**NATURALISM, NORMATIVITY, AND EXPLANATION:**

 **THE SCIENTISTIC BIASES OF CONTEMPORARY NATURALISM**

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 The critical focus of this paper is on a claim made explicitly by Gilbert Harman and accepted implicitly by numerous others, the claim that naturalism supports concurrent defense of scientific objectivism and moral relativism. I challenge the assumptions of Harman's ‘argument from naturalism' used to support this combination of positions, utilizing. Hilary Putnam’s ‘companions in guilt’ argument in order to counter it. The paper concludes that while domain-specific anti-realism is often warranted, Harman’s own views about the objectivity of facts and the subjectivity of values are better seen as stemming from scientistic ideals of knowledge than from dictates of naturalism. Scientists *qua* scientists make value judgments, and setting aside scientistic assumptions and unrealizable conceptions of scientific objectivity should lead us to more symmetrical metaphilosophical conception of epistemic and ethical normativity than that which underlies Harman's account.

**1. Introduction: Naturalism, Science, and Axiology**

Philosophers today tend to agree that normative concerns are too narrow a focus for epistemology, which should be reformed at the very least to concern itself with social scientific and causal accounts of human cognitive decision-making. Few however think that the reform of epistemology requires all or most of its traditional normative tasks to be jettisoned. I view the elimination of the normative as mental suicide, and in this paper defend a version of what has gone under the general term `normative naturalism" (Brown, 1989; Laudan, 1989). But the metaphilosophical assumptions underlying my explicitly pragmatist version of normative naturalism are not the prosaic ones operative in some other versions of this same general outlook. I suspect that not my defense but my unusual development of epistemology's normativity will place me in a decided minority within the camp of naturalists. Naturalists have rarely been willing to question the distinction between reasonable and unreasonable belief basic to traditional philosophy of science, as readily as that between the sacred and the profane in areas of personal and social experience. The term "naturalism" appears to have been in philosophical use a long time, but it nonetheless represents a cluster of concepts important in shaping trends in Anglo-American philosophy throughout the twentieth century. I will argue in this paper that both naturalists and their anti-naturalist critics have missed some issues crucial to their debates by undervaluing the significance of metaphilosophical issues.

 Discussions of the `naturalistic turn' in philosophical circles today, and especially among English and American philosophers of science, generally takes place upon a strictly epistemological level (Shimony and Nails, 1987). This focus already presupposes a sharp division between knowledge and valuation; like the mid-century predecessor problems of the relationship of `vindication' and `validation,' or of `the place of values in a world of facts,' has tended to make it actually more difficult for advocates of naturalized epistemology to account for the normativity of epistemology. This epistemological/scientific focus predominates in the `unlimited' conception of naturalism which seeks in Maffie's words to "fit epistemology into science" (1990a); whereas I here hope to defend a `limited' conception which seeks only to "fit science into epistemology."

 Developing this difference will lead us to examine logical empiricist conceptions of scientized philosophy and their influence over the development of contemporary schools of naturalized epistemology; it will also lead us to explicate the significance of metaphilosophical issues surrounding the treatment of `norm governance,' Frederick Will's term for processes of norm generation, criticism and revision/change.

 The denial that ampliative philosophical reasoning has a significant *critical* role to play in norm governance results in an impoverished metaphilosophy; and the tendency to miss the import of metaphilosophical concerns is most pronounced in those contemporary forms of naturalism which carry over a distinctly neo-positivist or scientistic bias. The naturalistic movement today, represented by strains Maffie ("Recent Work on Naturalized Epistemology", 1990a) terms the `reductionist,' `definist,' `criterialist,' `eliminativist,' and `irrealist,' is far from homogenous. Again roughly, the first three strains tend to support the normativity of epistemology, while the last two tend to dismiss it. This paper can address directly only one influential strain of naturalism, the reductive strain, which retains a normative epistemological dimension, yet I will argue typically does so on the basis of an illicit intuitionism and a radically asymmetrical explanatory account of normative judgement.

 As an historical movement, naturalism has been marked by challenges to prevailing metaphysical dualisms, such as that between the celestial and the terrestrial, and that between the mind and the body. I see it as only fitting that naturalists take seriously the objection that the current state of theory is still one which inculcates its own unfounded metaphilosophical and meta-methodological dualisms. If the treatment of norm governance in Harman's reductive form of naturalism is recognizably disparate, as I maintain, this should extend a clear note of warning to those self-described naturalists who continue to explicitly or implicitly adopt its characteristic metaphilosophical orientation. Many naturalists today are not physicalists, and would not agree with Harman that "What a naturalist wants is to be able to locate value, justice, right, wrong, and so forth in the world in the way that tables, colors, genes, temperatures, and so on can be located in the world" (1984, p. 370). Yet they may still share in other ways those deep-seated metaphilosophical views upon which the epistemological programs of twentieth-century empiricism was erected.

 Accordingly, the concerns to which we are given here are not those specifically about science *or* about ethics, but those about the inter-relationship of belief and attitude, and about the short shrift given to axiology in the latter half of the twentieth century. It is hardly surprising that without the guidance of a well-developed axiology or general theory of values, disciplinary disputes and outlandish claims about philosophical consequences should have followed the problematic of "the valuative character of the theoretical" as it developed during this century. Many such disputes may be little more than the unfortunate result of unnoticed focus upon --or biases in favor of-- one or another of the many influences upon the generation and revision of norms. Dewey in his *Theory of Valuation* (1939) supported the development of a pragmatic axiology capable of mediating such disputes; but the wide-spread influence of analytic philosophy had by 1935 already served, in the words of Alain Locke, to "stifle embryonic axiology with its promising analysis of norms." "American thought", Locke acknowledged in a commentary as valid today as it was in 1935, "has moved tangent to the whole central issue of the normative aspects and problems of value."

In saying this, do we say anything more than that values are important and that American philosophy should pay more attention to axiology? Most assuredly; --we are saying that but for a certain blindness, value-theory might easily have been an American forte, and may still become so if our predominantly functionalist doctrines ever shed their arbitrary objectivism and extend themselves beyond their present concentration on theories of truth and knowledge into a balanced analysis of values generally.[[1]](#endnote-2)

 Values create our imperatives, and in de-throning our more formally super-imposed absolutes, we have exiled also our imperatives, the very things that we live and must live by. In Locke's spirit of axiology and its prospects, the aim of this paper is to bring out background assumptions about the analysis of norms, assumptions which must be carefully examined before we can reasonable hope to settle issues of the meaning of `naturalism' and the implications of a naturalistic turn in philosophy.

**2. Metaphilosophical Schizophrenia And Its Genealogy**

 To start with a specific contemporary example of reductive naturalism, we can take the claim made explicitly by Gilbert Harman and accepted implicitly by numerous others, the claim that naturalism lends supports for a concurrent defense of scientific objectivism and moral relativism. The neo-positivist bias I suspect is present in Harman's conception of naturalism is recognizable through the largely unsupported asymmetries of explanation upon which his position leans (discussed in section 3 below). The present author takes Putnam's "companions in guilt" argument raised in the Putnam/Harman debate as a serious challenge to Harman's reductive strain of naturalism. Norms guide our reasoning as well as control our behavior. C. L. Stevenson's prediction prior to mid-century that "the evaluative issues of science will not grow more serious than they now are, but will progressively grow less serious" has proven incorrect, and for reasons easily understandable to those who have followed debates in epistemology.[[2]](#endnote-3)

 I will first briefly review the asymmetries of explanation upon which Harman's view depends, and some of the objections that have been raised by critics to his position. Objectivity according to Harman is a matter of being causally explanatory (1975; 1982). He has constructed several well-known disanalogies between scientific and ethical judgments. As a primary example, he contrasts a scientist's judgment `There goes a proton,' with Spike's judgment, `Those children are wicked.' The contrast of judgments is developed in order to demonstrate a basic asymmetry in the "conditions of reasonable explanation" for why an "observation was made" in each type of case. Harman's alleged asymmetry in the conditions or requirements of reasonable explanation leans upon a perceived difference in the *explanatory value* empirical fact has for the one type of judgment, but not for the other.

 What is crucially missing from Harman's account is a cogent argument to support his asymmetry in reasonable explanation. As critics such as Putnam, Nathanson, Brink, and Sorrell have pointed out in recent years, Harman does not seems to explicitly argue for an exclusive evidential role of empirical observations in scientific theorizing. Rather, this assumption enters as a result of his stipulation that moral judgment is to be treated as *unreflective judgment*. According to his critics, making this assumption amounts to begging the question with respect to the alleged methodological infirmity of ethics, that is, with respect to its alleged lack of rational or scientific respectability. The key methodological difference Harman posits in the explanation of changes-in-belief is that between appeal to *brute fact* and appeal to *psychological set.* But this contrast appears to lean not upon *formal* differences in content of the relevant judgments, but upon *normative* commitments implicit in his evaluations of the explanatory role of facts in each case. Brink insists,

 If we make no assumptions about the truth of Spike's moral judgment and theoretical commitments, then it is true that we can provide a certain kind of explanation of Spike's judgment by appeal to his `psychological set' alone. Spike judged that the children were doing something wrong, because he believed both that they were needlessly setting a cat on fire and that pointless cruelty is wrong. This explanation contains no commitment to moral facts, only commitment to Spike's beliefs or psychological set. But if we make no assumptions about the truth of the scientist's observational judgment and theoretical commitments, then it is equally true that we can provide a kind of explanation of her judgment by appeal to her psychological set alone.[[3]](#endnote-4)

 One might say that the scientist judged that a proton passed through the cloud chamber *because* she believed that there was a vapor trail in the chamber, and because she believed a certain scientific theory about the behavior and observational consequences of protons in supersaturated atmospheres. But this explanation contains no commitment to protons, vapor trails, etc., but only to the scientist's beliefs or psychological set. Psychological-set explanations are always available to explain human judgments, and it is their *adequacy* that is at issue between Harman and the moral realist. In arguing for the methodological infirmity of ethics, Harman does not seriously address the consideration that ethicists are as likely to reject the adequacy of psychological set explanations for cases of changes or revisions in moral attitudes, as scientists are for cases of `changes in belief.'[[4]](#endnote-5) Formally speaking, Harman's `puts the phenomena first' in explaining judgment in the one case, but not in the other. Unless the distinguishing criteria for this meta-methodological principle could be specified in terms of formal differences, it appears unable to meet the requirements Harman *himself* takes as necessary for escaping the grip of skeptical objection.

 Accepting Brink's parallel does not imply that what have been called psychological set explanations are adequate in science, or would be deemed so by professionals in the field. It is merely to re-instate the initial methodological symmetry which theoretical consistency invites. The alternative here appears to be an inconsistency revealed by conflation of formal and normative issues. Harman's causal or explanatory claims are based upon prior assumption of the methodological correctness of treating putative moral facts (and even apparently analogical and consequential reasoning in ethics) as "completely irrelevant" to explanation of moral judgments. As Putnam puts it, "If the objectivity of ethics is rejected on the ground that the distinction between a human need and a mere desire is itself a mere projection, a distinction without a difference, then we have to be told why the same thing should not be true of the deep human needs which shape the notions of interpretation, explanation, translation, and the like" (1990, p. 37).

 On the view I am urging, one will refuse Harman's methodological or explanatory asymmetry. The basis of Harman's relativism is a consensualism of desires, or what he calls an "implicit agreement theory" of morals. But no such consensualism is at all at issue in his objectivist glossing of the norms and standards of scientific reasoning. Harman's sharp contrast between moral and scientific judgments is persuasive only if one accepts moral but not cognitive evaluation as problematic. Putnam's "companions in guilt argument" can be introduced more fully at this point, since it is the well-known pragmatist counter to Harman, contending as it does that there are no reasons in support of ethical relativism which cogently drive one be an ethical relativist but not a total relativist.

 If values seem a bit suspect from a narrowly scientific point of view, they have, at the very least, a lot of `companions in the guilt': justification, coherence, simplicity, reference, truth, and so on, all exhibit the *same* problems that goodness and kindness do, from an epistemological point of view.[[5]](#endnote-6)

 We will return later to this argument and to the pragmatic axiology which motivates it. The present argument is emphatically not intended to deny significant differences between the justificational processes of science and ethics; ethics as related to conduct has different goals and functions than science, including functions serving self-reflection and self-examination (Moody-Adams, 1990). We also don't want to confuse logical empiricist *philosophy scientized* with today's *epistemology naturalized*, but only to understand their historical and thematic relationship. It is therefore important for us first to become clear both about the form of positivist metaphilosophy --philosophy in Carnap's classic phrase as `the logical analysis of the language of science'-- and about reasons for its inadequacy. In the next section I examine more carefully the metaphilosophical orientation which I claim continues to exert influence over the course and development of contemporary naturalism.

**3. Logical Empiricism and Philosophy Scientized**

 In the writings of logical empiricists like Carnap, Feigl, and Reichenbach, the basis for the `non-cognitive' theory of ethical judgments was related to epistemological principles such as the *verification principle*. Such principles in turn were described as the products of *logical analysis* of the theoretical "language of science." But behind the strongly analytic glossing which the empiricists gave to metascience and to principles of epistemic justification, one finds a rhetorical style of exposition and argument which depended heavily upon the *persuasive definition* of science and non-science. Their argumentational strategy was rhetorical in the specific sense in which it invoked persuasive definitions of "the language of science" and "the language of ethics" sufficient to generate an implicit contrast between the respective foundations of these fields.

 What marked off the logical empiricist's epistemology from more historically recognizable forms of foundationalism was their radically *selective* employment of foundational and skeptical perspectives. The persuasive or rhetorical contrast of the language of science with the language of ethics informs us that logical empiricist treatment of scientific and epistemological norms was dictated by the antecedent metaphilosophical orientation which I term *selective foundationalism*.[[6]](#endnote-7) The `received view' among philosophers of science, this is to say, is foundationalist about the norms of scientific reasoning, and skeptical or anti-foundationalist about the norms of non-scientific discourse and social practice.

 I will review briefly the asymmetries which selective foundationalism or positivist scientized philosophy invokes before saying more about the significance attached to metaphilosophical issues in the debate between naturalists and anti-naturalists. The first of these asymmetries isn't the science/non-science distinction itself, but the distinction between axiomatic and normative systems upon which that former contrast was purportedly based. Here is where the positivists' quite radical *entitlement of analytical reason* entered, since the axioms of science as a system were originally conceived as containing only strictly analytic and synthetic (or logical and empirical) posits. The `explicationist' project, one of gleaning epistemic standards for belief and judgment from "the language of science" by logical analysis, was dependent upon this idea that science has a unique status as an axiomatic system.

 Another asymmetry involves the difference between `meta-theoretical' discourse and `normative' discourse and the manner of their connection. Normative theory was generally considered as a subset of metaphysical (i.e. noncognitive) discourse. There was, to be sure, a generic meaning attached to `meta- level' discourse, one which applied both to `metascience' and to `meta-ethics'; both studies were the domain of logical analysis of language. So why and how did the positivists think that the divide they insisted upon between meta-theory and normative theory could be unproblematically bridged in the context of science, but *not* in the context of non-scientific disciplines? The answer is again that the `explicationist' analysis was understood to provide --on a formal basis-- quite divergent conclusions about the basis for norms, and of course by extension normative *judgment*, inside and outside of science. Given the demarcation criteria for scientific discourse they insisted could be maintained, one could further assume that only within science was there *continuity* between analytical explication of theoretical terms and normative principles and rules.

 The sharp contrast of scientific and non-scientific language required modes of classification which would separate the meaning or content of scientific and ethical judgments on a *formal* basis. The positivists in this respect proposed to dine off `Hume's Fork': the denial of the category of *a priori* synthetic meaning and Moorean `non-natural properties' implied for them that all scientifically respectable claims must be either analytic or empirical/descriptive. Ethics they saw as neither, and therefore as a form of metaphysics. But these conclusions about scientific respectability like those about methodological firmity and infirmity, are comparative claims parasitic upon the above view about unique continuity.[[7]](#endnote-8)

 Finally, one comes to the explanatory asymmetries. The theory of `meaning as use' carried with it a classification of speech acts, which was interpreted by the empiricists as demonstrating that asymmetrical *explanation* of judgments has a formal basis in the divergent *explications* of linguistic meaning. If scientific and ethical terms carry different primary meaning components and represented different --assertive and emotive-- speech acts, then scientific and moral judgments by extension call for asymmetrical form of explanation. What Gewirth (1960a & b) called the central dogma of empiricism was its disparate metaphilosophical perspective characterized by a `normative' approach to scientific judgment held concurrently with a `positive' account of ethical judgment. I understand this as a direct influence upon the philosophy-dictated division of labor between philosophical ("rational reconstructive") explanations of well-reasoned judgments and causal sociological explanations of error.[[8]](#endnote-9) These are the divisions of labor and various asymmetries of explanation which have been the focus of criticism in Neo-Durkheimian sociology and science studies in recent years (Manicas, 1992a & b).

 Revolts by naturalists against the traditional `rational reconstructive' epistemological project have shown that asymmetrical explanations of `knowledge' and `error' stand upon an enigmatic foundation: traditional philosophers' use of the "causical concept" of justification (Haack, 1990) is rightly criticized for sometimes encouraging any amount of slippage between its logical (read normative) to its causal (read psychological/descriptive) connotations. To its critics it matters little whether one calls this slippage a `naturalistic fallacy' (Moore) or a `persuasive definition' (Stevenson); from perspectives outside of professional academic philosophy it has come to be regarded as something of a philosopher's sleight of hand trick.

 Ethical non-cognitivists interestingly held this very opinion about, for example, definitions of `good actions,' or the `real nature' of being human; but they did not recognize that their criticism of persuasive definitions were equally apt with respect to their own analytic definitions of `good reasons' for belief, and the `real nature' of science. Since naturalists in particular have long been criticized for employing analytic definition of normative terms uncritically as persuasive definitions, a rehabilitation of definition and its attendant conceptions of explanation is incumbent upon those taking the naturalistic turn. A naturalistic conception of explanation may not consistently retain the asymmetrical categories of rational reconstructionism while repudiating the reconstructive project as the goal of epistemology.

 There is of course a great irony to the objection, often posed by otherwise divergent schools today, that the methodological or explanatory asymmetries of traditional philosophy of science have no naturalistic support, and that the hope of naturalism may now lie in eliminative or in anti-realist versions which have done far more to sublimate them. For the `guilt' which philosophers are now told they bear for their normative concerns and commitments is a direct result of their own overzealous condemnation of the `metaphysicians,' `axiologists,' and `normative theorists,' made no doubt in the attempt to insulate scientific knowledge from the perceived consequences of any ingress of the non-cognitive.

 Anti-realist forms of naturalism (which Maffie recently rebutted in an article in this journal (1993)), and eliminative forms can roughly be associated today with proponents within neo-Durkheimian sociology and within the cognitive science movement, respectively. It is interesting that one thing these two groups share in common is advocacy of *de-ontological* (non-normative/consensual) definitions of meta-epistemic concepts such as `rationality' and `justification'. Why should de-ontological definitions of rationality, for example, as methods enabling the determination of means/end relationships, or methods that have the support of consensus, or lead to consensus --why should these definitions be accepted?

 This question (and not that of status *vis a vis* the analytic/synthetic distinction) is intimately related with that about why the concept of `rationality' has so often been defined in ways which exclude the possibility of reasoned discussion of aims or goals. I believe that de-ontological conceptions of definition are sustained through the same blindness in analytic/empiricist tradition which led to a neglect of axiology and the discouragement of functional notions of supervenience. De-ontological definition is correctly contrasted in ethics texts with *axiological* definition, or definition in terms of perceived goods. This introduces a second sense of the term `axiology,' which while distinct from the primary one is nonetheless motivated by it. In the last section I will come back to these themes, arguing for a rekindling of some axiological projects which flared for a relatively brief time in the 1920s and 1930s.[[9]](#endnote-10) We must first, however, turn to examine more specifically objections which can be made to reductive naturalism.

**4. Reductionism, Intuitionism, and Epistemology Naturalized**

 For the positivists, the normativity of epistemology, or as Reichenbach (1951) put it, the "prescriptive task of epistemology," was reducible to its "analytic task." If the positivists claimed to have no place for *a priori* philosophy or for ethical intuitionism, their visions of scientized philosophy nonetheless entailed a quite radical entitlement for analytical reason incompatible with contemporary naturalism. The conceptions of scientized philosophy exhibited by positivists and by reductive naturalists both deny views of philosophy as an `autonomous' discipline, and redirect the philosopher's work. But there are also important differences to attend to in the progression from positivist philosophy scientized to contemporary epistemology naturalized. In simplest terms, this progression has enacted a shift from a `logic of science' back towards more familiar (though variously and ingeniously developed) notions of a `science of science.'

 What the positivists actually demanded was that philosophical analysis capture to a very large degree the pre-analytic uses of methodological terminology by scientists. But such a demand, Larry Laudan writes, is

 a version of ...methodological intuitionism, for it assumes that our (or the scientist's) intuitive, normative judgments about (say) evidential support are sound. The intuitionist sees the primary role of the theory of methodology as that of making explicit and consistent our intuitive and implicit modes of ampliative reasoning.[[10]](#endnote-11)

 Now Laudan holds that the positivists were explicitly or `unabashedly' intuitionists. But there is no parallel to this meta-scientific intuitionism in their meta-ethics, and indeed it was in polemical opposition to the perceived intuitionism of their ethicist brethren that they had developed the noncognitive account of ethics. Hence I think it is more correct to say that the positivists were `closet intuitionists' with respect to normative epistemic rules and standards. But the problem is not with the presence of tacit knowledge or intuitive factors in judgment, which surely any synthesis of naturalistic and intuitionistic traditions would insist upon; the problem here lies in the way that `disguised' intuitions betray the formalistic basis which objectivists allege cognitive evaluation to have. This type of intuitionism has the effect of denying any significant critical role to methodology (Laudan, 1986).

 Harman's foundationalist treatment of norms of science is hard to make out, because he does not purport to speak about *norms* of inference (or of adducing evidence) at all when discussing science and scientific reasoning. He insists upon the existence of unitary "rules of the operation of reason," which are principles said to be reflected in or constituted by "*the way people think*": "It is such principles that we normally suppose apply to all normal people; we suppose that *at bottom* everyone reasons in the same way." I would argue, however, that there not only is often more than one way for "normal" people to cognitively adapt to the world, but also that there are real controversies in science which stem from the problems Kuhn formulated about `values at work' in science, namely, that they can be interpreted differently and given different weights or priorities. Moreover, a representative slippage from naturalistic to normative mode is evident in Harman's account when he later says that the principles in question "need not be and in fact are not explicitly accepted by anyone" (p. 570), and are cogent even though they are not principles of logic or implication. There are physicalistic facts (facts about "competence") which should determine closure in any matters of fact disagreements. "We suppose that in the end the same basic principles underlie everyone's reasoning, in the way that the same grammar may underlie the speech of different speakers who have different vocabularies and different skills at speaking" (1982, p. 570).

 Putnam rightly views this approach as an attempt to make the notion of justification a physicalistic one.[[11]](#endnote-12) His response to Harman is "that the notion of an `underlying' principle which is here applied (like the Chomskian competence/performance distinction on which it seems to be based) is just the notion of a best idealization or best explanation, and that Harman owes us a reason to believe that *these* are physicalistic notions" (p. 32, n. 4). In short, if we accept that the attempt to mathematize the description of competence in linguistics has been given up, then "the idea that one particular idealization of a speaker's behavior represents his competence, rather than another, rests entirely on our *intuitive notion* of a `best idealization' or `best explanation'" (p. 36, emphasis added).

 What constitutes a `performance error' is apparently something people should know intuitively. The uses made of the ambiguous phrase "the way people think" catches Harman between an illicit form of intuitionism, and empirical claims about actual human reasoners and their propensities. The former horn would leave Harman's position at base indistinguishable from positivism, while the latter saddles him with empirical claims (Harman, 1991) which are hotly challenged by proponents of the cognitive sciences (Stich, 1989 & 1991).

 Before passing on I want to comment on William Lycan's (1985, 1988) more adequate yet still problematic form of reductive naturalism. Lycan advocates naturalistic ethics as well as epistemology, eschewing much of Harman's metaphilosophy and thereby escaping a great many of the objections raised against Harman. But I think he remains open to those criticisms of reductionism which focus upon the vaunting ambitions of its Neo-Darwinian functional explanations. Although I find merit in Lycan's attempt to show the relevancy of psychobiology to the evolution of human norms, I strongly dispute attempts "to reduce the notions of epistemology to the teleological notions of the theory of organ systems," or to what Lycan otherwise calls "design-stance psychology."

 The design-stance argument uses a simplifying analogy: "What Mother Nature provides is good design, and its this evaluative notion that is the ultimate source of ordinary superficial evaluative ideas of `better explanation,' `rational inference,' etc.".[[12]](#endnote-13) Lycan's first use of "evaluative" is strictly instrumental, so that he views epistemic value judgments as a species of descriptive means/end judgements concerning the efficient promotion of biological utility Maffie, 1990a). Again as with Harman, physical or biological explanations at best explain a general human competence for reflective norm governance; the Mother Nature argument relies on intuitive notions which cannot formally distinguish performance errors, and in my view are not explanations of the presence or validity of any particular norms. In the first place, Lycan's account would make his prescribed norms `constitutive' of science or rationality in a Mertonian sense. Science is a genuine social organization in ways which "fields" like ethics and aesthetics (at least outside small devoted communities) are not; scientists are typically members of multiple paradigmatic professional work organizations; but these superior material and organizational resources of science may go further than we earlier thought in explaining the authority of its norms.[[13]](#endnote-14) The ability of humans to reflectively generate and apply norms does not imply that all the factors informing generation are `cold' factors.

 Secondly, the objectivity of values, both cognitive and ethical, does not stand or fall with "the presence and activity of delivery mechanisms" for reliable intuitions. The idea of our epistemic intuitions being `hard wired' into us by an optimizing Mother Nature gives us a functional explanation of our current epistemic values. But it is important to keep in mind here that Lycan's delivery mechanisms are little more than characterizations of a mysterious black-box in this account; and that the view that our intuitions are sound, but that our explicit theories about such matters are not (yet) usually so reliable, is exactly a version of what Laudan repudiates as an anti-critical meta-methodological intuitionism (Laudan, 1986).

 Moreover, I agree with J. W. Smith's (1988) critique of Lycan's account as unsatisfactorily responding to the objection that it follows in the sociobiological tradition of `just-so' Panglossian selectionism. It is difficult to say how much of human intellectual inquiry is linked with survival value (`inclusive fitness'), and one must beware functionalist fallacies in explaining the presence or perseverance of a trait. Such selectionist arguments as Lycan employs "tacitly presuppose the prior evaluation of the traits under consideration". As Smith says, "...even within the framework of neo-Darwinism, good `just-so' stories can be given as for why the skilful `Mother Nature' of Lycan would in her optimalistic wisdom produce a human organism which is behaviorally plastic to a high degree..." (p. 135). As far as inference to the best explanation goes, the story of a malleable human reasoning capacity is at least equally as plausible as Lycan's `out of the closet' foundationalism of psycho-biologically constituted intuitions. Indeed, having to posit quite specific causative genes in order to give substance to the delivery mechanism story would seem to lead Lycan into conflict with his own canon of parsimony (Smith, ibid).

**5. Recovering Pragmatic Axiology and Its Associated Metaphilosophical Orientation**

 What the pragmatist is essentially fighting is not naturalism, but a disparity within logical empiricist-influenced forms of naturalism with respect to how facts are held to be relevant to (or determinative of) theoretical conclusions. It is a disparity which was encouraged under the influence of scientism (Sorrell, 1991), and made all too easy by an implicit sharp separation of norms of *thought* from norms of *action*. I have argued that Harman's reductionist version of naturalism represents a fragmented conception of reason, and that lying behind his treatment of norm governance is the pervasive influence of a metaphilosophical orientation associated with the `received view.' But what is the best alternative to this tradition? What revisionary forms of naturalism might its repudiation make possible?

 Pragmatists see inquiry as being taken within the web of empirical belief; yet in general they do not identify it strictly with scientific method, nor do they generally exclude interpretive or hermeneutic studies from scientific status by definition. Following Eames, the term `pragmatic naturalism' will be used to identify the type of naturalism I want to briefly develop, one which in Maffie's topology would be a form of `criterialism.'[[14]](#endnote-15) I suggest that among the significant differences a pragmatic naturalism leads to in contrast to Harman's reductive naturalism are broad attitudes manifested in any understanding of *norm governance,* that is, of processes of the generation, criticism, and revision of norms. A pragmatic account of norm governance may be developed which retains the best aspects of naturalism and intuitionism (Will, 1988). The problem is not the presence of trained or learned intuitions in a naturalistic understanding of knowledge, but the inconsistency of such intuitive factors and `tacit dimensions' with overly formalistic models of scientific change and decision-making.

 On my understanding of pragmatism and pragmatic naturalism, one resists the prosaic analysis of norms by resituating norm governance in science within a broader and more varied class of social practices. In contrast to selective foundationalism, the position which I suggest is supported on genuinely naturalistic lines might be characterized as non-foundationalist, yet as *pancritical* --critical `across the board'-- in its treatment of norms. The existence of an is/ought gap is maintained, but is not taken as grounds for skepticism about the reasonableness of normative decisions; yet in order to show why, we have to be clear that neither the generation nor the criticism and revision of norms --whether in science, ethics, jurisprudence, or other social practice-- resembles a deductive procedure.

The demand that norms must have such a formal character or foundation is entirely inapt.

 Moral realists such as David Brink and moral relativists such as Harman have both claimed to be naturalists. Even in the rare instances in which a genuine anti-naturalism has been defended in recent years, as for instance by Seigel (1989; 1993), the game is played on the grounds defined by Kant, that is, defined by a choice between categorical and instrumental reason. Value judgments are either categorical imperatives, meaning `unconditioned' or deriving from *a priori* synthetic reason, or else they are *hypothetical* imperatives, meaning relative to "a specified set of purposes or interests or aims" (Harman, 1984, p. 377). Not only is the ground of this debate defined by Kant, but Kant himself thought of imperatives not motivated by duty as inevitably tied to a hedonistic psychology of desires.

 Pragmatism, on the other hand, has never bifurcated objectivism and relativism in the way that antagonists like Moore and Reichenbach did in the first quarter of the twentieth-century, or like Brink and Harman, or again Seigel and Giere (1989) do today. The pragmatist outlook leads to viewing the Kantian contrast of `intrinsic' and `extrinsic' value as no more necessary than the Either/Or choice between objectivism and relativism. The genuine opposition it seems to me is not that of categoricalists versus hypotheticalists, but each of these versus *pragmatic axiology*.

 According to Dewey's pragmatic axiology, all value is conditioned, but the mutual reciprocity of means and ends is a dynamic process in which the norms of social practices are generated, criticized, and revised; the theory of valuation need not collapse into the Humean account of practical reasons which Harman accepts and which Brink also apparently sees as the only alternative to moral realism. This is clearly not unimportant to our post-modern or `the end of foundationalism' debates. For the implications to be drawn from the failure of foundationalism fall far short of strong skepticism *if* both skeptics and foundationalist have failed to understand practical reason and ampliative inference as they are manifested in processes of norm governance (Simpson, 1987).

 Firstly, the point that pragmatic treatment of metascientific *and* meta-ethical terms have parity in being defined axiologically (in contrast to de-ontologically), illustrates that there are crucial differences between a willingness to let naturalistic reason emerge, and the reductionism of at least some forms of contemporary naturalism. Reductionism results in the confusion of an empirical study with de-ontological *definitions* of metascientific and meta-ethical terms. Naturalistic traditions have often been criticized for rendering analytic definitions of such terms. If an action A for instance has certain non-moral descriptive qualities, it has certain moral qualities; "A is good" *means* "A has qualities x, y and z," so that the predicate is contained in the subject. One does not have to take definition (of `good' or of `justified') as synthetic as per Moore in order to retain the kernel of truth in his famous `open question test'; the worthwhile insight there may also be retained in an analytic conception of definition which, as per Stevenson, explicitly adds the riders that analytic definitions can be better or worse, and that *this* candidate definition is one among others which might coherently be entertained.

 We cannot, it seems, resist arranging perceived relations definitionally. Stevenson's `analytic-plus' account of definition explicitly recognized a complex conjunction and disjunction of facts and values involved in definitions at the meta-levels of discourse. But far from developing the resources of such an account, many contemporary naturalists remain susceptible to the old objection that they offer all and only persuasive definitions --ones closed to opposed views and directed primarily towards influencing attitudes. The fault of course was partly Stevenson's, for arbitrarily restricting the range of persuasive definition to that of meta-ethical terms. Terms such as `freedom,' `security,' `democracy,' and `science,' which we typically think of as primarily descriptive terms, yet ones which carry an important *honorific* character, are prime candidates of persuasive definition and rhetorical usage.

 Secondly, we have to deal not only with the problem of unfounded disparity in the conception of norm governance inside and outside of science, but also with basic misconceptions about the implications of the ampliative or non-deductive character norms. Now, deductivism in the understanding of norm governance has been a pervasive philosophical influence, and naturalism as a movement towards *a posteriori* epistemology generally claims to have eschewed deductivism. Yet the considerations we have discussed raise serious questions about whether contemporary reductive naturalism is more committed to *a posteriori* investigation of human cognitive processes or to abstract philosophical models of scientific closure, change, inference, etc. The case for the comparative methodological infirmity of ethics, as we have seen, is supported by what Moody-Adams (1990) calls the `non-rationality of intractable disagreement' thesis; but this thesis at least in some of its versions leans upon a model or ideal of `closure' in scientific disagreements which very few today take to be supported empirically by historical or social studies of scientific practice.

 Deductivist philosophies of norm governance have tended to radically divide the processes of following norms from those of generating and revising them. We witnessed this tendency to a significant extent during the first half of our century, where standard *Using* and standard *Choosing* were widely opposed both by empiricists (Carnap, Feigl) and within existentialist circles where choice of `forms of life' were seen as ultimately arbitrary. In dealing with standard Choosing empiricists relegated judgment to idiosyncratic perspective, and in so doing inculcated a vulgarized sense of `pragmatism' and `instrumentalism' in terms of psychologized decisions and a narrow range of short term consequences of an idea or action. Neither notion as so co-opted has much to do with Dewey's use of these terms, which related instead to a conception of *creative intelligence* broad enough to include the reasoned discussion of ends and the concern of long-range consequences of ideas and actions to the welfare of humanity.

 It is extremely telling on my view that reductionism and definism, perhaps the most influential forms of contemporary naturalism, continue to lean heavily upon just this same sharp contrast of Using and Choosing standards (Maffie, 1990b; 1993).[[15]](#endnote-16) Uniformly they appear to favor and employ neo-positivist conceptions of `pragmatic reason' and `instrumentalism' (not to mention `naturalism') over against the conceptions of these terms that Dewey employed in developing his axiology. But Dewey had said, "The notion that *value* is `instrumental' because `instrument-means' are what are prized hardly attains the dignity of a pun."[[16]](#endnote-17) A methodologist's fallacy, the conflation of an instrumental *analysis* of epistemic norms with identification of their *meaning* as descriptive, has come to serve a role similar to that of classically positivist `filtering mechanisms' (such as the sharp distinction between the context of Justification and the context of Discovery,) which few would now explicitly endorse.

 Inexorably it seems, ampliative processes and valuative phases of inquiry have been purged or filtered out of philosophical accounts of norm governance, to be replaced by processes which are only deductive or inductive surrogates. As Frederick Will has aptly stated in *Beyond Deduction* (1988), "the attachment of philosophers in the Anglo-American tradition to deductivism remains strong. In ways that we are hardly aware of we are influenced in various steps we take in governance by the deep-seated preconception that to whatever extent issues of governance transcend the competence of deductive, applicative processes, they transcend the competence of philosophical governance altogether."[[17]](#endnote-18)

Regularly, and indeed frequently in recent years, the discovery of the indispensability of ampliative process in the governance of norms in certain areas, the infeasibility in philosophical governing thought of replacing these altogether with deductive ones, has been taken to be a sign that at this point the limits of acceptable philosophical thought in the governance of norms have been reached, that the domains of life and thought affected have been revealed as to this extent inescapably determined by `causes' rather than `reasons,' permeated by influences that are not tractable in principle to acceptable philosophical procedure. And without question, a most important ground leading to this depreciating appraisal of these processes has been just their wide divergence in character from deductive ones, their relative intractability to the kinds of analysis that have achieved such great intellectual prestige through successful application to various widespread and fundamental forms of deductive activity.[[18]](#endnote-19)

 We have had to leave out of consideration some forms of self-described naturalism, such as definism, which may or may not exhibit the disparities alleged to be present in Harman's form. Yet the critical notice given to this influential form, and the scientistic genealogy with which we have connected it nonetheless bears a message for all self-described naturalists. I can do no better by way of conclusion than to recommend Will's words as one sign-post for philosophers concerned with a naturalistic account of knowledge and valuation. Reflective norm governance has both valuative and inferential phases undiscriminated temporally, and aside from reflective philosophical governance there are unquestionably a multitude of non-reflective factors open to cognitive science and social scientific studies which impinge upon norms across a wide range of human practices.

 According to the pragmatists, all inquiry, including and especially science, is essentially normative. In this sense at least, nothing appears less naturalistic or `blocks the path to inquiry' more fully than that combination of scientific objectivism and ethical relativism which has so often characterized twentieth-century thought. Naturalism and the normativity of epistemological concerns may yet be reconciled at the end of this century on the heels of what we have called a `pancritical' turn in the understanding of norm governance. But forging such a change in the tenor of contemporary naturalism will be a demanding task, for it requires us to examine and redress metaphilosophical assumptions which have had a profound influence upon the development of present-day conceptions of knowledge and valuation.

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**Notes**

1. .. Locke (1935), p. 317. [↑](#endnote-ref-2)
2. .. Stevenson (1944), p. 290. A normative account of science can no longer be maintained concurrently with a positive account of ethics, at least upon the wholly comparative basis that "The evaluative aspects of science involve only interests in knowledge, and these constitute a limited range of attitudes in which opposition is relatively infrequent." [↑](#endnote-ref-3)
3. .. Brink (1989), p. 185. [↑](#endnote-ref-4)
4. .. Harman's position presupposes that moral factors (he uses the stronger term "facts") are not explanatorily relevant even if they are conceived as *supervening* on natural facts. Brink points out that cognitivist views typically involve the notion of supervenience and are far broader than those forms of realism that treat moral facts as autonomous. On a cognitivist view, the explanatory power of the natural facts "ensures the explanatory power of the injustice that they realize" (Brink, p. 192). [↑](#endnote-ref-5)
5. .. Putnam 1990, pgs. 140-41, and 37. This is a central theme of Putnam's *Reason, Truth and History.* See also the direct exchange in Putnam (1982) and Harman (1982). [↑](#endnote-ref-6)
6. .. For an extended discussion of selective foundationalism and its relationship to Rorty's neo-pragmatism and to the post-modern debates, see Axtell (1992). [↑](#endnote-ref-7)
7. .. In the meta-ethical works of C. L. Stevenson which many empiricists credited as authoritative, emphasis was placed upon the *kinds of disagreement* that were typical in science and ethics, respectively. This separation was supported on assumption that there was a discrete, "primary" element of meaning --the descriptive and the prescriptive-- that respectively characterized science and ethics as distinct forms of discourse. [↑](#endnote-ref-8)
8. .. A good source of study on this issue is Larry Laudan's history and attempted rehabilitation of the `arationality principle' (in Laudan, 1977), and his published exchanges with Barry Barnes and David Bloor. See Axtell (1993b) for a discussion and development of concerns about explanation in this debate. [↑](#endnote-ref-9)
9. .. Discussions of axiology and Dewey's pragmatism are found in Eames, 1977, and in Morris, 1970. [↑](#endnote-ref-10)
10. .. Laudan (1986), p. 120. [↑](#endnote-ref-11)
11. .. Harman speaks of innate maxims presupposed by justification; these are the familiar maxims of conservativism, simplicity and predictive power. Putnam points out that Harman holds we have innate knowledge of the need to preserve past doctrine, to prefer simplicity, etc., but does not tell us what it means to have an objective standard of simplicity, etc. itself (1990. p. 34). Putnam continues, "I prefer to interpret Harman not as holding that it is only these desperately vague maxims of `coherence,' `simplicity,' and so on that are innate, but rather as holding, as his reference to Chomsky's competence/performance distinction suggests, that there is a detailed system of rules in the brain that interprets these vague-sounding maxims" (p. 35). [↑](#endnote-ref-12)
12. .. Lycan (1985), p. 150. [↑](#endnote-ref-13)
13. .. But see Axtell (1993a) for a critique of the excesses of materialist sociology of scientific knowledge, and one of its foremost recent developments in Stephen Fuchs' thought provoking *The Professional Quest for Truth* (1992). [↑](#endnote-ref-14)
14. .. Eames discusses Dewey's own turn towards usage of the term "naturalism" as a description of his own philosophy, p. xii-xiii. Criterialists "claim epistemic properties supervene upon but are neither identical with nor constituted by descriptive properties" (Maffie 1990a). Epistemic predicates cannot be reduced or descriptively defined without loss of their essential normative content; we can thus specify only naturalistic *criteria* or conditions for them. [↑](#endnote-ref-15)
15. .. Feigl's distinction between the validation and the vindication of normative commitments was, in his own words, "an exact counterpart of Carnap's [internal and external question] distinction." Maffie's definist account in my opinion too sharpley distinguishes valuation and evaluation, or "valuing epistemic ends" from "epistemic evaluation." The meaning of epistemic "oughts" is said to be exhausted in evaluation; they are "identical with descriptive facts and as such...only hypothetically motivational or prescriptive" (1990b, p. 338-9). There appear to be no philosophically, but only psychologically interesting issues concerned with questions such as why one would or should choose epistemic ends over non-epistemic ones. Thus the epistemological or rationality instrumentalist here places epistemology in much the same predicaments that hypotheticalists such as P. Foote placed ethics back in the 1950s and 1960s. [↑](#endnote-ref-16)
16. .. Dewey *Later Writings*, Vol. 16, p. 349. Dewey was clear if not emphatic in his rejection of positivist or hypotheticalist conceptions of value, including those which came under co-opted usage of his term "instrumentalism." These commit the methodologist's fallacy by confusing the mode of analysis with what is analyzed. Differences between Deweyan and neo-positivist construals of instrumentalism have had a significant place in Dewey studies. See for example Fingarette (1974), Tiles, (1988), and Hickman, (1990). [↑](#endnote-ref-17)
17. .. Will (1988), p. 13. [↑](#endnote-ref-18)
18. .. Will (1988), p. 43. [↑](#endnote-ref-19)