussion the basis for an adequate characterization of the naturalistic approach to epistemology. The examination will begin with a protracted attempt to explicate and criticize Plantinga's description of naturalistic epistemology as a particular way of treating normative questions about warrant, protracted because it makes several attempts to refine its interpretation of Plantinga's description in the face of objections that arise. Section 4.2 will consider the supposition that it is necessary to use science to establish the satisfaction of extrinsic norm conditions. Section 4.3 will return to the discussion of naturalism upon which Plantinga's description is based, namely Kornblith's, to see if there is an alternative to Plantinga's interpretation of Kornblith's text. Section 4.4, with some help from Philip Kitcher, will consider and ultimately

reject an alternative characterization of the naturalistic approach, that it is characterized by its taking scientific descriptions of reliability to be relevant to questions about norms for consciousness. The criticisms contained in the fourth section will set the stage for chapter five, which takes the search for an adequate characterization in a different direction.

4.1 Naturalism and the Project of Analyzing the Norm-Conditions for Warrant

Plantinga claims to be a naturalist in two senses, in a mild sense because he denies that warrant is to be understood in terms of deontology and in a moderate sense because he holds that descriptive questions about belief acquisition have an important bearing on normative questions about belief acquisition. I shall investigate these claims as follows. Part 4.1(a) will "unpack" Plantinga's claim that his theory is mildly naturalistic and then question its adequacy. Part 4.1(b) will do the same for his claim to have presented a moderately-naturalistic account of warrant. This second criticism will lead to the question of how and in what ways scientific descriptions might be relevant to an analysis of warrant. Part 4.1(c) will take this question up explicitly and consider several possibilities.

4.1a Plantinga's Characterization of the Weakly-Naturalistic Approach to Epistemology

Plantinga writes, "perhaps the mildest form of naturalism would be one in which it is denied that warrant is to be understood in terms of deontology." [WPF, 45] We begin by retracing the purported link between

deontology and naturalism.

4.1a.1 Weak Naturalism Characterized in terms of the Normativity that Goes with Warrant

We have already observed how a rejection of deontology is related to a revision of the norms for warrant.[3] The claim that warrant can be defined in terms of obeying truth-preserving and behooving norms for consciousness is refuted by means of instances where a belief is unwarranted even though it accords with these rules. Such refutations motivate the rejection of attempts to analyze a belief's warrant status in terms of its having been formed in accordance with norms for consciousness in favour of attempts to define it in reference to the properties of the cognitive processes which generate the belief. As we saw in the second chapter, insofar as norms continue to be conceived of as the standards for knowledge, this new analysis causes the norm-conditions from warrant to change from rules for consciousness to properties of processes.

But why call analyses of warrant which use such arguments to so redefine the normativity that goes with warrant naturalistic? Plantinga gives us a clue elsewhere. In a summary quoted in the preface of this essay, he says his account is naturalistic because the only kind of normativity it invokes--proper function--figures in such sciences as biology and psychology. So long as warrant is conceived of in terms of deontology, normativity is taken to consist in obeying rules which instruct the intellect as to whether a particular judgement is true. Reasoning to a judgement by thinking about a norm for consciousness is an

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[3]See sections 1.2 and 1.3, especially 1.3b.

excellence we predicate only of minds. But a switch away from rule-based to process-based conceptions of warrant results in a generic notion of norm conformance: warrant now results from the same kind of norm conformance that biological and cultural objects display. So the normativity that goes with warrant is the kind that figures in the sciences.

4.1a.2 Problems with Plantinga's Characterization of Weak Naturalism

There are problems with Plantinga's characterization of weak naturalism. A denial that warrant consists in doing one's duty might be a necessary first step for a naturalistic approach to analyzing warrant to take, but it does not suffice for being naturalistic, for a non-deontological analysis could still attempt to define warrant in terms of norms for consciousness. A non-deontological account could maintain that conforming to the norms for warrant is entirely a matter of following the right rules for thinking by grounding the normativity of such rules not in an intuition of their being obligatory for rational creatures but in some other epistemic value, such as their being conducive to truth, their facilitating a coherent system of beliefs, or perhaps even in their technological or social utility.[4] Such a theory would indeed break radically from the deontological tradition, but so long as it continued to take the warrant status of a belief to depend on its having been formed in accordance with the right set of thought-guiding principles it could continue to define warrant exclusively in reference to internally-accessible norms for consciousness and thus, according to the notion of

[4]See section 1.2b. Section 2.1a alludes to some of these other possibilities.

naturalism we are now considering, that it regards the norm-conditions for warrant to be properties which are not necessarily accessible in reflection, would not be naturalistic in its approach to analyzing knowledge.[5]

So at the very least, a naturalistic account must hold that the amount of warrant a belief possesses depends on properties of the cognitive processes which produced it and not merely on the properties of the rules that its possessor is following. For it is only after we have taken warrant to depend on the properties of belief-producing processes that we can posit norm-conditions which rule and measure the formation of beliefs in the same extrinsic manner as the norms for a natural processes like osmoregulation.

Furthermore, not even all process-based accounts are necessarily naturalistic, for an analysis could claim that warrant depends upon the properties of cognitive processes while also maintaining that a person can determine through reflection alone whether his cognitive processes meet the requisite norm conditions.[6]

Since an analysis of warrant can reject deontology without having the same kind of norm-conditions found in the sciences, weak naturalism can scarcely be called naturalism at all. We turn next to Plantinga's claim to be a moderate naturalist.

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[5]See the opening of section 1.3a and section 1.3b.

[6]This possibility was alluded to in 1.3b.

4.1b Plantinga's Characterization of the Moderately-Naturalistic Approach to Epistemology

Plantinga does not advance his claim to be a moderate naturalist on his having taken the norms for warrant to be extrinsic and therefore similar to the norms for natural processes in the relevant respect. Rather, he advances it on the basis of his claim to have presented norms for warrant to which descriptive questions are relevant. Elsewhere, he equates his having presented this sort of norm with his claim to have invoked no kind of normativity not to be found in the sciences. [WPF, 210] We shall next relate these two claims to each other and to feature of Plantinga's norms we have noted, that they are extrinsic. Having clarified these relationships, we shall proceed to examine the characterization of moderate naturalism that will have emerged.

4.1b.1 Moderate Naturalism Characterized in terms of the Normativity that Goes with Warrant

Plantinga bases his claim to be a naturalist in a stronger and more moderate sense on Hilary Kornblith's characterization of the naturalistic approach, according to which naturalism claims that

> questions about how we actually arrive at our beliefs are thus relevant to questions about how we ought to arrive at beliefs. Descriptive questions about belief acquisition have an important bearing on normative questions about belief acquisition." [Kornblith, quoted in WPF, 45]

Plantinga relates descriptive questions to normative questions as follows.

> Now will it be the case that "questions about how we actually arrive at our beliefs are relevant to questions about how we ought to arrive at our beliefs?" Surely so: at any rate if we construe 'ought' as referring to the normativity going with warrant and 'actually arrive at' as 'actually arrive at when there is no cognitive malfunction. Indeed, thus construed the first question is maximally relevant to the second, being identical with it. [WPF, 45-6]

Kornblith identifies descriptive questions with "questions about how we

actually arrive at belief." Plantinga identifies "actually arrive at" with "actually arrive at when there is no cognitive malfunction." To be subject to no malfunction is to accord with the design plan. Thus, descriptive questions as construed by Plantinga ask for a description of what a thing does when it is functioning as it was designed to—ie. ask for a description of the design plan. But we observed earlier that for Plantinga the design plan, or at least those parts of it which meet the other conditions for warrant, is the norm which a process must accord with in order for the beliefs it produces to be warranted. So the contents of a description of how we actually arrive at beliefs when we are not malfunctioning—the design plan segments relevant to the production of a belief—are (in cases where the design plan is successfully aimed at truth in an appropriate environment) the norms for warrant. Perhaps this is what Plantinga means when he says that on his account questions about how we actually arrive at belief are identical with questions about how we ought to arrive at beliefs. [cf. WPF, 46-47]

Descriptive questions are relevant to normative questions in his account because the same design-plan specifications which answer "descriptive questions about belief acquisition" stand as norm-conditions for warrant. But to hold that a belief is not warranted unless the processes which generated it function in accordance with design-plan specifications is to hold that the norm-conditions for warrant are extrinsic. For, as we saw in chapter two, the design plan for a cognitive process is normative for its operation only in sense that the design plans of kidneys and brake shoes are normative for their respective operations, not in the sense that a rule or concept is normative for consciousness.

To speak scholastically, principles of design are the sort of norm that things follow their proper end by nature, not the sort of norm that intellects, which alone possess the power to know the principles according to which they move to perfection, follow by employing them in thought.

We can now restate Plantinga's claim to be a moderate naturalist as follows: since his account analyzes warrant into the former kind of principles, it appeals only to the sort of norms that modern science describes. This supposition appears plausible. The claim that a scientific study of an organ or organism aims to describe the principle of its specific excellence though anachronistic and rich in metaphysical connotations, is not false. We could refer to a biological description of a kidney nephron as a description of its design plan. So it seems plausible to say that the design-plan for our cognitive faculties is the sort of thing that science describes. Why not conclude that defining warrant in reference to design makes Plantinga's account naturalistic?

4.1b.2 A Question for Plantinga's Characterization of Moderate Naturalism: Is any Description of a Natural Principle A Scientific Description?

An account of warrant should not be called naturalistic merely because it appeals to the design of our cognitive faculties as the principle of cognitive excellence. Suppose that someone who believes very strongly in astrology were to claim, like Plantinga, that the norms for warrant are extrinsic, that warrant requires that a person function in accordance with principles of design, but were then to go on to claim that the segments of the design-plan governing the formation of beliefs about our futures call for us to base such beliefs on tarot card readings. She might go on to say that this design-plan segment is aimed at truth and

that other segments relevant to such beliefs—those which cause us to conjecture on the basis of our knowledge of our character, economic trends and so forth—are not very reliable in this case even though they seem to be. According to the characterization of naturalism we are now considering, such a description of the norms for warrant is naturalistic because it posits norms for knowledge which are of the same kind as the norms found in the natural sciences.

Our present characterization of naturalism leads to the undesireable conclusion that any description of the norms for warrant, no matter how unscientific, remains naturalistic so long as it appeals to norms which are extrinsic to consciousness. So even if we grant that such an appeal is essential to moderate naturalism, the characterization of this approach that we have attributed to Plantinga is wanting. Not every description of proper function is a scientific description.

It seems reasonable to expect that at some level, a naturalistic theory, in appealing to norms which rule and measure cognitive processes in the same generic manner as the norms for natural processes like osmoregulation, will do so scientifically. It is not immediately clear what would make a description of the design-norms for cognition scientific, but it would appear to involve its having been formed and tested by means of the rigorous methods of scientific investigation. Put roughly, science proceeds by projecting hypotheses as possible explanations of empirical observations and then subjecting each hypothesis to experiments designed to either disprove it or establish both its consistency with other data and its predictive value.

Our enquiry has suggested that both of Plantinga's characterizations

of naturalism are inadequate. We shall next consider the plausibility of the amendment that has just now suggested itself.

4.1c Describing Design-Norms Scientifically

How might science be relevant to describing the conditions under which various sorts of beliefs are warranted?

4.1c.1 Scientific Descriptions and Analyzing Warrant

Perhaps epistemology could use science to establish an analysis or definition of warrant. This manner or relevance would certainly make science relevant to epistemology, but it is difficult if not impossible to imagine how empirical science could play such a role.

Plantinga's analysis of warrant does not make use of the scientific method. His appeal to proper function originates from a very conventional reflective criticism of internalism; he carries out thought-experiments in which he finds the various brands of internalism wanting because their conditions for warrant fall victim to his counterexamples. He likewise produces his alternative analysis by considering situations, real and imagined, where people make mistaken judgements and generalizing to a set of generic conditions which must be satisfied in order for the degree of conviction that accompanies a belief to correspond to its degree of warrant (ie., he reasons to a fully general set of conditions for warrant).

Of course the fact that Plantinga's analysis does not proceed through science does not disprove this proposed characterization of naturalism. But it is hard to imagine how science could be employed to give a definition or analysis of warrant. Perhaps science could begin

with cases of belief which are paradigmatically normative according to traditional philosophical reflection, common sense and/or empirical science and examine the mind/brain and/or human behaviour to see if there are a set of scientifically-describable conditions which are present in such cases. The question of whether science could even attempt such a correlation is beyond the scope of this investigation.

However, this possibility has one stroke against it already. This student knows of no actual investigation into warrant which proceeds this way. Many, like Plantinga, attempt to define warrant through standard philosophical reflection. Goldman for instance argues to his reliabilist account of warrant by using counterexamples to supposedly eliminate all alternatives. Similarly, Pollock proceeds by criticizing externalism and intellectualistic internalism[7] and then appealing to his account as the only viable remaining alternative. It would be odd indeed for a characterization of naturalism to exclude these and many if not all other professing naturalists.

Perhaps an analysis is naturalistic if it specifies that generalizations to a definition of warrant have to be based entirely on instances of scientific knowledge, or at least that scientific claims must be given priority. But that characterization is too broad. Many foundationalist and coherentist accounts of knowledge also hold that when science contradicts common sense—tells us that the earth revolves around the sun for example—we should accept the scientific proposition as the reliable one. Moreover, having scientific evidence for a claim has long

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[7]An internalistic position which claims that a norm cannot be employed in reasoning unless it is consciously adopted and followed.

been considered the paradigm for justification.

4.1c.2 Scientific Description and Design-Plan Details

Here is another possible alternative. A naturalistic analysis contains norms for warrant which, though reasoned to through reflection, can be explored scientifically. Plantinga's list of conditions for warrant does not establish if and in what circumstances the various belief-producing cognitive modules fulfil those conditions thus producing warranted beliefs. For instance, Plantinga's four conditions do not answer the question, "Under what conditions do the cognitive modules responsible for our giving credence to testimony successfully aim at truth?" Perhaps his analysis makes scientific descriptions relevant to the philosophical attempt to establish warrant conditions for specific beliefs or types of belief.

This distinction between a general analysis and specific conditions for its satisfaction suggests a solution to the soothsayer counterexample. Her account of warrant fails to be naturalistic not because of the kind of norms she establishes--they are extrinsic after all—but because she goes on to describe specific segments unscientifically.

Plantinga's analysis of warrant would not qualify if naturalism were so defined. He relies on his own intuitions about when people are warranted to determine whether specific segments of the design plan satisfy the conditions for warrant. Such description of the design plan cannot properly be called scientific, for science proceeds through the framing and testing of hypothesis. This is not to say that his descriptions are defective in the way that the astrologer's are; it's just

to say that they are not scientific descriptions.[8]

According to the characterization of naturalism we have been developing, the turn toward analyzing warrant into norm-conditions that are extrinsic to conscious deliberation makes science relevant to attempts to specify the conditions under which processes or process-types fulfil the generic norm conditions produced through reflective analysis. But Plantinga appears able to provide such specifications with no help from science. His doing so raises doubts about the supposition that we need science to establish the circumstances under which a process or process-type fulfils the extrinsic norm-conditions for warrant. Section 4.2 explores this supposition.

4.2 Whether Attempts to Describe the Specific Conditions Under which the Generic Norm-Conditions for Warrant are Satisfied Must Have Recourse to Empirical Science

Perhaps one could claim that the only way to discover whether the extrinsic norm conditions for warrant are satisfied in particular cases is to study the reliability of processes or process types. Part (a) will present this claim, which for lack of a better term I shall call naive reliabilism.[9] Part (b) will rebut naive reliabilism. Part (c) will

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[8]For example, see WPF, 40. Plantinga begins with a belief that is true and rationally justified and yet unwarranted because its truth is a mere coincidence, and then speculates about why the belief is not warranted, surmising that the design plan is not aimed at truth in this instance, or that there is a malfunction, or something similar, depending on the specifics of the problem.

[9]Reliabilism here does not imply, contrary to Plantinga's analysis, that warrant can be defined solely in terms of the satisfaction of reliability-conditions. Rather, the term merely refers to the position that we need some independent means, presumably a scientific test, of determining whether, in particular cases, our acceptance inclinations are a reliable indicator of how much warrant a belief possesses. Such a

qualify the rebuttal.

4.2a Why It Seems that We Need Science to Identify Extrinsic Conditions for Warrant

Whether or not a belief satisfies internal norm-conditions can be determined in refection. I can determine whether a belief is justified or rationally acceptable by reflecting on whether it is supported by other beliefs which are justified or perhaps through an intuition of its truth. But a person cannot determine through reflection alone whether the extrinsic norm conditions for her belief are satisfied. (Nor could a third party answer the question solely by comparing the belief in question to other beliefs of S's that she has good reason to believe are warranted for S.)

Imagine a condition which is such that (i) S is not warranted unless it is satisfied; (ii) S 's warrant does not depend upon his being aware of its satisfaction; (iii) S has no knowledge of this conditions or its satisfaction; and (iv) S is not culpable for his ignorance either because it was not within his power to gain such knowledge or because even if he were able to gain knowledge he could not be faulted for not taking it into consideration. Such a condition would be extrinsic in the highest degree. For example, someone who has never worked in artificial light might make warranted judgements all of the time about colours without ever considering that her warrant is conditional upon her being in the presence of white light.

Now suppose that for some reason unbeknown to S, her situation

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position is consistent with the view that correspondence between degree of belief and degree of warrant depends upon proper function etc.

changes and this condition is no longer satisfied. Possessing no beliefs about that extrinsic condition, S would have no reason for doubting her belief, providing that other beliefs in her cognitive possession do not count against it. And so it would seem that poor S is condemned, despite her best efforts, to believing that her belief is warranted when it actually is not.

Now it is exactly at this point where someone could be tempted to appeal to science. Despairing of our ability to determine whether we are warranted through reflection alone, one might hope to establish the conditions under which a belief or belief-type satisfies the generic norm-conditions for warrant through a scientific study of the relevant cognitive processes. Scientists could feed experimentally-controlled inputs to people and measure their responses to see whether or not these circumstances generate non-accidentally true beliefs and then vary experimental conditions to isolate and identify the extrinsic variable that is not satisfied. By means of such tests one might hope to eventually create a set of lists specifying whether and if so under what conditions a process is likely to generate warranted true beliefs.

4.2b How to Identify Extrinsic Conditions for Warrant Without Utilizing Science.

The sorts of scientific studies envisioned above may or not be feasible[10], but admitting extrinsic conditions to an account of warrant does not necessitate a reliance on such reliability lists. It does not

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[10]Plantinga has criticized this possibility on the grounds that it would be impossible to establish the relevant type for which a particular concrete process is the token. [See WCD, 197 ff.]

follow from the fact that a person cannot determine through reflection alone whether the norm-conditions for warrant are satisfied--whether degree of warrant and degree of inclination correspond--that we need science to establish such satisfaction and such correspondence. For we can gain knowledge of cognitively-inaccessible conditions and their satisfaction or lack thereof by demanding that our beliefs display some kind of rational cohesiveness, such as being coherent or well-founded. Over time, experience and a demand for logical consistency together have a way of flushing out extrinsic conditions.

Sometimes a belief that is prima facie warranted in a given type of circumstance can repeatedly prove incongruous with subsequent experiences. For example, an object that appears black to S inside a factory suddenly turns red when he takes it outside. In such cases we tend over time to form inductive generalizations about the reliability of our inclinations toward acceptance in a given situation. We might even be able to enquire into exactly which condition is unfulfilled, whether it is a case of malfunction, or an inappropriate environment, and so on. Relevant evidence might include memories of past successes and failures in similar and altered circumstances, theoretical knowledge, affirmation or correction by linguistically-competent and reliable members of our community, and other beliefs. By comparing beliefs to one another in this way we gain common-sense knowledge of extrinsic conditions without needing to rely on scientific studies of reliability.

To say that much if not most of our knowledge of extrinsic conditions comes through common sense is not to deny that science is capable of shedding light on questions about whether certain types of

faculties satisfy norm-conditions. Science can devise tests that determine the delusionary effects of oxygen deprivation, or tests that chart our ability to distinguish colours at different light intensities and frequencies. Such knowledge is certainly relevant if one is training jet fighter pilots or designing factory lighting systems, but when it comes to the epistemological project of making generalizations about the degree of warrant possessed by different sorts of beliefs, such data seems at best mostly superfluous and at worst reminiscent of the undertakings of the empirics encountered by Jonathon Swift's Gulliver. We do not need rigorous scientific studies to teach us that our vision doesn't function perfectly when we look into water at angles, or that sweet liquids taste bitter when we are sick, or that people in love often have clouded judgement. We form meta-beliefs about such cognitive limitations through simple inductions from everyday experiences, while reaching for soap in the bathtub and while watching our love-struck friends at junior high school dances.

So scientific tests for reliability play at most an auxiliary role in our efforts to determine the conditions under which particular processes satisfy extrinsic norm-conditions, perhaps by helping us to make fine-grained judgements about when we are likely to believe rightly. One is certainly not fomenting a revolution in epistemology by permitting science this humble role. The naturalistic approach, if this is all needs science to do, would be a more of a supplement to traditional epistemology than a successor.

Some qualifications are necessary at this point, as they will allay some misimpressions that our recent considerations could create and,

perhaps more importantly, will serve to highlight some noteworthy features of Plantinga's approach which will be relevant to our continuing effort to come to terms with naturalism.

4.2c Some Qualifications about How the Demand for Logical Consistency Relates to the Presence of Extrinsic Conditions for Warrant

First, I am not meaning to imply that the demand for logical consistency is guaranteed to flush out design-plan segments that are not aimed at truth or other sorts of cases where conditions for warranted are violated. A person or perhaps even group of people could conceivably continue to take beliefs to be warranted which are in fact not even though they are doing their utmost to avoid falsehood and pursue truth.[11]

Second, does not the claim that the demand for logical consistency has a way of flushing out *prima facie* but actually unwarranted beliefs compromise Plantinga's externalism? It does not, for logical consistency, whatever exactly it consists in, does not guarantee warrant. Plantinga cites cases where a person can malfunction so badly that he holds completely false or unwarranted beliefs even while meeting the particular account of consistency that Plantinga is confronting at the moment, be it

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[11]Perhaps the difficulties inherent in attempts to flush out beliefs which though not warranted are accompanied by a high degree of conviction because they are the product of faculties aimed at some end other than truth could explain a host of irrational behaviours: why intelligent people overestimate their chances of surviving life-threatening illnesses, why they accept absurd claims about other races or nations in times of war, and—if we agree with Freud that a belief in future rewards and punishments is the product of a neurosis that preserves mental health in a meaningless and painful world—why they persist in giving credence to scientifically unfounded superstitions.

coherentist or foundationalist.[12] Moreover, in Plantinga's cases the malady is such that subsequent subjective experience cannot enable the person to flush these errors out. And there is another reason why Plantinga's externalism is not compromised by the demand for logical consistency. He argues that there are cases where a person could knowingly and responsibly hold a set of inconsistent beliefs because she does not know which subset to deny. So, insofar as these two lines of argument succeed, logical consistency neither guarantees warrant nor is an absolute condition for being warranted.

Third, Plantinga claims that there are cases where S can be warranted even though he has never questioned the reliability of the inclinations toward acceptance which accompany his belief. Such cases suggest that the reason why a belief is warranted and the reason why someone believes it to be warranted do not necessarily coincide.[13] So even if a demand for consistency, aided and abetted by modern science, could enable us to gain a perspective on every extrinsic condition for warrant, some conditions would remain external in the sense that our being warranted does not require that we be aware of them.

To claim that there are such conditions is not to deny that there are many other cases where S must have a perspective on the reliability of his acceptance inclinations in order for the belief they accompany to be warranted. One of the tasks faced by a description of the conditions under which different sorts of beliefs are warranted is to differentiate

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[12]See for example WCD, 42, 45, 59, 61-2, & 82. The text contains other examples.

[13]See section 3.3a

the cases in which S must have such a perspective in order to be warranted from those in which it is not required and to clarify what having such a perspective consists in.

To conclude this section, an appeal to extrinsic norm-conditions does not necessitate a reliance on scientific experiments to determine whether specific cognitive processes or process-types meet the norm-conditions for warrant. This lack of necessity renders an appeal to science for the reasons suggested above unmotivated, even if it does not on its own constitute a fatal refutation of naive reliabilism.

Perhaps our efforts to characterize naturalism have been frustrated because we have supposed that the presence of extrinsic norm-conditions for warrant makes science relevant to an analysis of warrant. This assumption was inspired by Plantinga's limitation of the "normative questions" of which Kornblith speaks to analytical concerns. Maybe scientific descriptions of cognitive processes become relevant only when epistemology turns from analysis to the project of articulating the norms for consciousness by means of which one ought to govern her assent, in the old-fashioned sense that she recognizes that following those norms is the best way that she can pursue knowledge. If so, the recognition of extrinsic contingencies alters this normative project in a way that makes scientific studies of the reliability of processes relevant to it.

Section 4.3 will examine Kornblith's essay[14] to see if it contains any explicit or even implicit support for this alternative interpretation.

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[14]Hilary Kornblith, "Introduction: What is Naturalistic Epistemology," Naturalizing Epistemology, ed. Hilary Kornblith (Cambridge: MIT Press, 1985) 1-13.

4.3 Kornblith's Normative Questions

Kornblith refers to normative questions as "questions about how we ought to arrive at our beliefs." Plantinga presumes that this "ought" need not be taken deontologically and that it can therefore refer to the generic kind of normative claims that apply to any sort of object that has a function, ie., to the kind his analysis of warrant invokes.

Let us leave aside the issue of whether Kornblith thinks that normative questions are concerned primarily with duty. Even if he denies that people are culpable for not following the right principles for reasonable thinking, he might nonetheless be taking normative questions to be directed toward the attempt to establish such principles. If so, then we should interpret his claim that "descriptive questions of belief acquisition have an important bearing on normative questions about belief acquisitions" to mean that scientific descriptions are somehow relevant to efforts to articulate a body of norms for consciousness.

Unfortunately, an examination of Kornblith's essay does not provide a clear answer to the question of whether his definition of naturalism is referring solely to the norms which go with an analysis of warrant or to the norms which we use to guide our judgement. Some of his comments seem to imply that he has only norms for consciousness in mind. Later in the essay he draws an analogy between normative questions in ethics and normative questions in epistemology. The former are concerned with the rules of conduct that people ought to govern their moral actions by. This would seem to indicate that epistemic norms are also rules for how to think. Other comments like his citation of the coherence theory of justification as an example of the normative project make similar

intimations. For coherence theories attempt to define warrant in terms of properties which are internal to the epistemic agent.

However, none of these comments provide a conclusive answer to our question, and there are other places where Kornblith seems to be referring to analysis. For example, he speaks of the epistemologist describing belief-acquisition processes. [Kornblith, 10] As we have already noted, judgements about the reliability of processes are an instance of external assessment by an epistemologist who is observing someone else. But then again, Kornblith might be implying that those descriptions will generate normative rules. Whatever Kornblith intends by normative questions, his overview does not settle the question.

Perhaps this lack of clarity is due in part to the novelty of introducing extrinsic conditions for warrant and the related novelty of producing an analysis of warrant whose conditions do not inherently provide normative advice to consciousness. Or perhaps it is due to Kornblith's taking it for granted that all who read him would equate normative questions with doctrinal questions. Such an assumption would not be unjustified. Our earlier survey of expressions such as "norm," "normative" and "normative principles" as they appear in both traditional and naturalistic philosophical discourse concluded that the notion of the norms for knowledge, by convention and for many good reasons, refers first and foremost to regulative principles.[15] To limit the expression "normative questions about belief acquisition" to considerations about the extrinsic conditions for warrant and deny that such questions are concerned with the doctrinal project of identifying and justifying the

[15]See section 2.3b.

right norms for consciousness would be to violently divorce the concept of normativity from both its historical and contemporary use in philosophical discourse.

Therefore, our latter interpretation of Kornblith's definition of naturalism, that the normative questions which scientific descriptions help answer are questions about norms for consciousness, is not only reasonable but preferable to Plantinga's, which confines normative concerns to analysis. How then could science be relevant to the project of articulating normative principles?

4.4 Naturalism and the Relevance of Scientific Descriptions to the Doctrinal Project

Perhaps Kitcher's synopsis of the naturalistic approach can assist us to relate science to the traditional normative concerns, which I have called the doctrinal project. We noted earlier that Kitcher takes the central problem for epistemology, naturalistic varieties included, to be to understand the epistemic quality of human performance and specify strategies through whose humans beings can improve their cognitive states.[16] His distinction between defining knowledge and specifying strategies for better assessing and formulating knowledge claims corresponds to our own between discovering the norms (ie. conditions, external and/or internal) for belief and prescribing normative doctrines for right thinking.[17]

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[16]See section 2.3b.

[17]However, Kitcher, like so many others, identifies the normative element of epistemology much more strongly with the second of these two aims. [Kitcher, 79]

According to Kitcher, naturalized epistemology diverges from the mainstream of twentieth century epistemology because it adds the following theses to that goal. [Kitcher, 75–76]

(2) The epistemic status of a state is dependent on the processes that generate and sustain it.

(3) The central epistemological project is to be carried out by describing processes that are reliable, in the sense that they would have a high frequency of generating epistemically virtuous states in human beings in our world.

(4) Virtually nothing is knowable apriori. and in particular, no epistemological principle is knowable apriori.

We shall consider each of these theses in turn to see how it changes the central epistemological project. Points (2) and (3) together suggest a direct answer to the question of how science is relevant to the normative project. I have designated the characterization of naturalism suggested by theses (2) and (3) "Kitcher's apparent characterization of naturalism." The remainder of section 4.3 will focus exclusively on this apparent characterization and argue that it is problematic for reasons with which we are already familiar. The fifth chapter will return to Kitcher's fourth naturalistic thesis in an effort to come up with a more adequate generalization of the naturalistic approach.

4.4a Kitcher's Apparent Characterization of the Naturalistic Approach

Kitcher claims that "the addition of (2) to (1) involves only minimal departures from the twentieth-century epistemological mainstream, simply denying the extreme apsychologism of post-Fregean epistemology." [page 76] But (3) is supposedly more substantive, because in offering reliability as a standard of epistemic excellence, it departs from the

older practice of attempting to account for epistemic excellence in terms of rationality, justification, and/or knowledge.

These claims would seem to confirm the characterization of naturalism pursued in section 4.1, that its novelty lies at least in part in an appeal to extrinsic norm-conditions for warrant. The addition of proposition (2) is a minimal departure insofar as philosophers make cognitive processes rather than logical relations the objects of assessments in order to get around objections like those raised by Harman & Goldman,[18] [see Kitcher, 60] and yet still attempt define warrant in reference to rules discovered in reflection. But when thesis (3) is adopted, warrant comes to be defined at least partially in reference to extrinsic norms such as reliability or accordance with the design plan. This departure is more substantial because the project of defining warrant now makes reference to conditions outside of the cognizer's own belief-states: the processes upon which we rely ". . .have conditions of application which are sometimes, though not always, satisfied in our world." [Kitcher, 76]

Furthermore, Kitcher's theses also seem to accord with the two suggested refinements to that characterization which have emerged in this fourth chapter, that naturalism involves empirical science and, most recently, that it is to the articulating of norms for consciousness that scientific studies are relevant. For Kitcher implies that naturalism would be "much ado about very little" if it were not the case that

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[18]These are arguments to the effect that a justification requires more than accordance with truth-preserving patterns of inference. Someone could derive q from p and p -> q capriciously, because his friends will laugh at him if he does not, for example.

"empirical studies of our actual cognitive practices" are "profoundly relevant" to the normative project of establishing strategies which promote the attainment of cognitive goals. [cf. Kitcher, 78]

> Traditional naturalists aim to produce principles that can be deployed to promote cognitive success in the actual world, recommending that we use our current beliefs about the world to formulate such principles. Empirical information about nature and our relation to the rest of nature must be relevant to the normative project. [Kitcher, p. 79][19]

4.4b Problems with Kitcher's Apparent Characterization of the Naturalistic Approach

Kitcher argues for the relevance of empirical studies of nature and our relation to it to the normative project in something like the following manner. Epistemology aims to present a compendium of cognitively optimal processes for all of the situations in which humans find themselves. [Kitcher, 76] We cannot articulate this compendium of cognitively optimal belief-forming strategies entirely by appealing to formal logic, probability theory and so forth [cf. Kitcher, 78] Therefore, findings from psychology, the history of science, and so forth are profoundly relevant to epistemology. [Kitcher, 78]

But how are they relevant? —Point (3) above tells us that they describe processes which are reliable, that is, have a high frequency of generating epistemically virtuous states. Commenting on this point, Kitcher writes,

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[19]Furthermore, if Kitcher did not intend analysis to generate doctrinal principles, he would he not go on to say that one complaint against naturalism is that empirical studies of cognitive practices do not displace the usual philosophical sources of normative principles.

> the high frequency requirement is to be construed as follows: candidate processes will have conditions of applications which are sometimes, though not always satisfied in our world; within a representative sample of occasions on which conditions for application of a class of processes are satisfied, a correct naturalistic epistemology should specify those which maximize cognitive virtue. [Kitcher, 76]

Kitcher's meaning is not entirely clear here, but he seems to suggest something like the following. Our analysis of warrant tells us the success of some cognitive processes is contingent upon the way the world is. Since we cannot establish these conditions in reflection, we are led to find out whether processes are reliable—tend to generate epistemically virtuous states—through science. Naturalists propose to do so in the following way: First, they devise a representative sample of standard occasions, a sample of the various sorts of circumstances on which one could expect a given process to produce true beliefs unfortuitously if it were indeed reliable. Second, they take this particular process and subject it to each circumstance in the sample in turn in a kind of reliability test, checking to see whether the process in question does in fact non-fortuitously produce a true belief in each case. After having subjected the process to every circumstance in the sample, the researcher assigns it or perhaps the process-type of which it is a token a grade by comparing the number of successes to the total number of samples. The resulting success ratio will determine whether or not the process or process-type is reliable and hence cognitively virtuous. The normative component then comes in as follows. Those processes which have been proven reliable by science are the ones that we "ought" to follow, either in the old-fashioned deontological sense of realizing that it is our duty to do so because we now know that they maximize cognitive virtue, or in

the analogically-extended sense of merely recognizing that they are the best means of attaining our cognitive goals.

This depiction of the relevance of science to doctrinal questions supposes that scientific studies are relevant to determining if and in what circumstances specific processes or types of processes meet the generic conditions for warrant—it matters not for our present purposes whether one analyzes warrant into reliability in standard conditions or into the generic conditions provided by Plantinga. But this supposition has been challenged above: it does not follow from the fact that we cannot articulate a compendium of the processes which conform to the generic norm-conditions for warrant and the circumstances in which they do so solely through appealing to reflectively-accessible norms such as logical consistency or being probable with respect to the evidence that we must establish this compendium through empirical scientific tests for reliability. Comparisons between different experiences and a demand for consistency tend to enable a thoughtful person to become aware of the circumstances in which he forms a false but apparently acceptable belief. Once so aware he will know not to rely on his impulsive inclinations toward acceptance when confronted with a relevantly similar situation. Indeed, it is a psychological fact that the vast majority of people come to a perspective on the reliability their impulsive evidence in various circumstances by these means rather than by relying on scientific experimentation.

This much has been spoken of before. The novel point here is that Kitcher seems to base the relevance of science to the normative project in its playing a role in our efforts to establish which of our belief-

producing processes are reliable. But if we do not need science to establish reliability, then neither do we need it to make normative pronouncements about which of these processes we ought to rely on.

Once again, naturalists could retrench by appealing to the necessity of science for fine-grained descriptions of the design plan that common sense cannot establish. But once again, how important are such descriptions to the central epistemological problem of understanding cognition and specifying optimal strategies for improving our cognitive states? According to Kitcher, naturalists insist that scientific findings are "profoundly relevant" to this project. Profound relevance would seem to require more than fine tuning.

We have been attempting to characterize naturalism under the inspiration of Kornblith's premise that it takes scientific descriptions of belief acquisition to be relevant to normative questions. Our examination of Plantinga's discussion of naturalism suggested that this relevance results when an analysis appeals to norm-conditions for warrant whose satisfaction in particular cases cannot be determined through reflection alone. But since we can gain a perspective on the extrinsic conditions for warrant without relying on scientific tests for reliability, the arguments for naive reliabilism do not provide much of an impulse for relating scientific descriptions to normative concerns of either type.

Perhaps the time has come to look for an alternative way to adequately characterize naturalism.

V

TOWARD AN ADEQUATE CHARACTERIZATION OF THE NATURALISTIC APPROACH

5.1 The Alternative Characterization

Perhaps the essence of naturalism and even reliabilism lies elsewhere than in the hopes of using science to test for reliability, as our foregoing discussion of naive reliabilism suggested. That discussion received was inspired by Kitcher's second and third theses. We shall next consider his until-now neglected fourth thesis in the hope of finding more genuine and definitive features to the naturalistic approach.

Kitcher says that thesis (4), which claims that virtually nothing, especially no any epistemological principle,is knowable apriori, depends on the arguments of Quine and Kuhn. The denial that apriori knowledge is possible brings to mind Quine's arguments against the analytic/synthetic distinctions in his famous essay "Two Dogmas of Empiricism." We noted earlier that Quine argues that even judgements about the truth of analytic sentences are made in reference to a system of beliefs and as such are in principle subject to revision. This argument undercuts the claim that a judgement can be warranted only if it is formed in accordance with a rule whose normative status has been established apriori, for the normative status of any rule relating a name to a set of experiences is conditional upon the meaning of the terms it contains, meanings which depend upon the theories of which they are a part.

However, though it undercuts the argument that any account of the relation between experiences and knowledge must be apriori—which for

empiricists implies that it must specify identities whose truth is analytic between statements about bodies and sets of possible experiences—the argument against the analytic/synthetic statements does not on its own disprove the possibility of accounting for knowledge in terms of some favoured set of logical relations between beliefs. For instance, one could accept that the meaning of any term is dependent upon other theoretical assumptions and thus, since we receive assumptions from our ancestors, that our terms receive their meanings and our sentences their verification conditions only in reference to historical/cultural needs—one could accept all of this and yet hold that our beliefs are warranted if and only if they are coherent with one another. Why then does Kitcher identify naturalism with the claim that little if not nothing is known apriori?

Kitcher addresses a concern very much like the one just raised at the outset of his seventh chapter, where he turns his attention to a complaint against naturalism, that the usual philosophical principles are not displaced by traditional naturalism, which offers only the metaepistemological principle that the deliverance of these sources are not apriori. Here is Kitcher's reply.

> The argument for thinking that methodological recommendations are immune to scientific investigations turns on the notion that we can formulate, using logic and probability theory, belief-forming strategies that can be shown to be cognitively optimal. [Kitcher, 85]

Kitcher presents two responses to this argument. One is that a strategy can only be successful if a person has the capability to use it. For example, there might be so much evidence for a particular claim—some of Darwin's proposals for instance—that the directive to consider all of

the evidence cannot be followed, for even scientists have psychological limitations. The fact that in practice it is often not possible to establish the normative status of a scientific theory or some other kind of claim in reference to the criteria of its being the best supported by all of the available evidence suggests that such coherence is not the ground of normativity.

Be that as it may, Kitcher's other response is of more direct relevance to our present attempt to characterize naturalism.

> substantive methodology requires formulating strategies that are likely to yield good results, given the way the world actually is, and, consequently, identification of these strategies must draw on empirical information of the world. [Kitcher, 85]

Kitcher is alluding here to Nelson Goodman's problem of induction. Goodman's problem shows that there is no such thing as inductive logic. A good inductive inference must have projectible predicates.[1] Otherwise the presence of M/N cases in the sample class of A's being B's will give no support to the belief that M/N A's are B's. Goodman's paradoxes show that it is not possible to differentiate projectible predicates from unprojectible on the basis of their form or logical structure. Projectibility depends on facts about the relation between the pair which cannot be known apriori.

We can recast the point in terms of norms. If we wanted to stipulate a norm for inductive generalization, the antecedent conditions

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[1]Projectible predicates are a pair of predicates A & B whose shared instances count toward the confirmation of "All A's are B's. For instance, a black raven counts toward "All ravens are black, but a non-black non-raven—a green leaf for instance—does not count toward this generalization. ("All A's are B's" is logically equivalent "No non-B is a non-A.'s) Hence, being black and a raven are projectible, but being non-black and a non-raven are not projectible. See Quine, "Natural Kinds," 32.

would have to make reference to facts about the relation between the two predicates. Being green is related to being an emerald in a way that being grue is not. Thus the norm-condition could never be stated as a formal truth that is independent of our knowledge of matters of fact.

The problem of induction relates to an analysis of warrant as follows. As we saw in chapter three, concepts are normative for consciousness. We form a fully general set of verification conditions for the attribution of a name like bird or red through induction from individual experiences. But on what grounds can we say that those concepts are right, given that there is no logical characterization of the process by which we form these concepts? In other words, on what grounds can an analysis of warrant differentiate concepts that are normative for consciousness from concepts that are not?

There are answers to this question which are not naturalistic. Coherence theories can concede Goodman's point that there is no formal apriori characterization of projectibility and yet avoid the turn to naturalism by responding that good inductions, unlike bad, join predicates in a manner which is consistent with our best system of beliefs about the world, where best is defined in terms of some criteria such as coherence or possessing the most evidence. For example, the joining of emerald to grue in a sample set is deemed unwarranted because it contradicts our well-supported belief that something changes color only if altered in some way that affects its absorption and reflection of wavelengths of EM radiation along the visible light spectrum.

Such responses to Goodman's problem suggest that one could continue to define warrant in reference to the logical properties of belief-states

even while conceding that there is no logic of the inductive processes through which we form general descriptions. This possibility would seem to commit naturalism to additional arguments against the various versions of coherentist and evidentialist analyses of warrant. Naturalists can argue against the necessity of apriori considerations such as coherence or an adequate evidence base on the grounds that there are examples of warranted beliefs which do not stand in any such relation to other beliefs. Plantinga suggests that accepting a very complicated logical falsehood on the basis of the proof suggested by a habitually authoritative mathematician who is unaware of a subtle fallacy in his reasoning is an example of a belief which is warranted and yet not coherent with the rest of one's other beliefs.[2] Naturalist can also argue that a belief's warrant does not require its being coherent with or receiving the most support from one's total evidence on the grounds that historically, scientists and other epistemically responsible people have held beliefs which are incoherent or not supported by all the evidence because it was not obvious whether it was the belief or the disconfirming evidence which was unwarranted. Furthermore, naturalists can also argue that coherence or being the most evident is not sufficient for warrant because a person who is deranged or malfunctioning in some other way can have a perfectly coherent and yet false or unwarranted set of beliefs [cf. WCD, 81-82]

Our considerations have led us to the following interpretation of Kitcher's fourth naturalistic thesis that virtually nothing, and in particular no epistemological principle, is knowable apriori. Naturalism

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[2]See WCD, 82-83 for this and similar examples.

does not merely deny that an apriori analysis of warranted beliefs into logical relations between experiences is impossible, it also denies that we can analyze the warrant of our beliefs about the world solely or completely in reference to apriori considerations such as being the most coherent beliefs or the beliefs which have the best evidence-base.

What alternative explanation then can naturalism provide to the question of what differentiates normative concepts and the normative descriptions containing them from those that are not? Quine's essay "Natural Kinds" is helpful here. In it Quine claims that we cannot discern projectible from unprojectible predicates without appealing to the notion of sameness or kind, argues that it is exceedingly difficult if not impossible to relate the notion of a type or of similarity to logical terms, and concludes that the notions of sameness which enable people to group experiences which are otherwise different from one another under one sortal term are a brute feature of our animal nature. That is, he concludes that one of the facts of the natural order is that human beings group experiences into kinds according to an instinctual, irrational sense of sameness. [see Natural Kinds, 37]

Quine's conclusion contains an answer for how to differentiate concepts that are normative for consciousness. Successful inductive projections from experiences to general terms are those which serve biological and/or cultural needs. Spacing experiences according to colours helps animals to find food and mates and to avoid predators. And the success of our inductive inferences to warranted generalized descriptions of our world are likewise explained by an appeal to our nature; our subjective spacing of qualities accords with functionally

relevant groupings in nature because forces in nature have shaped our development as a species. Quine (to cite an oft-quoted passage) claims that natural selection is this force.

> If people's innate spacing of qualities is a gene-linked trait, then the spacing that has made for the most successful inductions will have tended to predominate through natural selection. Creatures inveterately wrong in their inductions have a pathetic but praiseworthy tendency to die before producing their kind. [Natural Kinds, 38-39.]

Perhaps this need to appeal to facts about us and our world to explain the success of our inductive projections is what Kitcher is referring to when he says that, according to the naturalistic approach, substantive methodology requires formulating strategies that are likely to yield good results given the way the world actually is.

The distinctiveness of such an appeal becomes more pronounced when shown in relief against its historical antithesis. Hume argued that there is no rational justification for our inferring that objects which we observe to be constantly conjoined in experience are constantly conjoined in unobserved instances and concluded that such expectation are mere habits produced by the repeated observations of such constant conjunctions. Kant, assuming that the propositions of science are true apriori, interpreted Hume as having posed the question of how synthetic propositions apriori are possible.[3] He went on to insist that the possibility of our knowledge of universal laws of nature can only be established by means of an investigation into the apriori valid principles of understanding under which perceptions must be subsumed before they are

[3]See the Preface to Kant's Prolegomena, also section 5.

changed into "objectively valid judgements of experience."[4] Twentieth century logical empiricism seems to have worked under the shadow of Kant's demand for an apriori epistemology. It attempted to analyze scientific concepts into a product of the mind's application of truth-preserving principles—deductive, inductive, or abductive—to sense experience and by so analyzing them to justify them. Unlike Kant, logical empiricists admitted the possibility that future evidence—some hitherto undiscovered fact—could disconfirm a scientific hypothesis and thus despaired of Cartesian certainty: this possibility renders any scientific claim revisable in principle and therefore uncertain. Nevertheless, the relationship between existing bodies of evidence and scientific hypothesis was taken to be some kind of inference from immediate and thus certain observations, an inference which if it did not preserve truth would at least result in the most probable or perhaps the best set of scientific generalizations.

Unlike these predecessors, naturalistic epistemologists base the warrant status of our beliefs about objects in our world and the norms for consciousness we use to rule and measure our belief-formation not in their being formed by means of or at least consistent with a collection of truth-preserving or at least truth-conducing inference patterns but in the epistemic excellence of the cognitive mechanisms that produced them. The epistemic excellence of these mechanisms—their being reliable or successfully aimed at truth when they function properly in an appropriate environment or whatever else warrant consists in—is not caused by a cognizer's adherence to a set of normative doctrinal prescriptions or his

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[4]See Prolegomena, section 18.

doing whatever else someone must do in order to have a "rational attitude" toward his experiences. Rather, the mechanisms which underlie those processes do in fact produce non-accidentally true beliefs and do in fact cause him to feel inclined to accept them as such because they have been designed to do so by forces outside of his mind over which he has little or no control, be they biological, psychological, cosmological, or some other kind of force. Thus, we may say that he possesses warranted beliefs not because he has followed certain rules that reason has shown him to be normative, but for non-mental—natural—reasons: his own psychological nature and the forces of nature which produced it. Perhaps this is why it is appropriate to call an analysis of warrant which appeal to extrinsic properties of cognitive processes naturalistic, even though it may not need to rely very heavily if at all on empirical science to determine the conditions under which one can rely on the beliefs they form.

I shall now present some circumstantial evidence for this characterization of naturalism, circumstantial because it counts in favour of this characterization but does not prove it to be right.

5.2 Some Circumstantial Evidence for This Latter Characterization of Naturalism

One reason for favouring this characterization is that it picks out a theme which is common to range of epistemological discussions claiming to be naturalistic which are very different from one another in other respects. A brief look at several will substantiate this claim.

5.2a The Contingency Theme in Quine

Quine's seminal discussion of naturalism in "Epistemology Naturalized" and "Natural Kinds" have been the primary inspiration for this latest effort to characterize naturalism. It should come as no surprise then that it accords with Quine's profession of naturalism. Having argued that, thanks to the indeterminacy of translation, it is not possible to reconstruct theoretical observations out of relations between self-justifying perceptual experiences, Quine concludes that our best means of understanding our theoretical projections is to study the processes by which we do so as another natural phenomenon. Correllated to this conclusion is his suggestion that we now have no reason not to jettison the notion that observational sentences are private and define an observational sentence instead as one on which all speakers of the language give the same verdict when given the same concurrent stimulation, regardless of their other beliefs and past histories. [Quine, Epistemology Naturalized, 26] But the basis of such intersubjective agreement is now nothing more the comparative sense of similarity that we, being birds of a feather, share. As we saw above, Quine makes a similar appeal to the forces of evolution to explain the relevance of our subjective spacings to nature. [Natural Kinds, 38-9]

5.2b The Contingency Theme in Popper

Quine is not alone in appealing to our animal nature as the ground of our projections. One of the more striking repetitions of this theme is

found in Sir Karl Popper's essay, "Conjectures and Refutations."[5] In the fifth chapter of this essay, Popper takes issue with the claim of logical empiricists that science proceeds from pure observation to theory. He argues that any observation presupposes an intellectual point of view and problems.

> Objects can be classified, and can become similar or dissimilar, only in this way—by being related to needs and interests. This rule applies not only to animals to also to scientists. [Popper, 143]

He goes on to say that scientific hypothesis are born when a theoretical framework of expectations is unable to explain observations and thus needs to be revised. He then comments as follows.

> There is no danger here of an infinite regress. Going back to more and more primitive theories and myths we shall in the end find unconscious, inborn expectations. [Popper, 143]

Popper says that this inborn expectation to look for regularities is psychologically apriori, that is, psychologically and logically prior to any recognition of similarity but not valid apriori because its success at finding regularities is contingent upon its being in a world where such regularities are in fact present. The point is that here again our taking of things to be similar or equal is the based in our animal nature.

5.2c A Conjecture About Whether the Contingency Theme is Present in Reliabilist Analysis of Justification

Perhaps an appeal to the contingency of our concept formation on our animal nature is implicit in reliabilist discussions too. Goldman claims that the justification status of a belief about the external world depends

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[5]Challenges to Empiricism, ed. Harold Morick (Belmont: Wadsworth, 1972), 128-160.

on a property of the process which underlies the cognitive transition from experiential states to this belief, that it is reliable. Suppose we ask of a particular cognitive process, "Why is it reliable? Why does it produce a high ratio of true beliefs?" It appears that the reliability of a process is a contingent fact. Evolution or God could have conceivably constructed us differently, so that our belief-producing processes have different truth ratios.

5.2d The Contingency Theme in Plantinga

Finally, Plantinga's analysis of warrant also appeals to our animal nature as the ground of our success at projecting from experience to concepts. This appeal is evident in several instances. For example, he responds to Goodman's grue paradox not by appealing to logical properties of projectible attributes, nor by appealing to properties which are in fact projected, but to proper function.

> The crucial question [to ask when investigating the projectibility of a property] is this: which properties are the one a properly functioning adult human being in our circumstances will in fact project? [WPF, 133]

Later, Plantinga extends his account to the question of how we acquire right concepts, of how we take "rabbit" to refer to rabbits and not undetached rabbit parts, "plus" to refer to plus and not quus and so forth. He answers with the following comment, (we have been introduced to it before).

> The explanation in each of these cases is the same: what makes the concepts she acquire the right ones, what makes the others wrong, is that a properly functioning human being will acquire the first kind; acquiring the second in those circumstances will be pathological, out of accord with our design plan. [WPF, 136]

Here again the ground of our induction is taken to be our animal nature,

our possessing a design plan which causes us to project to concepts which facilitate warranted true beliefs.

The passage quoted above is immediately followed by the statement, "So the normativity involved is the normativity of proper function." As we saw earlier, Plantinga says he is a naturalist because by invoking proper function he invokes no normative notion not found in the sciences. His claim that his account is naturalistic merely because it appeals to the generic notion of proper function found in the sciences has since been put in doubt. However, our recent considerations have suggested that the essence of the naturalistic approach lies not so much in an effort to make scientific descriptions relevant to an analysis of warrant or to traditional normative concerns but rather in the contingency of our success at projecting concepts from sensory experience. Given that the essence of naturalism lies in a cognizance of such contingencies, Plantinga is indeed a naturalist, but not for the reason he claims to be. He is a naturalist for claiming that we are successful in our projections because we are designed to be.

5.3 Some Thoughts About How the Contingency Theme Relates to the Normative Concerns Discussed Earlier

Earlier an attempt was made to characterize naturalism in terms of the relevance of descriptive questions to normative concerns. Does our more recent characterization preserve any elements of this earlier effort?

5.3a Contingency and the Normativity that Goes with Warrant

The turn to naturalism appeared earlier to involve somehow to a generic notion of normativity according to which the norm-conditions whose

satisfaction constitutes warrant are not necessarily such that a conscious person conforms to them by using them to rule over and measure his judgement but can instead be the sort of conditions that a process satisfies by having a form or design that enables it to bring some epistemically-valuable cognitive state about. This expanded notion of norm-conformance is preserved in this final characterization, for whether or not a given projection strategy accords with the strategies of other community members and with functionally-relevant groupings in nature does not depend on a person's adherence to any rule which is normative for consciousness but on the design of the cognitive processes which produce that strategy.

5.3b The Ramifications of the Naturalistic Appeal to Contingencies for Attempts to Formulate Normative Strategies for Rational Conjecture

But what about the normative concerns of the more traditional stripe, ie. concerns about what how one ought to regulate the giving and withholding of assent? If the warrant status of our beliefs is grounded in the properties of innate, irrational cognitive processes rather than in a set of normative logical relations between our beliefs, then there is no reason for supposing that it is possible to reconstruct a logic for warranted belief. Nevertheless, epistemological questions about what differentiates rational or justified conjecture from the irrational or unjustified still remain. Indeed, the introduction of the naturalistic thesis raises the question of what rational conjecture from particular experiences/environmental inputs to beliefs about the world could possibly consist in, if not adherence to norms which are likely to preserve truth.

Some naturalists answer to this question by appealing to a continuum of increasingly less-instinctive projections, with instinctive beliefs about the world on one end and the central theories of science at the other. Strategies for rational conjecture play little or no role at all at the instinctual end, as the adherence to norms for consciousness play little or no role in the functioning of such processes. So attempting to come up with norms for how to do so is impossible and pointless. But as we progress along the continuum, projections based on instinctual notions of sameness gradually give way to projections formulated in an attempt to overcome specific problems or incongruities. Here then cognition is guided to some end not by blind design but because some end is identified and means to it sought. And where ends are recognized and means to them sought, strategies are likely involved.

But how are these formulations guided and justified by normative strategies? Quine claims that our modification of our similarity standards is a trial and error process in which the rational acceptability of a new groupings is only established by testing them to see if they lend themselves to better inductions than the old groupings.

> We revise our standards of similarity or of natural kinds on the strength, as Goodman remarks, of second-order inductions. New groupings, hypothetically adopted at the suggestion of a growing theory, prove favourable to inductions and so become "entrenched." [Natural Kinds, 40]

So while naturalistic epistemology denies the possibility of articulate <u>apriori</u> norms for re-ordering our notions of sameness, it continues to attempt to articulate strategies for how best to frame and test explanatory hypotheses in the light of disconfirming or presently unexplainable phenomena. In Quine's words, the normative side of

epistemology is concerned with "strategies for rational conjecture in the framing of scientific hypothesis." [Quine, The Pursuit of Truth, 20]

5.3b.1 Some Thoughts on Some of Quine's Pronouncements about the Naturalistic Approach

That naturalistic epistemology continues to address normative concerns can be easily overlooked. Quine seems to revel in making mischievous comments about how science relates to the naturalistic approach; those comments can be easily be misinterpreted as a denial that normative concerns continue to be present. For example, he says that "normative epistemology gets naturalized into a chapter of engineering: the technology of anticipating sensory stimulation." [The Pursuit of Truth, 19] Likewise, he says that from the irreducibility of propositions about the world to private sets of perceptual beliefs it follows that "epistemology, or something like it, simply falls into place as a chapter of psychology and hence of natural science." [Epistemology Naturalized, 24]

If epistemology becomes a chapter of science, it does not do so in the sense of reducing in the final analysis to a set of scientific descriptions of phenomena. For even though it affirms that our conjectures from stimulus to theory cannot be described in strictly logical terms, a naturalistic theory is not content to merely establish lawful regularities between circumstances and beliefs in the way that, for example, physics establishes lawful regularities between the force and acceleration of a given mass. No, it still attempts to explain why some systems of cognitive output are preferable to others and/or to explain the conditions under which a person has the right to give assent to the output in her cognitive possession. No other "science" is concerned with the

conditions under which the assertions made by the objects it studies are justified or reasonable.

5.3c Normative Concerns in Reliabilism

The notion that strategies play an increasingly important role in the forming and assessing of beliefs as one moves along the continuum from instinctual processes to theory is also present in reliabilist discussions. For instance it is implicit in Goldman's distinction between processes and methods. Whereas processes just happen, methods have to be acquired by some second-order process, defined as processes which produce new processes. [Goldman, 93-4] Goldman defines the warrant of first-order processes in terms of their reliability, something in which adherence to norms for consciousness plays little or no role. But normative concerns of the traditional type would seem to be very much involved in secondary epistemology, which deals with how to acquire right methods. Presumably Goldman would, like Quine, appeal to canons for the proper forming and testing of hypotheses in the various scientific disciplines as the right norms for developing new methods.

These considerations about Goldman suggest an interpretation of Kornblith's definition of naturalism that might be preferable to the naive reliabilism it seemed to reduce to earlier. Perhaps the naturalistic approach takes descriptive questions to be relevant to normative questions in the following manner. The only norm for determining the rational acceptability of a particular scientific theory is how reliably it describes natural phenomena. Unable to frame any apriori guidelines for the forming and testing of scientific hypotheses, our best hope of

identifying strategies for rational conjecture is to observe past successes to learn why they were successful. In this way, descriptions of the methods by which we have in the past managed to supplant our instinctual spacings of qualities with general descriptions which proved to be more reliable provide us with norms for how we ought to continue in our efforts to our improve our knowledge.

Perhaps someone might retort that this is merely a covert appeal to coherence, but the response to that is that a theory's normative status does not require global coherence, and that it might be preferable to competing theories which cohere equally or even better with existing scientific doctrine.

5.3d Naturalism and Natural Theology

Plantinga claims that a naturalistic conception of the relationship between experience and beliefs raises (perhaps resurrects) philosophical questions of a more traditional kind. Kant's project of justifying science in reference to pure concepts of the understanding was intended not only to establish science but to confine metaphysical speculation to appearances. This precedent has cast a long shadow. Logical empiricism has tended toward ontological naturalistic or at least toward hostility to arguments for theism, as have most of its successors. But Plantinga argues that ontological naturalism is not a foregone conclusion in this new context. Gone is the ego constructing his mental universe out of his own volition. An acknowledgement of the contingency of our cognitive success might give us grounds to reassert the reasonableness of belief in a cosmological explanation for that success—something like a vastly

powerful and good designer—especially if, as Plantinga claims, the prospects for explaining that success in reference to natural causes are dismal. So, according to Plantinga, a recognition of contingency in epistemology leads to a revision of the norms for ontological reflection.

5.4 Naturalism and Plantinga's Appeal to a Designer

One final thought about naturalism. Plantinga accords with the characterization of naturalism presented above, but his is a strange naturalism, for he seeks to use an epistemological recognition of the contingency of our ability to know as a basis for constructing a metaphysical argument for theism. His movement from an acknowledgement of the contingency of our success on our design to an appeal to a designer suggests that this characterization of naturalism needs further tightening. The Encyclopedia of Philosophy says the following about naturalism. "Naturalism is polemically defined as repudiating the view that there exists or could exist any entities or events which lie, in principle, beyond the scope of scientific explanation." Added to the characterization of naturalism we have developed, this quotation suggests that a truly naturalistic analysis of knowledge would not only insist that our cognitive success is contingent upon forces outside of our mind but would also insist that these forces and their effects upon our design are, at least in principle, susceptible to scientific investigation. It would seem odd to call an account of warrant naturalistic which denies that we can explain why we are well-designed without appealing to a designer who cannot be known through the methods of empirical scientific investigation.

I have been aiming at a characterization of the naturalistic approach. This approach has led me in the final analysis to identify the naturalistic approach as an attempt to work out the consequences of the premise that our cognitive success is dependent upon the forces which have shaped our animal nature. Having reached this point, I leave the question of whether Plantinga's rejection of the naturalistic premise that everything is in principle subject to scientific explanation jeopardizes his claim to be an epistemological naturalist for someone else.

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