

Overcoming Dogma In Epistemology

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Nothing is stronger than habit - OVID (43 B.C.- A.D. 18)

Abstract: Nothing will put academics on a high horse quicker than unacceptable standards of evidential support or interpretative argument. The trouble is that there are different and incompatible standards. Unacceptable standards means, then, unacceptable from a certain epistemological perspective. Since academic disciplines or subdisciplines are often defined by a given epistemological position, people can easily become epistemological dogmatists. Almost anyone associated with academia is aware of the result: misunderstanding and mistrust across disciplines and missed opportunities for creative thinking within disciplines. In this article these misfortunes are tackled with tools forged from philosophy, science, anthropology, and cultural history. The goal is transformative: we can dismount the high horse by learning to understand, tolerate, appreciate, and even use alternative approaches in our own work. Indeed, we should do just that.

There is a tale about a devout tribe of natives isolated by the jungles of Brazil. Torrential rains had flooded their land, devastating their homes, crops, and livestock. Starving and without shelter, they reverently climbed a sacred hill to implore their gods for mercy. During the ceremony, when all eyes were searching for an omen, a relief plane came up from the southern horizon. They watched in awe as the soundless, tiny speck grew to a roaring

giant above their heads. As the plane dropped packages of food and tools, the natives bowed in subservience to their savior.

With solemn faith the tribe erected a crude replica of their new, merciful god and, with the tenacity of unquestioning believers, repeated the ceremony to their totem day after day, month after month—always expecting him to reappear with another cargo.

It would not be fair to assert that method is observed as diligently as the rituals of these natives, nor that an academic's faith in a delivery of knowledge is as strong as the natives' faith in a delivery of cargo. Intellectuals often cling so firmly to method, however, that it is not totally unfair to interpret their attitudes and actions as those of a "cargo cult": a phrase coined by anthropologists to denote a group which believes proper rituals will yield an expected but unrelated result. An understanding of the historical roots of different epistemological traditions will make the tenacity less surprising. Adherents believe that their method best explains developments in knowledge. That is why they usually believe their method to be valid and others to be suspect or even fraudulent.

Encouraging loyalty to one conception of method is the tendency of particular disciplines or schools within disciplines to be defined by one type of reasoning. That is why disciplines are often separated not just by subject matter or problem foci, but also by something perhaps even more fundamental: alternative formulae for creating theories or interpretations along with contrasting standards for legitimating them. Since disciplinarians typically consider their own approach authoritative, a particular standard for how one should create and argue for ideas—that is, a particular epistemology—can become dogma within the discipline as well as a rationale for dismissing ideas from alternative areas. Almost anyone associated with academia is aware of the result: misunderstanding and mistrust across disciplines and missed opportunities for creative thinking within them.

This article begins with an outline of three approaches to knowledge. An understanding of the historical and cultural roots of each approach will go a long way toward explaining why those approaches have tended to become dogma. Fortunately, familiarity with those roots also provides the medicine: dogma in matters methodological can be overcome. It is best overcome by regarding method as a tool. This is the central point of my article. It is spelled out below.

Since methodological choices greatly influence outcomes, using method as a tool rather than an ideology can increase flexibility in pursuing new discoveries and perspectives. More specifically, each approach to reason—

method—is designed for a particular type of intellectual task. That is why each method will have advantages and disadvantages, depending upon the task. It follows that each can be productively used for some tasks but can and should be exchanged for different approaches when tasks change. Choosing not to change makes about as much sense as trying to use a hammer to cut wood instead of exchanging the hammer for a saw. Furthermore, one might choose elements from alternative methods rather than just switch from one method to another. One might even invent new methodological tools. None of these possibilities can become realities, however, if epistemological dogma is not overcome.

The points above may seem obvious at an intuitive level. Indeed, they are obvious—but they are practiced only infrequently, at least from my experience. The question, then, is why are academics prone to committing themselves to just one approach? The role of epistemology in historical and cultural traditions is certainly important, but for academics there is an additional reason that might be even more significant: commitment to one approach can be important in making an academic career. Since disciplines or subdisciplines are often identified by a commitment to one type of method, there can be enormous pressure to accept that method. A correlate theme is admiration for methodological purity—read methodological ideology—to the point where even ordinary or banal results will be admired because a researcher or scholar has shown methodological fidelity. Besides awareness of the historical and cultural forces underpinning epistemological dogma, then, it is also important to understand the alternatives rather than dismiss them, to know and appreciate the advantages they may harbor, and ultimately to use the alternatives creatively in one's own work.

Battling epistemological conformity has been and continues to be transformative in my life. As a college student, I studied primarily science and mathematics. At the same time, I was vitally interested in religious and cultural matters as well as questions regarding ethics, romantic love, and friendship. The trouble is that I could not merge the approaches used in these two important foci of my life. There were not one but two Jim Bells: the Jim Bell who thought like a scientist or a mathematician, and the Jim Bell who switched his way of thinking when engaged in more interpretative, philosophical pursuits. In the former case I was confident in ideas only if they had an established empirical basis, were the product of rigorous and formal analysis, and were widely accepted. I was taught to be suspicious of any ideas which did not satisfy these criteria. That meant that ideas in all the other areas of my thinking—the philosophical areas—no matter how important or significant

to me, were considered suspect because they had no adequate epistemological grounding. I had to live with the dichotomy. Switching back and forth, I became an epistemological schizophrenic. It was quite uncomfortable.

Adding to the discomfort were other uneasy feelings. The ideas in the philosophical areas of my life did not seem just “emotional” or “whimsical” or the product of mere personal taste. Of that I was quite sure, but the constant challenge from the other side was not reassuring. My closest friends were puzzled by my concerns: in the face of circumstances similar to my own, they moved across the epistemological boundaries with ease and were not overly interested in issues concerning rationality. The reaction from my professors was similar. They were invariably brilliant, dedicated, and genuinely concerned about me and their other students, but they did not seem to identify with what was bothering me. In any case, I simply rushed on with my studies and my life. Happily, it was a life full of meaningful challenges and vigorous pursuits. In retrospect, though, I was a powder-keg just waiting to be lit.

The match was struck after graduating. I bumped into essays by Karl Popper. His view that science grows via refutations struck an immediate chord. I did not know how to assess his ideas confidently, but I did know that I learned more when I recognized and owned up to my mistakes in matters of life, love, and religion (as painful and humbling as that could be). Most liberating, though, is that I could seriously entertain the possibility that the epistemological similarities between science and philosophical areas could override the supposed divide between them. I easily gave up thoughts of pursuing graduate studies in chemical engineering or physical chemistry and decided on philosophy, especially the Philosophy of Science. My closest friend (and still one of my closest friends) suggested I might be running away from “reality.” My sister was convinced that I was doing just that. My parents and brother understood, but wondered why I might not pursue my interests as a hobby rather than a career.

Regardless of the skepticism, I was sure I wanted to study philosophy. An ultimate concern, to use Paul Tillich’s ideas, demands the courage to persist in the face of adversity. I had an ultimate concern: to disentangle the two Jim Bells, or at least attempt to do so. The matter could not be put on a sideline bench, waiting to be called in as a substitute in what to me was a critically important game. My friends and family could soon see the transformation as easily as I. Within a few years they were pleased I was pursuing philosophy.

The route is quite direct between the events outlined above and this article thirty-five years later. It runs through all my teaching and research. The route

is to question received views of rationality, learn as much as possible about alternative approaches to knowledge, and pick the methodological tools that work best in a particular problem-situation. Above all, never assume method ideologically, and never try to apply it dogmatically.

Preaching flexibility in method has usually been inconsistent with the views of my academic colleagues. Their reactions have typically fallen into two extremes. To many, flexibility in matters epistemological must be a guise for relativism, or at least a mask for being weak or lacking conviction in asserting one's favored views and dismissing those of others (usually with moralistic overtones, I might add). These are followers of the "law and order" approach to epistemology. At the other extreme are those for whom mere flexibility is not enough. "Epistemology" in their view is totally arbitrary, being nothing more than a political power game to legitimize one's favored views. This is at the heart of numerous "postmodernist" and "hermeneutic" approaches. These approaches typically operate under the assumption that there is no objective truth, or at least no objective truth available to humans. Instead, knowledge is explained socio-politically, usually as a weapon in the hands of some individuals or groups to dominate and intimidate others.

I am convinced that both reactions are wildly misplaced. They are also harmful: they limit one's own thinking and denigrate rather than facilitate the thinking of others. There is a way out of the conundrum created by these false alternatives. I hope you will agree by the end of this article.

Three Approaches to Knowledge

The three most widely recognized approaches to knowledge are the following: (1) the inductive or "empirical" approach; (2) the deductive or "rational" approach; and (3) the relativist or "postmodernist" approach. The first will require more attention than the others. It has had by far the biggest impact in the English-speaking world.

Inductive or Empirical Approach

There are and can be only two ways of searching into and discovering truth. The one flies from the senses and particulars to the most general axioms...this way is now in fashion. The other derives axioms from the senses and particulars, rising by a gradual and unbroken ascent, so that it arrives at the most general axioms last of all. This is the true way, but as yet untested. - Francis Bacon, *Novum Organum* (1620)

Francis Bacon (1561-1626), Lord Chancellor under James I of England, distinguished himself in law, literature, politics, and philosophy. Perhaps his greatest contribution, however, was a new theory of how to seek and advance knowledge.

The centers of learning in England during Bacon's era were universities, the strongholds of Catholic thought. Even though the Anglican Church had already been formed under the tumultuous reign of Henry VIII, both Cambridge and Oxford still thrived as Catholic centers. At a time when it was fashionable to blame the Catholic Church for nearly all that seemed authoritarian, Bacon condemned Catholic theology in general and its Aristotelian roots in particular for stifling the growth of knowledge.

In such works as *Advancement of Learning* (1605) and *Novum Organum* (1620) Bacon argued that natural philosophy—science in contemporary lingo—had progressed little since ancient times. He saw no merit in speculative philosophy, contending that in some respects modern thinkers knew less than the Greeks. In contrast, Bacon admired the revolutionary discoveries of Copernicus and Galileo, marveled at the explorations of Marco Polo and Magellan, and appreciated such inventions as the printing press and explosives.

Contrasting the lack of progress of the speculative thinkers to the remarkable gains of others, Bacon posed a question: What demarcates stagnant thinking from thinking that leads to progress? His answer can be summarized in two parts.

First, stagnation in the Catholic tradition was due to speculation about essences. Aristotelians believed that everything had an essence and that knowledge consisted of correct descriptions of essences. Bacon contended that statements about essences reflect subjective belief and not objective reality. Aristotelian science amounted to idle speculation about the definitions of concepts, in other words, and Aristotelian ideas pertained to the actual world only by accident if at all. Progress in understanding the natural world could not be made by speculation.

Second, progress in understanding the natural world necessitated observation of material facts. The facts, unlike Aristotelian intuitions, would have to be located in the world outside ourselves. In sum, progress can be made by avoiding speculation and observing facts.

There is a role for using the mind in Bacon's schema, even if the role is limited. After the fact-gathering stage of science, there was to be an idea-extracting stage. This is induction: extrapolating general ideas from specific facts.

Bacon's method functions as a criterion for deciding which ideas are scientific and which are not. Since all scientific ideas must be inductions from facts, those ideas must be reducible to facts. Ideas not reducible to facts are not legitimate.

Since Bacon's time, methods that assume ideas should be generated from facts or that scientific ideas should be reducible to facts have been called "inductivist" methods. This is Baconian induction, also called classical induction. It is the epistemological legacy of Francis Bacon.

A crucial element in Bacon's view of knowledge is objective truth. His inductive method was a tool to deliver that cargo, a means of guaranteeing that objective truth would be obtained. He reasoned as follows: if facts in the real world are beyond question, and scientific ideas are induced from facts, it follows that scientific ideas must also be beyond question - that they are objective truth.

A coincidence of circumstances surrounding and including Isaac Newton's physics allowed induction to become the predominate method by the late seventeenth century and sustained it through the nineteenth century. The adoption of induction by the Royal Society of London, the sweeping success of Newton's dynamics and celestial mechanics, and the anti-Catholic movement in England all conspired to establish Baconian method as the deliverer of absolute truth.

Baconian method received a significant endorsement even before publication of Newton's *Mathematical Principles*: the Royal Society of London had adopted induction as the proper and official formula for the advancement of knowledge. The Royal Society, one of the first scientific institutes, had been founded independent of university influence. An institution free of Catholic domination was believed critical to the advancement of knowledge. As a fledgling group organized by such men as Robert Boyle, the Royal Society passed through infancy in the unsettled times of the Civil War, the Protectorate under the Cromwells, and the Restoration under Charles II to become one of the most prestigious scientific institutions in the world.

Sixty-one years after Bacon died, Isaac Newton published his *Mathematical Principles of Natural Philosophy* (1687). It outlined a system of dynamics and celestial mechanics that was corroborated on all fronts. Most believed that Newton's physics was absolute truth. Further, Newton's success was credited to his adherence to inductive method. The promised cargo—objective truth—seemed to have been delivered. What more could be asked of a method?

By the start of the eighteenth century, Isaac Newton had become the most famous and revered member of the Royal Society. Since the Royal Society had adopted the Baconian method as its official formula for advancing knowledge, Newton's work appeared to be a product of induction. Newton had reservations about the viability of Baconian induction, but Newton scholars only uncovered them long after he passed away. Even the Royal Society, basking in the fabulous success and acclaim shining on Newton, did little to discourage the belief that Newton had used induction.

Incidentally, the story of the adoption of induction is typical in the history of science. A method believed to have produced successful research is widely accepted. Whether or not it actually produced the research program is seldom asked. Even valid criticism is little noted until the research program has run its course and is replaced by another research program.

There were skeptics of Baconian induction who managed to publish their views. Two of the most profound critics during the era of Newtonian successes were David Hume (1711-1760) and William Whewell (1794-1866). Hume's attack provided the arguments which led to probabilistic induction. Whewell's historical and psychological analyses were similar to those of Thomas Kuhn over one century later. Below are a few comments about Hume's impact. Whewell's contributions fall beyond the scope of this article.

The upshot of Hume's criticism is that knowledge based on facts could not guarantee absolute truth; at best, induction could yield probable truth. Although Hume's analysis refuted the classical induction of Bacon, induction was modified to incorporate his criticism. The result was probabilistic induction: ideas are to be induced from the facts, but within a range of probability rather than with certainty. Induction survived, then, even if altered. Induction even survived the overthrow of Newtonianism in the early decades of this century by being modified into a radical form called positivism. Positivism is the view that knowledge is based upon data correlations ("the facts") but should make no claims about causality, truth, or any other underlying structures. It should be added that during the past three centuries induction has also become the most widely accepted model for teaching and learning, thus spreading its formula and its standards far beyond the scientific context for which it was initially formulated.

In academia or elsewhere, induction can be identified by its fingerprints. Clearly recognizable are the following:

- Careful empirical research is the basis for all thinking.
- Empirical research should be done prior to thinking, or at least it should be reported as if it were.
- Ideas should not extend beyond research data.
- Speculation beyond the data, if allowed at all, must be presented with profuse apology and disclaimers.
- When they conflict, allegiance is given to data rather than theory.
- Error is to be avoided at all cost.

These fingerprints contain an ethic. Some of the most salient features are the following:

- Speculation is wrong - a sign of sloppy thinking.
- Ideas extending beyond firm research are not credible.
- Theory inconsistent with data must be rejected.
- Error indicates that the inductive ritual has been abused. For that reason,
- Error is a sin and not just a mistake.

Induction is usually dominant in science and other analytic areas. That is not surprising, of course, because it was a tool devised for scientific work. It also becomes generalized as an approach to all knowledge, however, at least in the English-speaking world. Below are a few examples.

Induction often informs the writing of papers, even in fields such as English or the Fine Arts. Many students in humanistic areas, perhaps including the reader, have been told to write papers by taking notes of careful research and then extrapolating the research notes into the paper. Evidence of research—usually associated with footnoting—is vitally important. Students are told to present the research first and avoid any interpretation that might stretch beyond the data. Any hint of speculation should be confined to a short section at or near the end of the article and must be introduced with disclaimers and even requests for indulgence on the part of the reader.

Another example is teaching method, including approaches to grading. Students learn to be cautious in class, on examinations, and in papers. That is the result of inductive influences, in which it is preferable to be trivially correct (“factual”) than it is to be imaginatively bold (“speculative”). The penalties for error are severe. Students know that innocuous but acceptable statements will not hurt them, but that even minor mistakes will surely count against them. Such facets of teaching and grading extend far beyond the confines of science into nearly every area of schooling, including academia.

The inductive approach is not compatible with creative work. Can one imagine a poet, for example, attempting to ply his or her trade with inductive tools? The upshot is two disparate communities: the analytic (inductive) and the humanistic (interpretative). These are the “two cultures” of C.P. Snow, who so elegantly characterized both (Snow, 1959). As Snow pointed out, the two cultures are almost entirely disjunct; those in one are separated from those in the other by a gulf that is bridged only with difficulty if at all.

In Britain, or at least in England, the humanistic culture is associated with Oxbridge (Oxford and Cambridge Universities). The humanistic culture carries status within the more aristocratic groups at the apex of influence in both the public and private spheres. In America and I believe in most of the rest of the English-speaking world, it is clear that another culture dominates: the empirical one. It is populated with people who are confident they have the proper approach. The others are “living on cloud nine,” and are continually on the defensive and not usually taken seriously. This may even be the case in England and Britain at this point, or at least it is much more so than when Snow made his observations after World War II.

While C.P. Snow described the two cultures, and how they functioned, he gave no explanation of how or why they came into being. I believe they arose through a historical process, the central dynamic of which was the spread of induction. The inductive culture was a direct result. The humanistic culture developed as an epiphenomenon, a catch-all to accommodate knowledge inconceivable within the inductive framework. That the humanistic tradition is more associated with British or English upper classes may also be related to the fact induction has an ambiguous pedigree. Induction commanded enormous status when it was believed it could deliver the absolute truth: that it could yield “high science,” to use terminology of the time. But induction became a “low science” in the eyes of many when it was recognized that it could not yield certainty. That happened in the middle of the eighteenth century, with Hume’s criticisms of Baconian induction. In the aftermath induction merged with probability theory, that epitome of “low science” being developed and used for a variety of reasons in France, Holland, and Prussia. These matters are discussed in more detail in a much more extensive historical reconstruction of inductive theory (Bell, 1994).

One point has become loud and clear, or at least I hope it has: epistemologies become embedded in cultures. The tentacles go deep into our thinking and attitudes, certainly far beyond the more intellectual arenas from which they spring. This is not only the case in the English-speaking world.

Deductive or Rational Approach

At about the same time Bacon was promulgating his inductive ideas in England, Rene Descartes was proposing a very different path to the objective truth in France. In *Meditations on First Philosophy* (1641), Descartes argued that our senses could deceive us. Rather than use them, he argued that one should first identify truth(s) that were beyond all doubt, and then deduce other ideas from those fundamental truth(s). Since the deductions were to be valid, the latter were also guaranteed true beyond all doubt. In other words, isolate some absolute truth(s), and any other valid deductions would also be absolute truth(s). Cartesian geometry is named after Descartes. The approach of this brilliant mathematician to knowledge in general certainly reflects his approach in mathematics.

A little reflection will reveal how different the Cartesian approach is from the Baconian one. According to Cartesian method, truth is to be found by thinking rather than observing. As a matter-of-fact, if there is discrepancy between empirical observations and “clear and distinct ideas” - ideas beyond all doubt - confidence should be given to the ideas. In Bacon’s world one should rely upon external sources (facts) and be aware of the dangers of thinking beyond the facts. In Descartes’ world one should rely on thinking and be suspicious of external factors. Inductivists legitimate ideas by tracing them to the facts; deductivists legitimate ideas by showing them to be consistent with other reliable ideas. It is not surprising, then, that the deductive approach is compatible with the interpretative reconstructions characteristic of work in the humanities. More than that, it encourages and even provides epistemological justification for ideas that are merely speculative or even arbitrary from an inductive perspective.

Even though the deductive method is clearly different from inductive method, the Cartesian approach does have much in common with the Baconian one. Perhaps most importantly, both have the same goal: to uncover the objective truth. This confidence, or perhaps misplaced confidence, has also inevitably boomeranged for both. As we saw in the English-speaking world, the upshot was a fall back to probabilistic induction, in which the goal became probable truth rather than certainty. In the French and Mediterranean worlds, the hope for certainty could not be maintained; inconsistent claims to truth could be justified by the same Cartesian criteria. The upshot has been a rebound to another extreme: the belief that there may be no objective truth, or at least that humans are not capable of knowing it. Relativism is a hallmark of postmodernist views of knowledge.

Also like the Baconian view, Cartesian ideas have become thoroughly embedded in the French-speaking world. While less clearly so, it has also become a significant cultural component in the larger Mediterranean Basin, particularly in Hispanic and Italian cultures. For these reasons the Cartesian approach to knowledge (like the Baconian approach) has spread far beyond the scientific context for which it was developed and far beyond the borders of the country which gave it birth.

Fingerprints that identify a deductive approach are the following:

- Careful thought will lead to the truth.
- Ideas consistent with other true ideas are also true.
- “Data” are suspect and can mislead our thinking.
- The world will conform to correct ideas.

As with the inductive approach, these fingerprints also contain an ethic:

- One should think abstractly and universally.
- Inconsistency is a sin.
- Data is whimsical and not reliable.
- One should have confidence in one’s own ideas.

Rene Descartes was a physicist as well as a mathematician and epistemologist. An historical example of the influence of Cartesian thinking comes from the early debates between supporters of Newtonian physics on the one hand and Cartesian physics on the other. These debates broke out shortly after publication of Newton’s *Mathematical Principles* in 1687. This example illustrates the inductive domination in the Newtonian camp, while it puts a spot light on the pervasive deductive influences in the Cartesian camp.

Newtonians believed there was a measurable force between masses, and gravitational force, and considered that force a fact. Whether the force acted through empty space or required an ether for its propagation was debated amongst the Newtonians, but the fact of a gravitational force was not part of the debate. Cartesians, on the other hand, deduced that there could be no gravitational force from Descartes’ theory that all motion is the result of pushes. The Cartesians did not debate whether there was an ether or not, because they had deduced that there had to be an ether: it was the swirling medium that pushed the heavenly bodies around.

A number of lessons can be drawn from the above example, lessons that are directly relevant to this article. First, what is rationally salient for one epistemology can invite suspicion in another epistemology. The “fact” of gravitation, which merited scientific status for the Newtonians, was rendered suspect by the deductions of the Cartesians. The deductive necessity of an ether for the Cartesians was not convincing to the Newtonians because there

was no empirical evidence of the ether. Similar dynamics of misunderstanding and disagreement are inevitably at play when debates and discussions bounce back and forth across inductive and deductive academic camps. Second, there is a limit—a quite narrow limit—to the insight that can be gained across epistemological boundaries when people uncritically insist upon their own preconceived view of rationality. The staunch Newtonians and Cartesians could not learn much from each other for that very reason. Third and finally, there is a way to much greater understanding and insight across epistemological boundaries. This theme will be addressed in more detail later in the article.

Another example of the gulf between epistemological cultures was told me by Dr. Roger Grange, Professor Emeritus of Anthropology at the University of South Florida. The story was about two graduate students from France who were studying applied anthropology at the University of South Florida.

After having completed the course requirements and comprehensive examinations, these two students were ready to begin their theses. Professor Grange became their director. What they did was write what they considered advanced drafts of their theses. Professor Grange found their ideas intriguing, and since each thesis had practical (applied) implications, he told them that it was now time to do the research to assess their ideas. It was at this point that the Cartesian heritage of these two students came into conflict with the inductive orientation of Professor Grange. The first comments, according to Grange, were the following: “Professor Grange, why do you and the others keep bothering us with this research? We have thought carefully about what we are saying, so why is it necessary to do more?” I have never encountered a more direct—or quaint—expression of Cartesian attitudes.

Incidentally, these students did agree to put their ideas to the test via research. Professor Grange is an understanding person, but he was persistent. Not surprisingly, at least for a Baconian, their ideas and arguments were modified in light of the research. At the completion of their graduate degrees, one of the students shared with Professor Grange that “research can help clarify one’s thoughts, at least a bit.” Even with that admission, thinking always takes priority over empirical investigation for a Cartesian. Research may have helped the students’ thinking, but from their perspective, research was not and could not have been the source of their thoughts.

The two cultures Snow noted in the English-speaking world do not seem to have correlates in the Cartesian world. This makes sense. A chemist does science (from the Cartesian perspective) much like a poet creates images:

both use their minds to generate ideas, both expect the world to correspond to their thinking, and both will have confidence in the legitimacy of their ideas. Certainly a chemist would expect to use research to “help clarify his or her thoughts,” and the poet may do no such thing. The point here, though, is that each would typically believe he or she is using the same method, or at least is using the principal features of the same method. As a consequence, those who do creative or interpretative work need not feel epistemologically alienated from the mainstream as they are in the inductive world. From my own anecdotal experience living in France, there is indeed a sense of unity, epistemologically speaking. People have wildly different perspectives on nearly everything, and most give them lively expression. Nevertheless, it struck me that people did believe they were employing the same approach to arrive at their views.

Relativistic or Postmodernist Approach

Traditional epistemologies provide quite different means for uncovering objective truth. Nevertheless, they assume there is an objective truth and a rational method for obtaining it. The third approach, on the other hand, is born from a reaction—a radically skeptical reaction—against all traditional epistemologies. Relativistic approaches are based on the view that there is no objective truth, or at least no objective truth accessible to humans. It follows immediately that there is no rational method for obtaining the chimeras of objectivity. Claims to truth and the legitimation of those claims are relative, in other words. Instead, the pursuit of knowledge can be “deconstructed” to expose it as a hoax. That pursuit really functions in other ways: to gain influence, power, or domination. In other words, knowledge and the pursuit of knowledge is reducible to socio-political explanations. In most contemporary versions postmodernist epistemology is merged with a central element of Marxist theory: one class or group uses knowledge and its supposed methodology to dominate and even suppress another class or group. Economic classes, racial or ethnic groups, and gender identities are typical examples of the groups that dominate or are marginalized.

Relativism is seldom admitted by people in the third camp. They usually claim to embrace objectivity, but define it differently—“social” or “political” objectivity, for example. Regardless of such claims and verbiage to the contrary, though, relativism is central to postmodernist thought. The large and seemingly ever-expanding versions of “hermeneutic” and “deconstructionist” approaches are similar in this way.

Historical outbreaks of relativist epistemology reveal a close proximity to extreme rational approaches: the inevitable disappointment in or disillusionment with the most extreme hopes of the rational approaches boomerangs to the former. In presocratic thought, the relativism espoused by Heraclitus (“you cannot step into the same river twice”) was an explicit rejoinder to the counter-intuitive claims of the Parmenidean rationalists (“all motion is an illusion”). A central argument of Parmenides—if something were to change, it would change from something else, but that would mean it is the same thing—was outlandishly at odds with common sense, in Heraclitus’ view. Hegelian relativism, despite being dressed out in rationalist terminology, can be interpreted as a reaction to the impossibly rational themes in Kant’s philosophy. Closer to home, postmodernism can be viewed as a reaction to over-wrought faith that science can deliver complete, objective truth.

In short, extreme rationalism and relativism are co-dependents, to use the lingo of contemporary psychology. One of the unintended dangers of insisting upon implausible or unworkable standards of rationality is to invite an irrationalist reaction. For those not pleased with the postmodernist fashion in academia, remember that a finger of blame turns back on those who want to impose unworkable standards of rationality.

Below are some of the more recognizable fingerprints of relativistic epistemology:

- There is no objective truth, or at least no objective truth accessible to humans.
- Ideas cannot be declared as true, or false.
- Universal claims—laws, principles—are without foundation.
- Knowledge and the claims to rationality supporting it are just weapons used in political or social power games.

Like the other epistemologies, relativism also has its ethic:

- Claims to objectivity should be exposed as a hoax.
- It is permissible to endorse whatever is perceived as advantageous to one’s favored group(s).
- Everyone should accept that they are trapped in their own parochial viewpoint.
- It is ethnocentric to think that we can understand people in groups different from our own.

At this point I would like to mention a disturbing function of postmodernist epistemology: It provides intellectual justification for a fractured view of society, fractured into disjunct sets of people who cannot meaningfully associate with people outside their “group.” This is precisely the view with which

Drew Bergerson grapples in his paper; the “postmodern world” that is “politically melancholic,” “illiberal,” and creates “xenophobic groups.” In American society, those groups are typically based in race/ethnicity, gender, and sexual orientation. In the Balkans they are ethnic and religious.

According to the postmodernist view, people are identified by membership in groups (not as individuals), and people from different “groups” cannot really understand each other (there are no universals). This supports the vision that justice can only balance isolated groups against other groups. Advocates of “critical legal theory” would have us believe that any other notion of objective justice is a charade (for example, see Hutchinson, 1989, or Griffen and Moffat, 1997). In everything from legal proceedings to hiring and promotion, then, group classification must always be the major consideration.

I find group justice far less than inspiring. Intended or not, it feeds resentment amongst people, isolation, suspicion, group hostility, and antagonism. Perhaps worst of all, it supports a victimization mentality that encourages people to deny responsibility. If one adopts the postmodern epistemology, such a depressing view of society and fellow human beings is unavoidable because it is based on “knowledge.” Fractured though it may be, that knowledge is considered as solid as or even superior to the knowledge of physics or chemistry. This position would be almost comical if it were not so influential. That influence is the reason postmodernist thought is so repulsive to some, like myself. I suspect others are enthralled with postmodernism because they find its socio-political program attractive.

Advantages and Disadvantages of the Three Approaches

The key to overcoming dogma in epistemology is to understand the advantages and disadvantages of each approach. These are outlined below. The principal advantages of the empirical approach are as follows:

- (1) Theoretical conjecture requires serious attempts to find corroborating data. If the latter is found, the theory becomes more credible.
- (2) When refuting or even anomalous data are found, those data should be used to question theory.
- (3) Recognizing that data are authoritative can create an attitude of humility, and a willingness to recognize that one’s favored theories may be mistaken. This encourages learning from those with different views and compromising in the face of disagreement.

(4) Where data or facts should be decisive, the empirical approach is normally best. That is why it is recommended in areas where factual implications are at least potentially clear, such as the physical and biological sciences, some aspects of the social sciences, and other analytic endeavors.

Disadvantages of the empirical approach tend to be obverse sides of its advantages. Included are the following:

(1) The search for corroborating data can unintentionally turn into a search for mere confirming data—data suggested by a theory but which does not put the theory at risk.

(2) When refuting or anomalous data are revealed, it can be tempting to explain them away with ad hoc hypotheses. This is especially the case when other data corroborate the theory.

(3) Recognizing that data are authoritative can stifle creative theorizing, even in the sciences. Too much deference to the data can also encourage giving up on a theory too easily or too soon in the face of anomaly.

(4) The empirical approach is only minimally useful in interpretative areas—areas in which there are differing views with arguments for and against, but without decisive factual evidence one way or the other. The empirical approach is useless—even attitudinally detrimental—in areas that require bold imagination and confidence in one's thinking, such as in poetry, creative writing, and other artistic endeavors.

(5) Because the empirical approach is best for some endeavors but useless or even detrimental for others, it encourages creation of two bifurcated and largely alien intellectual cultures: a scientific-analytic culture and a creative-humanistic culture.

The deductive approach is markedly different from the empirical approach. Principal advantages of the deductive approach are as follows:

(1) Priority is given to careful thinking. This leads to a number of advantageous corollaries:

(2) Emphasis on consistent relationships between ideas encourages deductivists to see and consider a broad conceptual landscape.

(3) Encouragement of imaginative conjectures without worrying about a factual foundation. This can be particularly useful in interpretative work, as well as in mathematics, logic, and the theoretical side of science.

(4) Confidence is encouraged in one's thinking, with its related boldness and tenacity in the face of criticism.

(5) One rather than two intellectual cultures is encouraged. A mathematician or scientist, for example, would use the same epistemological principles as a poet or philosopher: think clearly, and deduce ideas consistent with principal ideas. Empirical evaluation is just one way (amongst others) of clarifying one's thoughts.

As with the empirical approach, most disadvantages of the deductive approach are contraries of its advantages:

(1) The priority given to thinking implies that the world corresponds to carefully reasoned ideas. This creates a number of problems:

(2) Even consistent ideas placed within a broad conceptual landscape can be at odds with empirical data.

(3) Little or no motivation exists to assess ideas against the facts.

(4) Confidence in one's thinking can lead to overconfidence and dogmatism. These attitudes do not promote learning from others nor compromise in the face of disagreement.

(5) Absence of two intellectual cultures can blur the important difference between theorizing, which should be subject to empirical testing, and interpretations, which are not amenable or only distantly amenable to empirical assessment.

Although this article has been quite critical of relativistic approaches, they do provide some valuable advantages:

(1) Skeptical of the rational component of knowledge, relativistic perspectives have shed light on the sociological dynamics in academic and intellectual communities. Sociological factors are almost entirely ignored in the other two camps. The "weak program" in the sociology of knowledge assumes that sociological factors influence and even contribute to the development of knowledge but do not exclude or necessarily dominate the role of reason (for more see Barnes, 1974, and Bloor, 1991).

(2) Postmodernist views have exposed cases where method has indeed been used as a political tool to discredit and exclude rather than as a tool for the pursuit of truth.

The disadvantages of relativistic approaches are the result of taking its useful insights to an extreme. Specifically, they are as follows:

(1) Claims to truth are considered a charade. The result is to explain the growth of knowledge entirely by sociological dynam-

ics. This is the hallmark of the “strong program” in the sociology of knowledge (see Barnes, 1974, and Bloor, 1991).

(2) Careful and judicious use of reason is dismissed along with the narrow, “scientific” attempts. This is like throwing out the baby with the bath water.

(3) Exposing misuse and even outright abuse of “reason” is generalized to the view that all claims to reason are illegitimate. In my view this is as ridiculous as claiming that miscarriages of justice imply that all judicial results are miscarriages.

Overcoming Dogma in Epistemology

The groundwork is now complete. In this final section I address the core purpose of this paper: how to overcome dogma in epistemology. One payoff is greater understanding of ideas generated by approaches different from one’s own. Another is to appreciate alternative ideas and the people who espouse them: to take them seriously rather than dismissing them. The third may be the most challenging, but may be the most worthwhile: to use tools from alternative approaches when they might be more fruitful than one’s received tools. Each of these recommendations help overcome epistemological dogma. Below are a number of specific guidelines that should be of assistance.

First, recognize the advantages and disadvantages of the competing approaches. In practice, this usually means becoming clearly aware of the disadvantages of one’s favored approach and acutely aware of the advantages of other approaches.

Second, remember that disciplines, or subcultures within disciplines, are often defined by a given approach. As a matter-of-experience, the received methodology can and frequently does provide the principal litmus test for work to be considered credible. Unfortunately, the effect is to turn method into ideology rather than exploiting it as a flexible tool.

Third, be explicit about one’s methodological approach, especially when it might be at variance with what others may expect. Insist that approaches to knowledge are not ends in themselves, but means to an end: to help create greater understanding and insight. It is best to grapple directly with these matters rather than treat them tangentially or ignore them altogether.

Fourth, consciously pick elements of alternative approaches when they are relevant for one’s work. For example, an experimental psychologist who recognizes that his or her research will require considerably more interpreta-

tion than usually accepted should take that leap rather than avoid it. Do the choosing in good conscience, too, rather than with overtones of regret or apology. In doing so, the horizons of one's own work might expand with considerable excitement. You might also perk interest in other intellectual or disciplinary cultures from which methodological tools have been borrowed.

Fifth and finally, it takes courage to be flexible with approaches to knowledge. Happily, courage is usually contagious: It tends to bring out the same in others, often in ways a person may never know. In terms of our common theme, one person's transformative experience encourages the same in others.

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