A Summary Critique of The Fact/Value Dichotomy

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The direction in intellectual history since the Enlightenment has been to grant to science the authority to pronounce what is real, true, objective, and rational, while relegating ethics and religion to the realm of subjective opinion and nonrational experience.

Once this definition of knowledge is conceded, then any position that appears to be backed by science will ultimately triumph in the public square over any position that appears based on ethics or religion.

--Nancy Pearcey[1]

Traditional beliefs and institutions do not have to be annihilated; it is sufficient to drain them of their ancient meanings and fill them with others – particularly if they are reduced to the realm of the subjective and therefore private, of "values" that cannot be "imposed" on others.

--James Hitchcock[2]

Concept Control

One of the most significant struggles in the marketplace of ideas takes place over the control of the terms of discourse. Those who can frame a controversial issue in terms they prefer have a great advantage in shaping public opinion. "Are you pro-choice or anti-choice?" is a typical example of this kind of framing. Concept control might be thought of as rigging the debate: You must talk about this controversial issue using my categories, terms, and definitions. As a result, those who have the power to declare the terms of discourse have the power to determine the outcome of the debate, and further, they have the power to determine what is accepted as true or false.

The fact/value dichotomy is a doctrine that arose out of a supreme attempt at concept control. Beginning in the eighteenth century, some of the Enlightenment thinkers declared that values (such as moral obligations) could not be derived from facts. Howard Kendler says,

> The naturalistic fallacy rejects the possibility of deducing ethical statements from non-ethical statements. This principle, more precisely described as the fact/value dichotomy, denies the possibility of logically deriving what *ought* to be from what *is*.[3]

For example, the fact that people in educated countries tended to live better than people in countries where education was rare did not imply and could not imply that education was good or that education ought to be made a public policy choice. Such a claim was a value choice.

In the twentieth century a group of scientists turned philosophers, known as the logical positivists, took the idea of a fact/value dichotomy even further.

Perhaps they were troubled by the continued talk about God and religion and morality in the midst of our "scientific world." Or perhaps they simply wanted to define out of existence ideas that opposed their ideas. At any rate, they developed a philosophy that not only emphasized the dichotomy but that held only the "fact" disjunction to be of any worth. As Ernest R. House notes,

> The logical positivists thought that facts could be ascertained and that only facts were the fit subject of science, along with analytic statements like "1 plus 1 equals 2" that were true by definition. Facts were empirical and could be based on pristine observations, a position called foundationalism.
>
> On the other hand, values were something else. Values might be feelings, emotions, or useless metaphysical entities. Whatever they were, they were not subject to scientific analysis. People simply held certain values or believed in certain values or did not. Values were chosen. Rational discussion had little to do with them.[4]

The positivists declared that only facts, derived from experiment and observation, could be called truth, and they rejected all talk about values (ethics, morals, religion, philosophy) not only as "preferences without foundation"[5] but as meaningless or "non-cognitive" babble. Values were thus depreciated as mere matters of taste and as not subject to rational or objective discussion. To ask whether it is wrong to lie or steal was equivalent to asking whether one prefers chocolate or vanilla ice cream: the answer was just matter of personal taste, ungrounded in any truth or reality because there was no experiment that could be performed to prove the truth of any answer.

As a philosophical movement, positivism died out after only a few years when other philosophers pointed out that positivism's foundational claim involved it in a self-referential absurdity:

> Obviously, if the only kinds of statements capable of meaning are synthetic statements [statements of observable fact], then the answer is going to be along the lines that a statement is meaningful when it is either directly confirmed by experience, or reducible to such direct confirmation. Such a criterion is itself not directly confirmable, and so the criterion of meaning renders itself meaningless.[6]

Positivism's claim that "only statements of observable facts have meaning" was a claim not subject to observation and thus, by its own definition, the claim had no meaning. Thus was the philosophical basis for positivism refuted. Unfortunately, the fact/value dichotomy did not die out with the philosophy. Indeed, positivistic ideas are still quite prevalent among many scientists and these ideas have become pervasive in our culture, in part because they allow an easy and thoughtless rejection of value claims. In his book, *The Collapse of the Fact/Value Dichotomy*, philosopher Hilary Putnam observes:

> There are a variety of reasons why we are tempted to draw a line between "facts" and "values"—and to draw it in such a way that "values" are put outside the

> realm of rational argument altogether. For one thing, it is much easier to say "that's a value judgment," meaning, "that's just a matter of subjective preference," than to do what Socrates tried to teach us: to examine who we are and what our deepest convictions are and hold those convictions up the to searching test of reflective examination.[7]

Insisting on an absolute dichotomy between fact and value, then, becomes little more than a ploy to avoid involving values in scientific or other activity. However, the dichotomy does not remove values from existence or even from science (as we will see); it merely allows the dichotomist to avoid examining his own values rationally, or on the basis of how well or even whether they work. The dichotomist will not accept any so-called "value judgments" into the discussion when offered by a critic, and the dichotomist need not identify or evaluate his own values. Putnam concludes: "The worst thing about the fact/value dichotomy is that in practice it functions as a discussion-stopper, and not just a discussion-stopper, but a thought stopper."[8]

Errors Resulting from the Fact/Value Dichotomy

In spite of the ease with which some people reject "value judgments" and insist on "just the facts," the fact/value dichotomy involves a cornucopia of errors. All of the following statements, derived from dichotomy thinking, are false:

1. Since facts and values are separate, with facts being solid and provable and values being matters of personal taste, values play no role in the realm of facts (that is, in science).
2. Values are not involved in the determination of what is a fact.
3. Values are not involved in scientific descriptions of fact.
4. Values are not intermixed in the statement of scientific theories or facts.
5. Values, being matters of personal taste, cannot be reasoned about.
6. Values are completely subjective and have no objective qualities.

If we explore each of these errors, we can see not only why they are, in fact, errors, but we will gain some better understanding about why the fact/value dichotomy does not represent reality accurately.

Values are deeply involved in the arena of facts.

The practice of science involves much more than the compilation of self-evident facts. Definitions of "true," "fact," "observation" and the like are derived from philosophical considerations, from the epistemology of science, and these "considerations" involve values. Even at the bare level of observation, Putnam says, "epistemic values guide us in pursuing right descriptions of the world."[9] The entire operational structure of science—and of all knowledge production—

involves the use of standards, which is another term for values. Quoting Richard T. Allen:

> Furthermore, every intellectual enquiry has to be guided by standards for sorting the true from the false, established facts from uncertain ones, interesting facts and problems from those which will tell us nothing new or significant, promising lines of enquiry from probable dead-ends, well conducted from ill-conducted enquiry. They are what R. G. Collingwood called *criteriological* activities, ones which are not only rightly or wrongly performed, but ones of which the performers as they go along necessarily judge the success or failure of their own performances. Being trained in them includes coming to appreciate and observe the standards employed.[10]

Allen concludes, "This, then, is the first breach of the fact-value dichotomy: that knowing itself involves the personal employment of standards, most implicitly, for judging what we know and whether we have succeeded or failed in knowing it."[11]

Physical chemist turned philosopher Michael Polanyi addresses the value-laden nature of the peer evaluation of scientific activity. Polanyi identifies the "standards of scientific merit accepted by the scientific community" as first, plausibility. Scientific journals engage in "censorship" in order to "eliminate obvious absurdities" and "refuse publication merely because the conclusions of a paper appear to be unsound in light of current scientific knowledge." If the results presented in a paper "conflict sharply with the current scientific opinion about the nature of things" the paper "may be totally disregarded" even if the author is "of high distinction in science."[12] Plausibility is obviously a complex judgment based on several value criteria, including fit, correspondence or harmonization, and reasonableness. Arguments or conclusions that lead away from preconceived or accepted ideas may be labeled pseudoscience, even though they are presented with robust evidence and rational methodology.

Polanyi continues by saying, "The second criterion by which the merit of a contribution is assessed may be described as its scientific value, a value that is composed of the following three coefficients: (a) its accuracy, (b) its systematic importance, (c) the intrinsic interest of its subject-matter."[13] While "accuracy" could be seen as an empirically supported concept, "importance" and "interest" are clearly valuative and possibly intersubjective. (Objective importance may be more often a conclusion of historical hindsight than an accurate judgment contemporary with the finding itself.)

Finally, Polanyi says that the "third criterion of scientific merit" is "originality."[14] This, too, involves personal or community values in its determination.

Hilary Putnam notes that "*theory selection always presupposes values*" (emphasis his)[15] and that in working with theories, "judgments of 'coherence,' 'plausibility,' 'reasonableness,' 'simplicity,' and of what Dirac famously called the beauty of a hypothesis, are all normative judgments . . . of 'what ought to be' in the case of reasoning."[16] Putnam later concludes, "In short, judgments of coherence, simplicity, and so on are presupposed by physical science. Yet coherence, simplicity, and the like are values."[17]

Values also come into play in the choice of theories. The concept of underdetermination is that the choice of a given theory to explain a set of facts is underdetermined by those facts. In other words, the facts do not compel the scientist to choose a given theory, because more than one theory will fit the same set of facts equally well. Regarding the choice of theory, Michael Dickson comments:

> It is sometimes suggested (sometimes overtly stated) that, given a set of physical phenomena, there are infinitely many ways to construct an underlying theory that predicts just those phenomena. I am willing to allow that in the purely logical sense, such constructions are possible. However, it is far more interesting to consider whether there are not criteria for a construction to be "reasonable."[18]

In other words, scientists do not proliferate a hundred theories for each data set and then say, "Any of these will explain what we've got." Instead, they apply value-based criteria that will permit them to determine whether or not a theory is "reasonable."

Values are also intimately involved in the working out of conflicts between theory and fact or theory and theory. Quoting Hilary Putnam again:

> When a theory conflicts with what has previously been supposed to be fact, we sometimes give up the theory and we sometimes give up the supposed fact, and . . . the decision is . . . a matter of informal judgments of coherence, plausibility, simplicity, and the like. Nor is it the case that when two theories conflict, scientists wait until the observational data decide between them. . . .[19]

Facing a conflict of theories in the absence of data that will allow them to choose the definitively better one, Putnam says, scientists choose anyway, based on their value-laden criteria:

> Yet Einstein's theory [of gravitation] was accepted and Whitehead's theory was rejected fifty years before anyone thought of an observation that would decide between the two. Indeed, a great number of theories must be rejected on non-observational grounds, for the rule "Test every theory that occurs to anyone" is impossible to follow.[20]

Anyone who works with facts constantly and necessarily involves values in the process. Values are involved in the ordering and structuring of facts to give understanding or meaning to data. Without the values (or standards or criteria) needed to evaluate, sort, and interpret facts, researchers would have only endless piles of unexplained data. Far from being absent in the realm of facts, values are necessary for the construction and operation of theory, processes, methodology, interpretation, observation, description, and evaluation. Even "the level of evidence that is required to prove a hypothesis" is a value choice in science.[21]

The problem is not the presence of values in science. The problem is the persistence of this error, the claim that the arena of facts has nothing to do with the arena of values. Those who insist on this error still involve values in their work, but by denying that they do so, they are likely not to recognize the presence of values, not identify their assumptions, and not examine their values. The result can be that ideologues will "masquerade their views as science"[22] Conclusions will be based on hidden philosophical preferences rather than on the weight of evidence, resulting in thinking backwards—concluding first and finding evidence second. In such cases,

> . . . the judgments offered stem from a maze of assumptions only rarely given the light of day. They tend not to spring from reasoned argument. In other words, we gather facts to support assumed rather than argued value commitments, all concealed by the veil of science.[23]

Only by admitting to the role of values in the identification and processing of facts will scientists and others be able to debate openly their value commitments.

Values are involved in the identification or determination of what is a fact.

Values inform the process and methodology of fact discovery. At the simplest level, values influence which experiments will be performed and which will not. The facts which might result from an experiment will not exist—that is, not be apparent—if that experiment is not performed in the first place. Facts are not found in places where they are not sought.

Some facts are the result of observation, experiment or discovery, or even counting. These facts are taken to be self-evident. Other facts, however, are the result of interpretation. There is a robust question about the connection between observation and interpretation. It is sometimes argued that every observation is an interpretation, since facts are seen through a lens of theory. Events that do not conform with what is believed to be possible are dismissed as anomalous, wrong, or incoherent.

Other facts, instead of being observable events, are the product of argument networks, based on or dependent at some level on the values of those presenting the arguments for the ontological status of a given fact. To say that such

conclusions are not technically facts is to admit that science deals with and operates on the basis of many non-factual ideas.

Michael Polanyi makes it clear that in order for a fact claim to be accepted by the scientific community, it must pass through a process of evaluation, an evaluation that involves value-judgments:

> Let it also be quite clear that what we have described as the function of scientific authority go far beyond a mere confirmation of facts asserted by science. For one thing, there are no mere facts in science. A scientific fact is one that has been accepted as such by scientific opinion, both on the grounds of the evidence in favour of it and because it appears sufficiently plausible in view of the current scientific conception of the nature of things.[24]

For example, the search for fossil evidence for human evolution takes place largely in one region of the African continent rather than in any of ten thousand other places in the world, because current "scientific opinion" considers that area of importance to the theory, while other areas such as China are deemed not important. Polanyi continues:

> Besides, science is not a mere collection of facts, but a system of facts based on their scientific interpretation. It is this system that is endorsed by a scientific interest intrinsic to the system; a distribution of interest established by the delicate value-judgments exercised by scientific opinion in sifting and rewarding current contributions to science. Science is what it is, in virtue of the way in which scientific authority constantly eliminates, or else recognizes at various levels of merit, contributions offered to science. In accepting the authority of science we accept the totality of all these value-judgments."[25]

Polanyi concludes by saying that the scientific enterprise operates through a set of traditional values that practitioners adopt when they become scientists and are socialized into the brotherhood, so to speak. Part of these values include the "standards of scientific merit" that help determine what is or is not a fact:

> And remember that each scientist originally established himself as such by joining at some point a network of mutual appreciation extending far beyond his own horizon. Each such acceptance appears then as a submission to a vast range of value-judgments exercised over all the domains of science, which the newly accepted citizen of science henceforth endorses, although he knows hardly anything about their subject-matter. Thus, the standards of scientific merit are seen to be transmitted from generation to generation by the affiliation of individuals at a great variety of widely disparate points, in the same way as artistic, moral, or legal traditions are transmitted. We may conclude, therefore, that the appreciation of scientific merit too is based on tradition which succeeding generations accept and develop as their own scientific opinion.[26]

Pronouncements about scientific fact (especially those reducing to argument networks or agreed-upon interpretations) are quite comparable to the

pronouncements about truth from the "artistic, moral, or legal traditions," for "the authority of science is essentially traditional" like theirs.[27] And all tradition can be said to include a set of value-judgments. The arts, ethics, law, and science are all practitioner communities, where historical experience has help to determine what is valuable and what is not, what is to be preserved and what is not. How should the materials of the art or science be approached, practiced, and interpreted? A set of gradually developed values supplies the answers.

Philosopher Hilary Putnam argues for the role of values in the determination of facts on the basis of epistemology. Values, he says, include far more than ethical or moral values, and include the values that shape how we define what knowledge is (what can or cannot be true, for example). He says, "Indeed, once we stop thinking of 'value' as synonymous with 'ethics,' it is quite clear that it [science] *does* presuppose values—it presupposes *epistemic* values."[28] In other words, a commitment to certain values—certain beliefs about knowledge and facts and their origin, identification, and confirmation—must be made before we can address the issue of what is or is not factual. Thus, value-judgments and value commitments must precede scientific or other fact-discovering activity. Putnam says:

> *Knowledge of facts presupposes knowledge of values*. This is the position I defend. It might be broken into two separate claims: (i) that the activity of justifying factual claims presupposes value judgments, and (ii) that we must regard those value judgments as capable of being right (as "objective" in philosophical jargon), if we are not to fall into subjectivism with respect to the factual claims themselves.[29]

We will discuss Putnam's second claim, that value-judgments are capable of objectivity, later on. The point to be emphasized here is that "fact and value interpenetrate" through the influence of value-judgments on both theory and epistemology.[30] Epistemology is "interpenetrated" by axiological (value) considerations and choices, and facts are developed within that epistemological framework.

A word of caution is in order here. The claim is not being made that facts and values are the same thing, that is, that "facts" are really only "values" in the dichotomous sense where values are considered merely subjective personal taste. This is the view of the postmodernists, who resolve the fact/value dichotomy by denying the objectivity of facts and place all knowledge claims into the realm of rhetoric and subjectivity—which is to say, values. To reject the fact/value dichotomy is not to reject a fact/value distinction. To say that what is a fact is influenced by values is not to say that facts are necessarily subjective. As we will see below, and as Putnam has hinted above, value-judgments can possess objectivity.

Another way to clarify this point and to see the role of values in the determination of facts is to think about the difference between what really exists

(the pure and complete set of things with genuine ontological status) and what we think, know, or believe to exist. Knowledge of what really exists is the goal not just of science but of all truth seekers. Belief about what exists is the result of our efforts to know, and those efforts are influenced by our values and theories. We seek constantly to approach truth, always trying to improve our theories of knowing (epistemes) in order to get closer. Our theories of knowing shape what we think we are learning, indeed, what we think we are looking at. Michael Dickson writes, "[Einstein said that] what does or does not exist is not determined by what can be observed, but by what is permitted by our best theoretical attempts to make sense of the world."[31] Improving theory improves our knowledge of what really is. When theory prevented the idea of continental drift from appearing credible, few accepted it. When the theory of plate tectonics was further developed, the idea of continental drift became more plausible. Dickson continues:

> Einstein did not deny a connection between what exists and what can be observed—of course a thing cannot be observed if it does not exist. Rather, his point is that one cannot say what exists on the basis of observation alone. Instead, theory tells us what sorts of thing might exist, and from the existence of those sorts of thing, we can then say what sorts of observation are possible. To put the point succinctly, as Heisenberg did (attributing these words to Einstein), "the theory determines what you can observe."[32]

A simple example of the influence of theory on observation would be to take an ordinary, educated person and a trained specialist and show both of them an EKG strip, an X-ray of a lung, or a biopsy slide and then ask, "What do you observe?" Both are "looking at" the same thing, and yet each will see something very different because of what we might call the theory of interpretation each has learned. And if the success of diagnostic evaluation is any indication, the trained specialist has a better theory for getting at "what really exists" or what is a deeper truth about the information being observed than the educated but untrained person.

From this discussion, we can understand that there are truths or facts that exist but which are not yet known to us or which, when known, will clarify some wrong beliefs about facts that we currently hold. These implications put further pressure on the fact/value dichotomy. When the positivists developed their philosophy, one of the underlying principles they adopted was the idea of verificationism. As Putnam puts it, verificationism is the belief that "*it is metaphysically impossible for there to be any truths that are not verifiable by human beings*" [emphasis his]. In other words, the only facts are those that can be tested or observed by humans doing experiments. This idea was little more than a subterfuge to eliminate all discussion of values or the use of value-judgments, and it became a main support for the fact/value dichotomy.

However, this idea was soon rejected both in philosophy and science itself. Verificationism, notes Putnam, is "a species of what today is called 'antirealism' because it makes the limits of what can be true of the world dependent on the limits of human verification-capacities."[33] And as we have just noted, we recognize that there is reality—there are facts—that we either do not yet know or that we perhaps cannot ever know (or at least prove empirically). Science has moved well beyond the arena of verifiability, for "it is deeply imbedded in the theories of present-day science that for a number of reasons . . . as a matter of contingent empirical fact, there are many truths that are beyond the power of our species to ascertain."[34] We are unlikely ever to know the exact number of stars in the universe, for example, or the status of existence before the Big Bang. At this writing, it is not known whether the graviton exists (a theoretical particle responsible for the gravitational force) or precisely how gravity works, yet we know there must be some true explanation behind it because gravity itself is real enough. But whether or not we will ever access that true explanation is still an open question.

Even though verificationism was rejected, and even though that rejection removed one of the major supports for the fact/value dichotomy,[35] the dichotomy remains, with those adhering to it still rejecting the role of values in the determination of facts. Why? The fact-value dichotomy is an ideology that permits the sneaking in of value judgments in the guise of facts, of normative claims in the guise of empirical statements. Pretending that values do not enter into the scientific enterprise allows practitioners to reject any role for or discussion of outside values while applying their own value preferences silently. As a result, objective values are rejected while subjective values are quietly entertained. The social sciences have been particularly susceptible to this phenomenon. R. J. Bernstein says:

> Much of what has been advanced as theory in the social sciences turns out to be disguised ideology. No matter how ambitious or modest the claims of mainstream social scientists to advance empirical theory, they have insisted that the hypotheses and claims they put forth are value-neutral, objective claims subject only to the criteria of public testing, confirmation, and refutation. Yet, . . . these proposed theories secrete values and reflect controversial ideological claims about what is right, good, and just.[36]

When the fact/value dichotomy is insisted upon, instead of true value-neutrality, practitioners promote "surreptitiously visions of a good" even while they deny "science's capability to speak intelligibly on value."[37]

Values are involved in the examination and description of facts.

As we saw in the section above, the determination of what is or is not to be considered a fact is often influenced by theoretical or other value-laden concerns. We may now state further that even the act of describing or labeling—choosing

an appropriate word to describe a fact—is often inextricably connected to value concerns. The answer to "What are you looking at?" requires that the barest of observations be connected to an often valuative term. Putnam says that "from Hume on, empiricists—and not only empiricists but many others as well, in and outside of philosophy—failed to appreciate the ways in which factual description and valuation can and must be *entangled*."[38]

Failure to understand the entanglement of description results in a scientist thinking that a description is value free, when, in fact, Putnam says, "'Valuation' and 'description' are interdependent—a possibility that is constantly overlooked by positivists and their ilk."[39] Students of semantics can readily suggest the nature of emotive, shaded, euphemistic, or colored terms, pointing out the difference in evaluative tone we get when we describe a dog as a "mutt" or a "pooch." Similar though more subtle evaluations are present in terms such as "well nourished," "premature mortality," and "self respect."[40] All of these are clearly entangled terms, mixing valuation and description.

Terms even seemingly bald or "objective" also reveal that to describe is to evaluate. The application of a word to a thing implies both the fitness of the word to the thing and the connotation carried by the word. Richard Allen offers a striking example:

> At the lowest level of mere chronicle, we say, "the Battle of Waterloo was fought in 1815." Here, surely we have a wholly "objective," unevaluative statement of mere fact, a pure description. On the contrary, "battle" itself signifies the successful results of intentional actions. Using "battle" rather than "collision" or "massacre" ascribes an intention to fight on both sides at the very moment of engagement, intentions successfully carried out to the extent that weapons were actually used.[41]

The point is not that (in this case) history is made up of subjective comments about events. The point is that descriptive terms often involve evaluative connotations or meanings, thus entangling facts and values. The evaluation can come not in the form of the investigator's moral attitude toward the thing being described or named, but in the mere decision to call something the name normally used for such a thing. When we describe something based on its function or principles of operation, the description implies that the object functions properly—and this represents an evaluation: "To describe this object as a 'calculator' or 'clock' or 'knife,' is tacitly to evaluate it as a correctly and effectively operating machine, instrument or device of that type."[42] If a scientist describes an electromechanical machine as a "pencil sharpener," implied in the description is the idea that the machine will sharpen pencils, and this is an evaluative conclusion relating to its function. If the machine does not sharpen pencils, we would say it is incorrectly described as a "pencil sharpener." It is instead a "broken pencil sharpener" or a "poorly functioning pencil sharpener" because it does not fulfill its intended function well. The assessment is a

judgment (valuative) based on an empirical test. Thus an entanglement of fact and value.

The same entanglement applies to the examination of unknown artifacts. When an archaeologist comes upon a stone carving with some intricate shapes and figures, the question may arise, "Is this a calendar or does it just look like a calendar?" The answer must draw upon an evaluation of the functionality of the carvings.

Even in the biological world, purpose must be considered in the process of description, and the declaration of purpose (though it may be implied and not stated) is value-laden. As Allen puts it, "Again, with reference to living things and their operations or actions, description is necessarily evaluation." It would be unfair, he says, to call a diseased heart simply "a heart," because that would be misleading. But the difference between diseased and normal, while based on objective criteria, is nevertheless evaluative.

Values are intermixed in many statements of fact.

We have just seen that descriptions often involve values or value-judgments and that, in fact, many terms, applied as descriptive labels, imply value-judgments as part of the legitimacy of their application. In both scientific and everyday use, many statements of fact include both an empirical component and a valuative component without rendering the statement "non-factual" or "subjective." Examples of phrases with "both normative and factual content"[43] might be "a good result," "a promising finding," "a worthwhile experiment," or even "an anomalous result."

The idea that value-judgments cannot be intermixed (or entangled, to use Putnam's term) with facts may come from the fact that some value-judgments are subjective matters. However, not all are. If a researcher says, "This blood pressure medicine is better than that one because the pill is blue and I like blue pills better than pink pills," we recognize the subjective nature of the claim of "better." But if the researcher says, "This blood pressure medicine is better than that one because this one controls blood pressure without side effects while that one offers little control and causes an increased risk of stroke," we see that the statement of value, "better" is based on value-laden but factual, even empirical, reasons ("controls," "side effects," "increased risk"). To say that the second statement "is not factual because it is only a value-judgment" is clearly in error.

For another example of entanglement, take the statement, "Concrete is a good material to use for sidewalks." This statement would be declared a fact by anyone with experience with concrete sidewalks, even though it also reflects values such as "durability is better than non durability" or "a hard surface is good for sidewalks." Therefore, fact claims can include value claims without rendering them solipsistic or terminally subjective.

To reject some factual statements as "only value-judgments" because they include objective criteria of assessment would be to cripple our ability to describe

the world as we experience it. We may disagree about exactly what makes a surgeon "excellent," or just how good a particular surgeon is, but to say that the difference between an excellent surgeon and a blundering surgeon is "only a matter of personal taste" flies in the face of reality and the differential pain, suffering, and death rates of the two doctors. (See below for a further discussion.)

Putnam sees the intermixing of fact and value in many factual statements as inevitable and necessary, arguing that "the picture of our language in which nothing can be *both* a fact *and* value-laden is wholly inadequate and that an enormous amount of our descriptive vocabulary is and has to be 'entangled.'"[44] Philosopher J. P. Smit says that "knowledge must in some sense reflect value-judgements."[45] Much of what we call and rely on as knowledge—and not personal taste or opinion—includes evaluative aspects.

Values can be reasoned about

Proponents of the fact/value dichotomy attempt to denigrate values as mere personal preferences that are beyond rational discussion. If disagreements about moral, ethical, and other values are the equivalent of arguing over which flavor of ice cream is better, then such discussion is pointless. Such is the ploy of the dichotomists: declare that values are subjective and irrational and then one need not deal with them seriously. (And then sneak one's own values into the marketplace by hiding them within fact claims.)

But Putnam points out that "value disputes [are often not mere social conflicts, but are] *rational disagreements calling for a decision as to where the better reasons lie*" (emphasis his).[46] We can argue and reason about our values, often pointing to higher values held in common and even to objective facts relevant to the point at issue. If two people disagree about whether Joe is a skilled or an incompetent mechanic, they can point to his work for rational support. Whether his wheel alignments cause the car to pull to one side and make the tires wear out in 100 miles or cause the car to run straight down the highway—this evidence can be reasonably brought forward in the dispute.

Leo Strauss offers the example of using objective criteria to make value judgments about a statesman, noting that

> if the historian shows, by objectively measuring the action of a statesman against the model of "rational action in the circumstances," that the statesman made one blunder after another, he makes an objective value judgment to the effect that the statesman was singularly inept.[47]

In discussions of ethics, we not only can but commonly do argue about what is humane or even right and wrong, without agreeing that a given position is merely a subjective, personal opinion. We offer reasons and evidence to support our positions. The cultural relativists would like us to believe that we cannot evaluate the practices of other cultures, but this idea is a mistake. As anthropologist Robert Edgerton has shown in his book, *Sick Societies*, we

regularly apply basic ideas of fairness, justice, and human rights to criticize cruel practices in other cultures, such as burning alive the widows of men who have just died (suttee). Edgerton reports one case where the "wife burned with the corpse of her adult husband was only four years old. . . ."[48] Few people would fail to condemn such a practice, and few would base the condemnation on mere personal taste. We would argue instead that the practice violates universal human values, that it is objectively cruel and morally repugnant.

Indeed, Edgerton's book is an excellent piece of evidence in the argument that values can be reasoned about, for he takes the idea that all cultural practices are somehow "functional" for a given culture and through the use of argument and many examples of dysfunctional (what he calls maladaptive) practices, makes a powerful case for a new view of clearly harmful practices that rejects the idea of cultural relativism: "If we are to understand the processes of cultural adaptation and maladaptation, relativism must be replaced by a form of evaluative analysis."[49]

Economist Amartya Sen argues that not only reasons and arguments but scientific evidence can be brought to bear profitably in value discussions: "Someone disputing a value judgment put forward by someone else can have a scientific discussion on the validity of the value judgment by examining the scientific truth of the underlying factual premises."[50] Many of our judgments are based on facts or assumed facts, and an investigation into the accuracy of the supporting facts can sway our value judgments based on them. Value judgments such as proposals to reform the welfare system or change the minimum wage, or make virtually any public policy decision—all these are addressable with relevant facts, reasons, and arguments.

Hillary Putnam concurs:

> The moral is clear: when we are dealing with any important value disagreement, we assume that facts are irrelevant at our peril. No convincing logical reason can be given for the logical irrelevance of fact to value judgments, even if we accept the positivist conception of what a "fact" is.[51]

Putnam's conclusion is that the discussion of values and the conclusions drawn regarding them should not be thought of as inherently different from other discussions. He says that "the principle that what is valid for inquiry in general is valid for value inquiry in particular is a powerful one."[52] Just as we present arguments and evidence to support a claim that a given statement is a "fact," we can similarly present arguments and evidence to support a claim that a given practice is good or bad.

Even "basic values," those values that lie underneath our worldview, those assumptions about reality that we use to find meaning in the events of life, can be argued about. Even though we view such basics as foundational preferences not subject to discussion, the fact is that people do sometimes change them. Otherwise, we would never see someone change from liberal to conservative or

non-Christian to Christian or vice versa. However slow or rare this process is, it does occur. And even though the change may result only partly from cognitive change (thinking and argument), reasoning can still play a role in such huge value shifts.

Some values are objective

Another error created by the fact/value dichotomy is the view that facts and values are separated into the two categories of objective and subjective. That is, the implication of the separation of facts and values is that all facts are objective and all values are subjective. This claim is false. Some values are objective.

Part of the difficulty here is the positivist view of objective and subjective. The positivists tended to see as objective only those statements that were empirically verifiable through some experiment, and considered all non-empirical statements "subjective," which is to say, "personally whimsical, locked into the consciousness of individual subjects, or without interest or value to others."[53] However, aside from the positivists and those still influenced by them, the term *objective* has always referred to a statement whose truth exists outside our personal experience or preferences. An external source of values, then, such as those identified from natural law or Biblical revelation, provides an independent and external standard for making objective value judgments or moral claims. This externality, this objective authority, clarifies why it is possible to use reason and argument in connection with moral issues (or with "value-judgments" to use that term). Thus, while some value-judgments may be merely subjective ("Eating chocolate-covered ants is bad"), other value-judgments—those that rely on objective criteria—are indeed objective ("Sacrificing babies to demons is wrong").

As we earlier, values come into play in the description of reality. Thus, Hilary Putnam says that "evaluation and description are interwoven and interdependent."[54] J. P. Smit goes further to add that an evaluative description can have a factual component:

> If value-judgements are descriptive, i.e. there is a matter of fact that determines the truth or falsity of value-judgments, then an assertion of value refers to a fact about a given object. Facts about values are then . . . a perfectly delineable subspecies of facts in general. . . .[55]

To clarify, we might say that there are some facts without values attached, as in "There are two pencils on the desk." There are some values that are not strictly factual, being matters of taste or preference, as in, "I like pens better than pencils." Then there are facts with practical values intermixed, as in our earlier example, "Concrete makes a good material for sidewalks." This is the example that would fit Smit's comment above. The assertion of value ("good material for sidewalks") refers to a fact about the concrete (it is durable, hard, easy to put into place, and so on).

Putnam goes beyond the presence of facts as a means of making value-judgments objective and asserts that the rational quality of such judgments can call upon an external, objective standard. For example, in scientific research, certain processes and methods are used that value the compatibility, correlation, and correspondence of results, and these preferences "presuppose judgments of reasonableness. And judgments of reasonableness simply do not fall into classes to which we are able to assign probabilities."[56] When an experimenter finds an outlier or anomalous piece of data and rejects it as an error, such a practice involves a "judgment of reasonableness." And, Putnam adds, "I have argued that judgments of reasonableness can be objective, and I have argued that they have all of the typical properties of value judgments."[57] Thus, the scientific method itself "presupposes that we take seriously claims that are not themselves scientific, including value claims of all kinds" and yet science is considered the *sine qua non* of objective engagement.[58]

More overtly ethical (or even moral) values can be objective also, if they are transcendent of the individual or the local society. The values of justice, fairness, truth, and respect for the dead, for example, are nearly universal.

Objections to the objectivity of value-judgments

Objection 1: Our judgments often differ.

This is an objection either from application (how to apply the given standard in a given case) or from degree (where do you draw the line). The application argument may be addressed by pointing to any judicial procedure. In spite of postmodernism's attack on the institution of law, it was and is still generally recognized that objective laws are applied judiciously—that is, with an attempt at fairness, objectivity, and even-handedness. Judges strive for objective judgments (at least in theory), with the idea of applying the law fairly, especially in the hard cases where the line must be drawn carefully. Similarly, even though our judgments may differ, we ought to strive to apply the same principles as accurately and objectively as possible. The fact that we may fail, and even fail often, is not an argument against the principle itself nor its inherent objective status. As Leo Strauss says, though we may differ in the exact application, "It would be absurd to deny that there is an objective difference between a blundering general and a strategic genius."[59]

And whether or not we can come to instant agreement about the degree of rightness or wrongness of something, we still understand that there is a distinction between right and wrong and between bad and worse. Putnam writes that "the condemnation of unspeakable acts . . . requires a strong distinction between conduct that is merely 'not nice' and conduct that is unconditionally *wrong*—and that is what any 'norm,' any universal deontological statement, aims to give us."[60]

Objection 2: Not every person or every society meets the standard.

This is no objection to the standard itself. We all have values we strive for but cannot live up to. That is a comment about our own frailty rather than about the worth of the standard. The very nature of objective (external to ourselves) standards is that they represent ideals we can strive for, even if we cannot always (or ever) fully attain them. When we define standards down to our level, we make them subjective and often ignoble.

Moreover, we may even question the rightness of a particular legal or ethical standard our own society upholds. This is not an argument against the objectivity of standards, but an argument in favor of them, for it shows that we can see a higher standard than that of our own society. Leo Strauss:

> But the mere fact that we can raise the question of the worth of the ideal of our society shows that there is something in man that is not altogether in slavery to his society, and therefore that we are able, and hence obliged, to look for a standard with reference to which we can judge of the ideals of our own as well as of any other society.[61]

Seeking a standard by which to judge not only our own actions, not only the actions of our society, but the very values our society upholds is a strong indication of the belief in and objectivity of transcendent values.

Objection 3: Not every culture values the standard.

Universal assent to any proposition is not necessary for that proposition to be true or worthy. There is probably no fact of any kind that is not disputed by someone. (Indeed, that is one way science itself advances.) The very assumptions we make about reality (that other minds really exist, that the external world is real, that cause and effect are genuine phenomena) have all been disputed by philosophers. The fact of dispute about a value is not an argument against it. After all, some cultures clearly have maladaptive characteristics. Standards of social consensus are not necessarily objective, for some societies permit cruel and unjust practices. Once again, see Edgerton's book, *Sick Societies*.

Having mentioned science, we might point out that what is true in science at any given time is subject to both disagreement and change. In his essay, "The Search for Truths," historian Jacques Barzun notes that "even in those disciplines where exactness and agreement appear at their highest, there is a startling mobility of views. Every day the truths of geology, cosmology, astrophysics, biology, and their sister sciences are upset."[62] Yet science is still an objective enterprise, seeking what is true.

Objection 4: Not every culture practices the value in the same way.

This variance is to be expected because different cultures may be at different places in the striving toward a true understanding and application of a given value. Some cultures may be on the way up, shedding unjust practices of the

past, while others may be on the way down, adopting unjust practices (probably in the name of justice) as they grow more corrupt.

Some idealizations may be implemented in more than one way. For example, nearly every culture shares a respect for the dead. In showing this respect, though, some cultures burn their dead, some bury them, some even eat the ashes of their dead. Yet the underlying value is still there.

The Postmodernist Error

Some of those who attempt to destabilize (to use a postmodernist term) the fact/value dichotomy do so from a postmodernist perspective, which unfortunately compounds the problem by arguing in the wrong direction. Instead of arguing that (1) there is a difference between facts and values, though as we have seen there is much entanglement, even some interdependence, and (2) values as well as facts can depend on objective support, the postmodernists believe that (1) there is really no difference between facts and values because (2) both ultimately reflect (or refer to) subjective preferences, rhetorical stances, or ideological commitments. In other words, all "facts" are really only values—values as defined by the positivists as merely subjective expressions of personal taste. Science with its fact claims, postmodernists say, is merely a political and rhetorical game designed to gain, hold, and exert power over others.

Such a stance fails both practically and philosophically. It fails practically because we do view facts and values as different from each other in kind, in spite of the complex relationship they have with each other, and it fails philosophically because it is now a truism that postmodernism, followed to it logical conclusion, ends in nihilism and the absence of all facts and all values (other than personal emotions).[63]

Conclusion

The flight from values—the rebellion against values in order to gain personal moral freedom—was part of the Enlightenment exaltation of empiricism (and hence the influence on positivism, modernism, naturalism, and philosophical materialism—brothers all). The insistence that facts and values have nothing to do with each other is what Putnam calls "the last dogma of empiricism" that has spawned many unworkable philosophies of science:

> Apparently any fantasy—the fantasy of doing science using only deductive logic (Popper), the fantasy of vindicating induction deductively (Reichenbach), the fantasy of reducing science to a simple sampling algorithm (Carnap), the fantasy of selecting theories given a mysteriously available set of "true observation conditionals," or, alternatively, "settling for psychology" (both Quine)—is regarded as preferable to rethinking the whole dogma (the last dogma of empiricism?) that facts are objective and values are subjective and "never the twain shall meet."[64]

Ironically, the Romantic rebellion against authority, the denial of absolutes and the affirmation of relativism—the Nietzschean plunge into nihilism—also caused the postmodernists to reject the objectivity of values. Therefore, though modernists and postmodernists are often seen as philosophical combatants, they have much in common in their view of values and value-judgments.

However, we have seen that both philosophies are incorrect. We have learned instead these truths:

- Facts and values, instead of being utterly separate, are often entangled and inseparable.
- Values, far from being matters of taste, are integral to the process of knowing. In other words, values are essential to the realm of facts. Michael Polanyi notes that "science itself can be pursued and transmitted to succeeding generations only within an elaborate system of traditional beliefs and values, just as traditional beliefs have proved indispensable throughout the life of society."[65]
- Evaluation is often an essential part of description and therefore values are a necessary part of an accurate description of reality.
- Both facts and values can be discussed and handled rationally.
- Value statements (or value-judgments) can be objective.
- Verificationism and falsificationism have both been either abandoned or modified in the arena of fact in order to allow scientific claims that cannot be verified or falsified. So it is unreasonable to insist that verificationism or falsificationism must apply to the arena of values—to the arena of non-empirical but objective facts and values.
- It is incorrect to assign all non-empirical truth claims to the realm of values.

Why are values so despised by the modernists? The voice of science enjoys its position of highest epistemological status based in large part on its claims to disinterested universality, its neutrality and objectivity. It has achieved this status in part by claiming for itself the only source of truth or knowledge—truth as whatever and only that which results from its processes and determinations. (This is the view of scientism, not true science.) All other claims to knowledge from other sources—revelation, natural law, tradition, philosophy—are rejected by positivist-influenced modernists as the idle imaginings of subjective preferences (that is, values).

Therefore, having once demonized values as, in essence, "unintelligible claptrap," now to acknowledge that values play a role in the scientific enterprise and that the fact-value dichotomy is false and impossible to maintain, would be extremely difficult. One cannot embrace as essential that which one has long dismissed as unreal. The problem, of course, is that the claim to be "value neutral" simply denies the use of some values while allowing others to sneak in under the guise of being value free.

The intended discussion stopper (and thought stopper), "That's not a fact; it's just a value-judgment," does not hold up. Value-judgments can be objective and rational. They are subject to rational analysis like empirical facts. They can draw upon empirical and non-empirical facts for their basis. They may often be more important than facts because they give meaning to facts.

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[21] Kendler, p. 491.
[22] Robert Antonio, quoted in Abbott, p. 53.
[23] Abbott, p. 72.
[24] Polanyi, op. cit.
[25] Ibid.
[26] Ibid.
[27] Ibid.
[28] Putnam, p. 30.
[29] Putnam, p. 137.

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[31] Dickson, p. S50.
[32] Ibid., p. S50.
[33] Putnam, p. 123.
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[41] Allen, op. cit.
[42] Ibid.
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[60] Putnam, p. 114.
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[62] Jacques Barzun, "The Search for Truths," in *A Jacques Barzun Reader*, New York: HarperCollins, 2002, p. 17.
[63] For typical comments, see Strauss, pp. 4-6 and Hitchcock, p. 26.
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