

# Neopragmatist epistemology for ethics and the sciences: An optimistic sketch

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## Abstract

Neopragmatist epistemology rejects any significant distinction between ethics and the sciences. The idea is that in ethics, we acquire knowledge in similar ways as in the natural sciences. Quine/Duhem holism applies to both fields, which explains why the aim of reaching reflective equilibrium is prominent in many meta-ethical accounts: As in the sciences, our ethical system of belief is constrained by logic, observation, coherence, simplicity and parsimony. Whereas considerations of beauty (an important ingredient of scientific methodology) are irrelevant in ethical epistemology, emotions play an essential role; these, in turn, do not matter in the sciences.

## Keywords

beauty, Hilary Putnam, holism, humanism, meta-ethics, Morton White, neopragmatism, Quine/Duhem thesis, reflective equilibrium, science/ethics distinction

## I Introduction

Outside academic philosophy, the most urgent meta-ethical question is not whether there are ethical truths or moral facts. Rather, the worry about the status of ethics concerns epistemological questions such as:

Is ethics merely a matter of taste, subjective personal decision and persuasive propaganda? Or do we have access to good reasons in ethics? Is there ethical *justification* or even ethical *knowledge*?

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At first sight, the terms I have italicized belong to the area of scientific inquiry. In particular, the natural sciences provide many fine examples of justified statements, which may well amount to genuine knowledge – if anything does at all. One such example is the law of energy conservation; another example is that sugar dissolves in water. Are there similar examples in ethics? Or do we have to admit an epistemological science/ethics distinction?

To be sure, knowledge in the natural sciences is far from perfect: It is fallible, and it does not guarantee absolute certainty. Even so, our knowledge in the natural sciences is more than nothing. I wish to convince you that matters are similar in ethics.

This claim may appear to run counter to our ethical and scientific practice. We quarrel more about ethical than about scientific issues; scientific quarrels can be settled, whereas ethical quarrels persist; and so on. Doesn't this prove that ethics and the sciences are genuinely distinct? More specifically, doesn't it prove that they are *epistemologically* distinct?

## II Upgrading ethics and downgrading the natural sciences

There are two complementary strategies to avoid an epistemological science/ethics distinction. On the one hand, we can adopt a pessimistic stance on knowledge in the sciences; on the other, we can be optimistic about ethical knowledge. Optimism and pessimism come in degrees, so the two strategies can and should be combined: Concerning the sciences, we ought to be a bit more pessimistic than usual – and with respect to ethics, we ought to be much more optimistic than usual. That is the twofold proposal I want to offer in my paper.

To prevent any misunderstandings: I will not claim that the two fields are identical; they are not. Rather, I will argue that there is no need to believe that the differences between them are more than gradual.

What are our epistemological resources in the natural sciences? There are plenty – at least according to the pluralistic and holistic picture that I want to presuppose for my discussion.<sup>1</sup> The following list names some of the sorts of reasons, or criteria, we frequently appeal to in settling scientific issues: logic, observation, coherence, simplicity, elegance and parsimony.

Let us start the comparison between ethics and the sciences with the first and easiest element from my list: logic. In the sciences, we are bound by logical constraints; outright contradictions within one and the same theory cannot be tolerated in the long run. The same seems true in ethics.

In both domains, logic is not everything. On the one hand, we cannot derive scientific facts or moral duties from logic alone; on the other, a certain amount of self-contradiction is admissible in both fields, if only provisionally. In the sciences, we speak of anomalies; in ethics it is tragedies.<sup>2</sup> At the end of the day, we are, perhaps, prepared to accept a greater amount of moral tragedies than scientific anomalies. But this does not constitute an epistemological difference *in kind*; it merely leads to a *gradual* difference between ethics and the sciences.

### III Quine/Duhem holism

The criteria of the aforementioned list do not concern *isolated* scientific sentences. Typically, it is the complete theory, not the individual sentence, which can be checked for coherence, simplicity, elegance, parsimony and logical consistency.

This is also true for observational accuracy, although it may be less obvious here than for the other criteria; even observation matters for *theories* rather than for scientific sentences in isolation. Neither the solubility of salt nor the conservation of energy can be proven by appeal to observation alone. Verificationism fails with regard to these examples; nowadays, that much is uncontroversial. More controversially, however, even falsificationism fails with regard to the solubility of salt and the conservation of energy.

To see this, imagine an experiment where salt fails to dissolve in water – or an experiment where energy is not conserved. Would you, then, be inclined to deny that salt is soluble or that energy is conserved? No reasonable scientist would have such an inclination. The two sentences in question are too central to our scientific worldview to be repudiated by a single recalcitrant experiment. What is more, even if the experiment were replicated again and again, with stable recalcitrant results, we still would not and should not give up a conviction as important as the law of energy conservation. In the situation imagined there are countless other sentences that are open to revision – such as background information, theoretical assumptions about the experimental set-up or conceptual claims about what sorts of energy are to be considered.

All these elements from our web of belief, including energy conservation, are tested in conjunction; and if the experiment delivers recalcitrant results, we merely know the conjunction to be empirically false – without knowing empirically which of its conjuncts is false.

What I have sketched here is good old Quine/Duhem holism, a doctrine that applies to scientific theories. Its pessimistic part says that we cannot appeal to observation and experiment alone in order to prove or repudiate isolated scientific statements. That does not mean that observations and experiments do not matter in scientific justification at all; they matter on the level of complete theories, rather than on the level of isolated sentences – this, at least, is the optimistic part of holism I want to build upon.

### IV The holistic interplay of logic and observation

Quine/Duhem holism is a doctrine about the interplay of logic and observation in scientific tests. The two examples discussed are, perhaps, somewhat too complicated to gain intellectual control over holism; too many hidden assumptions enter the game when we imagine recalcitrant evidence against the solubility of salt or the conservation of energy. Let me, therefore, illustrate the situation with a simplified example. Suppose we want to verify a sentence that we hold true for theoretical reasons and that derives, say, from the experimental set-up in our lab:

1. There goes an electron at high speed.

This is a theoretical claim; electrons are too small to be observed directly. Hence, we must test the claim indirectly, for example in the cloud chamber. What we expect, given the truth of (1), is a visible condensation trail. But let us assume a recalcitrant result – no condensation trail is observed. Then, says the pessimistic part of holism, we do not know empirically whether the fault lies in statement (1) or in the assumptions needed for our indirect test:

2. Speedy electrons leave visible traces in the cloud chamber (theoretical criterion).
3. The cloud chamber is functioning properly (background assumption).

According to the optimistic part of holism, the imagined recalcitrant experience (of absent condensation trails) guarantees the falsity of the following *conjunction*:

1. There goes an electron at high speed; *and*
2. Speedy electrons leave visible traces in the cloud chamber – if that cloud chamber is not malfunctioning during the test; *and*
3. The cloud chamber is functioning properly.

Logic tells us why this conjunction must be false in the absence of visible condensation trails – the conjunction *implies* an observation statement about them:

4. There is a visible condensation trail in our cloud chamber (from (1) to (3)).

The epistemological situation of statement (4) differs drastically from that of the isolated statements (1) to (3). Whereas we cannot see electrons, we can see condensation trails very well. As I want to show in the next section, there are moral parallels for both epistemological pessimism about electrons and epistemological optimism about visible condensation trails.

## V Holism and logic in ethics

Pessimism about ethics and its epistemological respectability typically derives from the (undisputed) fact that we cannot see duties, values or virtues. This, however, does not constitute a good reason for meta-ethical pessimism – given what I have said in the previous section and given the fact that we cannot see electrons. Indeed, ethics and the natural sciences are on a par when it comes to isolated sentences: Neither here nor there do we have access to direct empirical tests, irrespective of whether the sentences in question are about electrons – or about duties, values or virtues.

Let us explore the logical parallels between the two fields a little further. In physics, we conjoin hybrid statements, whose vocabulary is partly theoretical ('electron'), partly observational ('visible trail'); from sufficiently many of these hybrid statements we derive an observational statement. Why is that possible? Because the theoretical terms in the conjuncts cancel each other out.

The same strategy can be found in ethics, where hybrid statements are conjoined featuring vocabulary that is partly evaluative ('morally wrong'), partly descriptive ('to kill'). Can we derive descriptive statements from sufficiently many hybrid statements in this area, too? The answer is again optimistic – and for the same reasons as before. We

can arrange matters in such a way that the evaluative terms in the conjuncts cancel each other out. Here is a straightforward ethical parallel to our scientific example (1)–(4):

5. Our gardener is always morally faultless (ethical description).
6. To kill a human being is always morally wrong (ethical criterion).
7. Therefore, the gardener has not killed the cook (descriptive statement).

This case is instructive; we can derive an ‘Is’ from an ‘Ought’, or more accurately from *two* ‘Oughts’. Why is that possible? The reason is that in most evaluative statements (and also in (5) and (6)), we have not only evaluative but also descriptive elements; typical evaluative statements are hybrids.<sup>3</sup>

Once we combine sufficiently many of those evaluative/descriptive hybrids, we can forget about their evaluative components, and what remains is a purely descriptive conclusion. Logic is, after all, the art of combining information in a skilful manner in order to forget most of it. In the scientific case, we started with three hybrid conjuncts (1)–(3), which were partly theoretical, partly observational; logic helped us to get rid of all theoretical elements in the conjunction, and the result was our observation sentence (4).

In the ethical case, logic does the same trick, structurally speaking; since here the conjuncts’ hybrid character is partly evaluative, partly descriptive, logic helps us to get rid of all *evaluative* elements in the conjunction. The result is a descriptive sentence whose falsity – if indeed it is false – constitutes a reason to make adjustments to our moral system. In this case, we learn something about ethics from non-moral facts.

## VI Some meta-ethical lessons

I wish to highlight five meta-ethical lessons from my example of cook and gardener. First, holism applies to scientific as much as to ethical webs of belief – not only regarding its pessimistic part (against the testability of isolated sentences) but also regarding its optimistic part (in favour of the testability of complete systems of belief).

Indeed, if we observe gardener killing cook, we do know for sure that there is some mistake in our ethical web of belief. Either our high opinion of gardener is misguided – or we are mistaken in assuming that killing is always morally wrong. Thus, according to my second meta-ethical lesson, there are not only logical constraints on ethical thinking (section II) but descriptive and even observational constraints as well.<sup>4</sup> In other words, observation can teach us that our moral outlook is mistaken at some point or other.

The logical situation in the case considered leads to a third lesson, which is perhaps still more surprising: Moral convictions may lead to empirical predictions about the facts! To see this let us change the story slightly. Suppose that cook is still alive and (as before) that we are strongly convinced of both the sixth commandment and the faultless conduct of our gardener. Given these assumptions, we can *predict* that gardener will not kill cook.

Better still, given that the cook has been murdered and that circumstantial evidence speaks against the gardener, we can predict on moral grounds that the evidence is not unequivocal; there must be some hidden mistake in the detective’s chain of reasoning from the forensic evidence to his hortensic conclusion.

This is surprising because it runs counter to our habits of making an epistemological science/ethics distinction. We are habitually tempted to grant stronger credibility to descriptive statements than to their evaluative counterparts. But as the story I have told illustrates, it can very well be the case that we are so firmly convinced of certain evaluative sentences that they trump a well-supported descriptive sentence. This is the fourth lesson we may draw from the logical relations between (5), (6) and (7).

My final lesson is that it is a mistake to assume that description and evaluation belong to entirely different fields; they are never completely separated because most evaluative statements are hybrids, whose descriptive components lead to logical relations between evaluation and value-free description. As a consequence, the entanglement of fact and value does not only hold on the level of sentences; it holds, holistically, on the level of theories as well: Once we start doing ethics, we produce systems of belief comprised of purely descriptive elements on the one hand and hybrid, partly evaluative elements on the other. Of course, we can describe nature without doing ethics; but we cannot do ethics without describing reality. Hence, we can criticize an ethical system for not aligning with the facts.

So much about the fact/value entanglement on both the level of theories and the level of sentences. In passing, I want to mention yet another level where the descriptive and the evaluative cannot be disentangled: the level of concepts. Arguably, numerous concepts such as ‘dignity’, ‘freedom’, ‘person’, ‘courage’ and ‘chastity’ are neither purely evaluative nor purely descriptive, and it seems impossible to factorize these concepts neatly into non-hybrid components. The reason for this seems to be that the very meaning of those concepts is constituted by the moral theories (or even world views) to which they belong; for example, if you do not share a certain Christian outlook, you cannot understand the notion of chastity as applied to Christ’s mother. And if you are an extreme utilitarian à la Smart, you cannot apply the notion of human dignity.<sup>5</sup> It is beyond the scope of the present paper to delve deeper into the epistemology of what have been called *thick ethical concepts*.<sup>6</sup> I mention them only to emphasize that the entanglement of fact and value occurs on all levels of speech: concepts, sentences and theories.

## VII An objection

There is a serious objection against my case for holistic optimism about ethical systems: In defending the testability of ethical systems, I have appealed to logic in order to *get rid of* evaluative terms; but when we engage ourselves in ethics, we do not wish to get rid of these terms – we need them for guiding future action. By contrast, the theoretical vocabulary (i.e. the supposed analogue of our evaluative vocabulary) is arguably not needed to pursue the main goal of natural scientists; scientists have accomplished their mission if their predictions are right; and these predictions are formulated in observational, not in theoretical terms. In short, evaluative and theoretical terms play different roles in our intellectual lives.

Granted, whereas the main goal of scientific work is theory-free prediction, the main goal of ethical work is anything but prediction; it is evaluation – and ideal action. This line of reasoning, however, does not run counter to the result of the previous section, where I have only claimed that the epistemology of ethical systems is not completely

hopeless; even observational constraints have to be respected when we shape our ethical systems of belief. I am the first to admit that the parallel between ethics and the sciences should not be overstated; surely, observational constraints matter more in the sciences than in ethics. My point was merely that they do matter in ethics as well, even if less prominently. Of course, observation is not the only constraint to be respected in ethics; but the same is true for the sciences. I'll soon return to additional constraints that apply to both fields.

In any case, to highlight the parallel between ethics and the sciences, I have made use of an oversimplified ethical example; my scientific example was no less oversimplified. Let me now sketch a more sophisticated example of an ethical system for which observational constraints are less easily visible but nonetheless important: pacifism.

### VIII A priori constraints

As I have argued elsewhere, well-understood pacifism consists of a number of evaluations and norms, of psychological and historical claims, of counterfactual convictions, of assumptions about human nature and so forth.<sup>7</sup> For example, the pacifist is more optimistic about human nature than her opponents. She firmly believes that in situations full of hatred and violence, it is always possible to find a peaceable way out; even in the face of recalcitrant experience, the pacifist will go to great lengths to stabilize her optimism – just as the physicist stabilizes her firm belief in the conservation of energy even if she faces an example of what looks like a *perpetuum mobile*.

In both cases, the recalcitrant experience must lead to adjustments in the overall system of belief, but not with respect to the principles in question (optimism about human nature and energy conservation, respectively). In Quinean terms, these principles are immune to revision, as they are too important to their system of beliefs.<sup>8</sup>

Alternatively, we may say that in the extreme limit, a principle of this kind constitutes what Kant called *regulative a priori*: As the principle in question guides *future* research, it cannot be repudiated at all by *present* recalcitrant experience.<sup>9</sup> The pacifistic optimist about human nature, for example, will look out for unnoticed non-violent solutions to a violent conflict most persistently; if her first non-violent proposal fails, she'll propose another non-violent course of action – and so on.

The same holds true for the physicist and her firm believe in the conservation of energy: On encountering an apparent anomaly within the energy budget of a supposed *perpetuum mobile*, she'll look out for, and in extreme cases she'll even stipulate, new types of energy – to the effect that the sum of *all* types of energy is invariant over time. Understood thus, seemingly recalcitrant experiences have no impact on the credibility of the law of energy conservation; rather they lead to postulating, defining, identifying and quantifying additional sorts of energy, which are then claimed to have been previously overlooked. (Deformation energy is a case in point; when it was introduced, it was no more than a waste basket for missing amounts in the energy budget.)

In both fields, there is no guarantee that the a priori principle always leads to successful research; when the worst comes to the worst, the theorist might be *well-advised* to abandon the principle in question. That will happen if the principle is seen to prevent fruitful reactions to new experiences again and again – but this is not a matter of black

and white, with experience as the only important factor; rather it is a matter of checks and balances. At this point, the other criteria of theory choice that I mentioned at the outset come into play; I'll say more about them in the next section.

To conclude the present section, I want to return to its opening. Pacifism is a system of beliefs whose overall credibility depends upon facts in intricate ways; the situation here is more complicated than in the example of the good gardener, but not different in principle. Similarly, the situation with the law of energy conservation is more complicated than my simplified example of electrons in the cloud chamber – more complicated, but not different in principle.

## IX Beauty

What is the pragmatic form of the a priori elements in our belief systems that I have discussed in the previous section? Given the fact that both the law of energy conservation and optimism about human nature can be seen as guiding principles for future investigation, we must recognize a normative element inherent to them. They may very well be construed as epistemic *imperatives*. As indicated at the end of the previous section, however, there is a factual element in these principles as well – so again we have encountered the entanglement of fact and value.

Given this, we must admit that even the natural sciences exhibit normative elements that go beyond the obvious norm of saving the phenomena, that is, the norm of empirical adequacy. Scientists not only have to respect the facts, they are also bound by more normative norms, or, to put it less paradoxically: more evaluative norms.

Let me illustrate this point by turning to the role of beauty in scientific research, which is well-known within physics and largely underestimated outside it. As most historians of science agree, there are aesthetic constraints on our physical theories.<sup>10</sup> And many physicists hold that if a theory about the basic foundations of our world isn't beautiful, then this constitutes strong evidence against the truth of the theory in question.<sup>11</sup> Indeed, our present physical theories would look entirely different if our sense of beauty were different – or if we had no sense of beauty at all.

There are two complementary ways of expressing what I have just sketched. Either we might say that physicists hold firm to the a priori conviction that nature is beautiful; alternatively, we might say that the methods of physics comprise a norm, or an epistemic imperative, which tells us to eliminate ugly (e.g. arbitrary, cumbersome, asymmetrical) elements from our scientific achievements and to construct more beautiful theories instead.

Both ways of expressing the role of beauty for physics have surprising consequences. With respect to the first, we might wonder why nature fulfils our human desire for beauty – isn't this mysterious? And with respect to the second, we might wonder why a method that relies on evidence as personal as our sense of beauty can succeed in describing, predicting, manipulating and understanding the world.<sup>12</sup>

I do not claim to have an answer to these riddles. For present purposes, it suffices to say that the methods of aesthetics are generally taken to be epistemologically inferior to those of ethics. And even if, for the sake of argument, we place aesthetics and ethics on the same level, it seems to follow that physics with its crucial dependence upon our sense of beauty cannot be epistemologically superior to ethics.



## X Humanism

The result of the previous section gains further support from the observation that aesthetic considerations bear little or no weight in ethics.<sup>13</sup> This is so for good reasons: Given the urgent and existential nature of moral conflicts, it seems preposterous to insist that ethical systems of belief have to be beautiful.

Does the foregoing not lead to the startling consequence that ethical theorizing proceeds on firmer ground than even physics? Have I perhaps proven too much? Not quite. Whereas our physical theories in particular and our natural sciences in general differ from ethics in that they are subject to *aesthetical* constraints, it is the other way around with respect to *emotional* constraints. Emotions are entirely irrelevant for physics, but they are most significant for ethics.<sup>14</sup>

Let me elaborate a little. Emotions can be seen as specific cognitive reactions to what goes on around us. In particular, our best emotions (such as love and compassion) are well-suited to inform some of our moral judgments. The pacifist's optimism about human nature, for example, gains strength from the power of love, which is brought to bear even in the face of evil. And it is recalcitrant emotions, such as despair, which can tell the pacifist whether the point has been reached where love seems colder than death, that is, where her system is no longer attractive enough to cope with reality.

To summarize: In ethics, we work hard to find a well-balanced harmony between the manifold constraints that I have sketched. The aim is to reach what Rawls famously called *reflective equilibrium*. Constrained by logic and regulative principles, but without an algorithm, we permanently reconstruct our web of belief in a way that allows us to deal with what we experience *and feel*.<sup>15</sup>

Feelings and emotions are absent from scientific methodology. But due to the tremendous role that the sense of beauty enjoys in scientific research, our emotional abstinence does not render the sciences less dependent on human factors than ethics. Our methods in both fields are similar though not identical. For in the sciences, we also strive for reflective equilibrium, without an algorithm for theory choice: Constrained by logic, regulative principles *and beauty*, we permanently reconstruct our web of belief in a way that allows us to deal with what we experience.

In neither of the two fields do we proceed without soft criteria. Whereas in ethics they derive from our emotional faculties, in the sciences they derive from our aesthetic faculties. I am unsure whether this result leads to epistemic pessimism about the sciences. I prefer to call it a humanistic vision of the sciences. Ethics is a project of humans for humans; science is a project of humans for humans, too.

## Notes

I have made no attempts to change the informal character of this presentation, which was delivered on 10 May 2017, to the Bamberg workshop series *Norm, Value, and Normativity*. Many thanks to the participants for constructive criticism and fruitful discussion; last not least, I am grateful to Emanuel Viebahn for stylistic advice.

1. Duhem, Quine and Putnam are the well-known pioneers of pluralistic holism in the sciences. It is perhaps less known that in his critique of Newton, Goethe urged similar ideas a century

- earlier than Duhem – at least according to my interpretation (for this and numerous references to the literature see Olaf L. Müller, “Prismatic Equivalence. A New Case of Underdetermination. Goethe vs. Newton on the Prism Experiments,” *British Journal for the History of Philosophy* 24, no. 2 (March 2016): 322–46; Olaf L. Müller, “Goethe Contra Newton on Colours, Light, and the Philosophy of Science,” in *How Colours Matter for Philosophy*, ed. Marcos Silva (Dordrecht: Springer, 2017), 73–95.
2. See Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1970), Chapter VI *et passim* and Bernard Williams, *Shame and Necessity* (Berkeley: University of California Press, 1993), 164–7 *et passim*.
  3. Obvious exceptions such as ‘Whatever is forbidden cannot be allowed’ can be ignored in the present context.
  4. These two kinds of constraints are often conflated; in particular, descriptive constraints are often mistaken for logical ones. Consider the following ethical system: (\*) ‘It is always wrong to kill a person, and killing is permissible if necessary for self-defense’. Appearances notwithstanding, there is no contradiction in this conjunction, as it can be true if self-defense is never necessary. Surely it depends on the facts whether or not this (highly improbable) condition is true. Thus, there are heavy descriptive constraints on (\*). Notice that this is not an armchair example; pacifists may very well reason in similar ways.
  5. See Hilary Putnam, *Reason, Truth and History* (Cambridge: Cambridge University Press, 1981), 140/1; elsewhere I have recast Putnam’s intuitions about the interpretation of ‘Super-Benthamites’ into a full-fledged refutation of act utilitarianism (Olaf L. Müller, “Can They Say What They Want? A Transcendental Argument Against Utilitarianism,” *The Southern Journal of Philosophy* XLI, no. 2 (June 2003): 241–59 (for an online version, see <http://nbn-resolving.de/urn:nbn:de:kobv:11-100205964>)). The target of these considerations is extreme act utilitarianism as championed by John J. C. Smart, “Extreme and Restricted Utilitarianism,” in *Theories of Ethics*, ed. Philippa Foot (Oxford: Oxford University Press, 1967), 171–83.
  6. Bernard Williams, *Ethics and the Limits of Philosophy* (Cambridge/Massachusetts: Harvard University Press, 1985), 140/1.
  7. For this and the following Olaf L. Müller, “Pacifism as a Perspective. On the Inevitable Entanglement of Facts and Values,” To appear in *Studies in Christian Ethics* 31, no. 2 (May 2018), 201–13.
  8. Willard Van Orman Quine, “Two Dogmas of Empiricism,” in *From a Logical Point of View*, ed. Willard Van Orman Quine (Cambridge/Massachusetts: Harvard University Press, revised edition 1980), 20–46, 43.
  9. Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith (London: Macmillan, second impression 1933), 532 ff. (A 642 ff./B 670 ff.), particularly p. 533 (A 644/B 672).
  10. Kuhn, *The Structure of Scientific Revolutions*, 155–8 *et passim*.
  11. See, for example, Paul Dirac, “The Test of Time,” *The Unesco Courier* 32 (1979), 17, 21–3.
  12. Steven Weinberg, *Dreams of a Final Theory* (New York: Pantheon Books, 1992), 133.
  13. It is worthwhile to note in passing that there is no *inherent* place for ethical constraints in the scientific pursuit of truth.
  14. Prominently, this point has been urged by Williams, *Ethics and the Limits of Philosophy*, 177 *et passim*.
  15. A similar idea has been voiced by the neopragmatist Morton White, *What is and What Ought to be Done* (Oxford: Oxford University Press, 1981), 40 *et passim*.