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FALLIBILISM, OBJECTIVITY, AND THE NEW CYNICISM

The philosophy which is now in vogue … cherishes certain tenets … which tend to a deliberate and factitious despair, which … cuts the sinews and spurs of industry. … And all for … the miserable vainglory of having it believed that whatever has not yet been discovered or invented will not be discovered or invented hereafter.

[But] howsoever these things are … in men's depraved judgements and affections, yet … the inquiry of truth, which is the love-making or wooing of it, the knowledge of truth, which is the presence of it, and the belief of truth, which is the enjoying of it, is the sovereign good of human nature. – Francis Bacon[1]

Nobody seriously doubts the possibility, or the usefulness, of finding things out; that is something we all take for granted when we inquire about our plane schedule, the state of our bank account, the best treatment for our child's illness, and so forth – a presupposition of the most ordinary, everyday looking into things as well as of the most sophisticated scientific research, not to mention of the legal system. Of course, nobody seriously doubts, either, that sometimes, instead of really looking into things, people fake, fudge, and obfuscate to avoid discovering unpalatable truths or having to give up comfortable tenets; that is something we all take for granted when we ask who paid for a reassuring (or a damning) study, who stands to gain from an Official Inquiry, which party an expert witness works for, and so on.

Of late, however, radical feminists, multiculturalists, sociologists and rhetoricians of science, and (I am embarrassed to say) a good many philosophers as well – though they look into questions about their plane schedules, bank accounts, medical treatments, etc., just like everyone else – profess to have seen through what the rest of us take for granted. Naturally, they disagree among themselves about the finer points; but all these New Cynics are anxious to tell us that supposedly high-minded talk of finding out how things really are, respect for evidence, known fact, etc., is nothing but a rhetorical smoke-screen disguising the covert operations of power and politics. The rest of us, who feel no need for precautionary scare quotes when we refer to truth, evidence, etc., are "old-fashioned prigs" who don't have a clear view of the matter.[2] And as if this weren't bad enough, the radical feminists and multiculturalists among the New Cynics suggest that our readiness to speak of truth or evidence reveals complicity with sexism and racism, and the radical sociologists and rhetoricians of science that our admiration for the achievements of the natural sciences reveals reactionary conformism with the military-industrial complex.

This double accusation of epistemological naïveté and political regressiveness is disturbing, to say the least. But by now such ideas are almost an orthodoxy, taken by many academics as badges of intellectual sophistication and moral rectitude – and not only in departments of literature: a few years ago my then-Dean, a physicist by training, vehemently objected to the suggestion that the mission statement for the College of Arts and Sciences include the phrase, "concern for truth"; the word "truth" makes people nervous, he warned, and they're bound to ask, "whose 'truth'?" Seconding the Dean's objection, a sociologist colleague assured us that, while of course his research advanced knowledge, he wasn't concerned with "truth"; and in due course a new Strategic Plan for the college specified curricular innovations required by the "fundamental questions" that have been raised "about the presumed universality and objectivity of 'truth'."

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At the heart of the New Cynicism lies a profound intolerance of uncertainty and a deep unwillingness to accept that the less than perfect is a lot better than nothing at all. Again and again true, fallibilist premises are transmuted into false, cynical conclusions: what is accepted as known fact is often enough no such thing, *therefore* the concept of known fact is ideological humbug; one's judgment of the worth of evidence depends on one's background beliefs, therefore there are no objective standards of evidential quality; science isn't sacred, therefore it must be a kind of confidence trick; etc., etc.. Yes, much of what is accepted as known truth is really only purported knowledge, purported truth; but it obviously doesn't follow that there's no difference between what is presented as known and what really is known, or between what is accepted as true and what really is true. Nor does it follow from the fact that people disagree about what is true that truth is relative to perspective.

Diagnosing the fallacies and ambiguities of the New Cynicism is necessary work; but the best defense against its extravagances is a realistic understanding of how difficult and demanding inquiry can be, and how complex, confusing, and ambiguous evidence often is. For only such an understanding can make it clear that there's no need to give up on the objectivity of truth, evidence, etc., provided you're fallibilist enough; and only such an understanding will enable us to appreciate the place of the sciences within inquiry more generally, to trace the roots of relativism, and to combat the claims of the New Cynicism to represent the interests of the oppressed and marginalized.

Despite the remarkable influence of the New Cynicism in parts of the academy, and despite the fact that the confusions at its core are epistemological, mainstream neo-analytic epistemologists have seemed, by and large, surprisingly reluctant to get involved. Perhaps they feel it beneath their dignity to debate with those radical sociologists of science, the "goddamn English professors,"[3] etc. – or even with philosophical colleagues whom they suspect of "continental" or "pragmatist" leanings; or maybe they are too preoccupied with internecine disputes about deontological vs. virtue approaches, internalism vs. externalism, subject-oriented vs. quasi-logical vs. social accounts, etc.. All the same, though dealing with the New Cynics is a tough job, someone's got to do it.

The first step is to get some sense of the complexities of evidence and inquiry, and of the pervasiveness of our susceptibility to ignorance and error.

Inquiry is an attempt to discover the truth of some question or questions (though sometimes, to be sure, what we discover is that the question we started with was misconceived or ill-formulated). Inquiry differs not only from clog-dancing, cookery, architecture, or archery, but also from advocacy or debate, where the goal is not to discover the truth of some question, but to persuade an audience of the truth of some proposition determined in advance. When you seek to persuade, you marshall evidence for the proposition concerned, and present that evidence in the most favorable light possible. When you inquire, you make an informed conjecture about the possible explanation of some puzzling event or phenomenon, work out the consequences of its being true, check how well those consequences stand up to evidence – the evidence you have, and any further evidence you can lay hands on – and then use your judgment whether to accept the conjecture, modify it, or give it up and try again.

Inquiry can be a difficult and demanding business, and we very often go wrong. Sometimes we can't come up with a plausible conjecture; sometimes we can't work out the consequences of our conjecture, or how well our evidence supports it; sometimes we don't know that we need more evidence, or don't know what additional evidence we need; sometimes we can't get the new evidence we know we need. And sometimes the obstacle is a failure of will; we don't really want to know the answer badly enough to go to all the trouble of finding out, or we really *don't* want to know,

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and go to a lot of trouble *not* to find out. I think of the detective who doesn't really want to know who committed the crime, just to collect enough evidence to get a conviction, of the academic who cares less about discovering the causes of racial disharmony than about getting a large grant to investigate the matter, and of everyone's disinclination – including my own – to rush to the library to look up the article that might require us to undertake months of revision.

Other things being equal, inquiry goes better when the will and the intellect, instead of pulling in different directions, work together; that's why intellectual integrity is valuable. But when the environment is inhospitable – when honest inquiry is thwarted or suppressed for religious or political reasons, for example, or discouraged by pressure to get results too fast, or other incentives to fudge or fake – people may not even seriously try to find things out. And even with the best will in the world, even when we really want to find out, we often fail. Our senses, our imaginations, and our intellects are limited; we can't always see, or guess, or reason, well enough. With ingenuity, we can devise ways of overcoming our natural limitations, from cupping our ears to hear better, through tying knots in rope or cutting notches in sticks to keep count, to highly sophisticated electron microscopes and techniques of computer modelling; but of course our ingenuity is limited too.

Moreover, evidence is usually complex and ramifying, and is often confusing, ambiguous, or misleading. Seeing on TV and reading in the newspaper that Saddam Hussein has been captured, I not only rely on my sight and hearing and my knowledge of English, but also take into account what I (think I) know about how these newspapers and TV programs are produced, what kinds of mistake and bias might affect the reports, etc. – and wonder whether DNA testing has distinguished this Saddam from his doubles, what grounds the intelligence community would have for believing that they have the real Saddam's DNA with which to compare the captive's, etc., etc.. Or think of that 4-billion-year-old meteorite discovered in Antarctica, thought to have come from Mars about 11,000 years ago, containing what might possibly be fossilized bacteria droppings. Some space scientists think this is evidence that there was once bacterial life on Mars; others point out that the bacterial traces might have been picked while the meteorite was in Antarctica; and others again suggest that what look like fossilized bacteria droppings might be merely artifacts of the instrumentation.[4] How do they know that giving off these gases when heated indicates that the meteorite comes from Mars? that the meteorite is about four billion years old? that this is what fossilized bacteria droppings look like?

Like crossword entries, reasons ramify in all directions; and, rather as clues and already-completed entries work together in a crossword, exper-iential evidence – someone's seeing, hearing, etc., this and that – works together with his reasons. How reasonable a crossword entry is depends on how well it is supported by its clue and any already-completed intersecting entries; how reasonable those other entries are, independent of the entry in question; and how much of the crossword has been completed. How justified a belief is, similarly, depends on how well it is supported by experiential evidence and by reasons, i.e., background beliefs; how justified those background beliefs are, independent of the belief in question; and how much of all the relevant evidence the subject's evidence includes.[5]

Everyone who looks into how some part or aspect of the world is – the physicist and the detective, the historian and the entomologist, the quantum chemist and the investigative journalist, the literary scholar and the X-ray crystallographer – works on part of a part of the same vast crossword. They all investigate the same one, real world, the world to which experiential evidence anchors their inquiries. Sometimes their entries intersect: a medical researcher relies on an amateur historian's family tree in his search for the defective gene responsible for a rare hereditary form of pancreatitis; ancient historians use a technique devised for the detection of breast cancer to decipher traces on the lead "postcards" on which Roman soldiers wrote home; General

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Motors borrows a computer program devised by the Centers for Disease Control to monitor "epidemics" of defects in their cars and trucks.[6]

So successful have the natural sciences been that the words "science" and "scientific" are often used honorifically; they have become all-purpose terms of epistemic praise, vaguely conveying "strong, precise, indisputable, reliable, good." TV actors in white coats urge us to get our clothes even cleaner with new, "scientific," Wizzo; university catalogues offer "Management Science," "Library Science," "Military Science," even "Mortuary Science"; Christian fundamentalists demand equal time for "creation science." In philosophy of science, this honorific usage has encouraged a preoccupation with "the problem of demarcation," and a presumption that what distinguishes real science from pretenders is its reliance on a uniquely rational scientific method. In the law of evidence, it has informed U.S. courts' search for a test to discriminate genuinely scientific, and hence reliable, expert testimony, arrived at by that scientific method, from pseudo-scientific mumbo-jumbo.[7] Unfortunately, however, this honorific usage disguises the otherwise obvious fact that not all scientists, and not only scientists, are good, honest, thorough, imaginative inquirers: some scientific inquirers are lazy, some incompetent, some unlucky, a few crooked; and plenty of historians, journalists, detectives, etc., are good inquirers.

Science is neither sacred nor a confidence trick. As my examples already indicated, scientific inquiry isn't essentially different from other kinds, nor is the evidence for scientific claims essentially different from the evidence for other kinds of empirical claim. Standards of stronger and weaker evidence and of better and worse conducted inquiry are not internal to the sciences; nor is there a procedure or mode of inference, a "scientific method," used by all and only scientists, and guaranteed to produce true, or probably true, or more nearly true, or more empirically adequate, etc., results. As Thomas Huxley put it, "[t]he man of science simply uses with scrupulous exactness the methods which we all, habitually and at every minute, use carelessly"[8] ; in Einstein's words, "[t]he whole of science is nothing more than a refinement of our everyday thinking."[9] In short, scientific evidence and scientific inquiry are like evidence and inquiry generally – only more so.

The natural sciences have been remarkably successful, as human cognitive enterprises go; not because they use a uniquely rational method of inquiry unavailable to other inquirers, but in part because they are "more so": because of the many and various "helps," constantly evolving, and often local to this or that area of science, that they have gradually devised to overcome natural human limitations. They represent, in a wonderfully resonant phrase of Gustav Bergmann's, the Long Arm of Common Sense.[10] Models and metaphors stretch scientists' imaginative powers; instruments of observation extend their sensory reach; techniques of mathematical and statistical modelling enable complex reasoning; and the cooperative and competitive engagement of many people in a great mesh of sub-communities within and across generations not only permits division of labor and pooling of evidence but also – though very fallibly and imperfectly, to be sure – encourages most scientists, most of the time, to remain reasonably honest. Yes, like other inquirers, scientists sometimes succumb to self-deception or even engage in outright fraud, and sometimes they get away with it; but others will try to build on scientific work of any real significance, so sooner or later significant falsifications are likely to come out.

Progress in the sciences is ragged and uneven, and each step, like each step in completing a crossword, is fallible and revisable. But each genuine advance potentially enables others, as a robust crossword entry does; "nothing succeeds like success" is the phrase that comes to mind: one theoretical development builds on another, a fruitful metaphor suggests a new path to follow, a new instrument opens the possibility of more sophisticated devices. Darwin used to measure

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specimens longer than his ruler against his handkerchief, and Watson and Crick checked their model of DNA with just a ruler and a plumb line; but Max Perutz was able to use a complex computer program to check his structure for the far more complicated hemoglo-bin molecule. Or think of how, starting with the (relatively) simple X-ray, now we have the PET-scan, the CAT-scan, MRI.

Just about every inquirer, in the most mundane of everyday inquiries, depends on others; otherwise, each would have to start on his part of the crossword alone and from scratch. Natural-scientific inquiry is no exception; once again, it is more so – the work, cooperative and competitive, of a vast intergenerational mesh of inquirers, a deeply and unavoidably social enterprise. From an epistemological point of view, evidence-sharing is quite a subtle and tricky matter. We speak of the degree of warrant of a scientific claim at a time; but this impersonal locution is really a kind of shorthand, covertly alluding to the evidence possessed by some person or group of people at the time in question. To unpack it, we need to understand the degree of warrant of a claim for a person at a time (which depends on the quality of the evidence he possesses at that time), and the degree of warrant of a claim for a group of people at a time (which depends on the quality of their shared evidence, adjusted to accommodate how good each member's grounds are for believing the others to be reliable). All that said, the point most to the present purpose is that evidence-sharing extends scientists' reach, and so can raise the degree of comprehensiveness of the evidence for scientific claims.

Again, specialization and division of scientific labor can increase efficiency – rather as if you, with your quick eye for anagrams, and I, with my wide repertoire of Shakespearean quotations, worked together on a crossword. When the evidence is insufficient to answer a question one way or the other, more conservative members of the relevant scientific community may try to modify and adapt familiar approaches, while more radical scientists float new ideas and theories (a more than adequate substitute for the "rules of acceptance and rejection" after which philosophers of science used to hanker); one person's bias in favor of this approach may be the counterweight to another's preference for that.

But there are no grounds for complacency. Both the internal organization of science and its external environment can affect how well scientific work gets done – or how poorly. As ever more elaborate equipment is needed to make ever more recherché observations, scientific work tends to get more expensive; and when only governments and large industrial concerns can afford to support science, when some scientists are tempted to go prematurely to the press, when some find it possible to make fortunes from their work, and when the expert-witness business booms, there is no guarantee that mechanisms which have thus far proven more or less adequate to sustain intellectual integrity will continue to do so.[11]

Now it is possible to identify (some of) the fatal moves that lead from true, fallibilist premises to false, cynical conclusions – false, cynical conclusions about truth and evidence generally, and about the sciences specifically.

As Aristotle said, "to say of what is that it is, or of what is not that it is not, is true"; and while generalizing his insight continues to prove more challenging than you might have supposed, it is surely right so far as it goes. To be sure, in inquiry of every kind, the scientific included, what we take to be legitimate questions sometimes turn out to be flawed. A text turns out to be ambiguous in ways of which the author is unaware, and so has no uniquely correct interpretation; questions about the properties of phlogiston turn out to rest on a false presupposition, and so have no true answer; and so on. But none of this has any tendency to undermine the objectivity of truth. Sometimes, speaking carelessly, we say that something is true for you, but not for me. But this doesn't undermine the objectivity of truth either; what we mean is only that the something – liking

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chocolate-chip cookie ice-cream, say, or being over six feet tall – is true of you but not of me; or else that you believe whatever-it-is, but I don't. Incompatible claims are often made. But this doesn't mean there can be incompatible truths; in fact, since "incompatible" means "can't be jointly true," it is a tautology that there can't (which is not to deny that there are many different but compatible truths).

However, a dreadful argument ubiquitous in the New Cynicism confuses what passes for truth, for known fact, etc., with what is true, or what is known. The confusion takes the form of what I have called the "Passes-for Fallacy": from "what passes for X (truth, fact, knowledge, evidence, etc.) is sometimes no such thing, but only what the powerful have managed to get people to accept as X," to "the concept of X is ideological humbug." Stated plainly, the argument is obviously invalid. And when, as in the New Cynicism, it is the concepts of truth, fact, knowledge, evidence, etc., that are at stake, the argument is also in obvious danger of undermining itself; for if, as the conclusion says, the concepts of truth, evidence, honest inquiry, etc., are ideological humbug, then the premise couldn't be really-and-truly true, nor could we have objectively good evidence, obtained by honest inquiry, that it is so.[12]

But usually, as shorthand for what is accepted as knowledge, what passes for truth, etc., the cynics write of "truth," i.e., so-called "truth," of "knowledge," i.e., so-called "knowledge," etc.. The effect of the scare quotes is to neutralize the implication of success normally carried by these words; truth must be so, but "truth" needn't be; knowledge must be true, but "knowledge" needn't be. As the scare quotes become ubiquitous, the difference between truth and "truth," knowledge and "knowledge," facts and "facts," begins to blur; and what used to be success-words pick up that characteristic sneering tone: "'known fact' – yeah, right!" And as the distinction is blurred between truth and "truth," known facts and "known facts", etc., the Passes-for Fallacy begins to look like a valid argument; the idea that there can be incompatible truths begins to sound plausible; and certain forms of relativism begin to look inevitable. For it makes sense to talk of what is taken for true, what is accepted as good evidence, what passes for known fact, only relative to some person or group of people; so if you don't distinguish what is true from what is taken for true, etc., it will seem that truth, evidence, etc., must be subjective or relative.

A person's judgments of the quality of evidence, its relevance and its strength, depend on his background beliefs. Perhaps this is what suggested to Kuhn that evidential standards are paradigm-relative; but the conclusion doesn't follow. Suppose you and I are working on the same crossword puzzle, but have filled in some long, much-intersected entry differently; you think a correct intersecting entry must have an "F" in the middle, while I think it must have a "D" there. Or suppose you and I are on the same appointments committee, but you believe in graphology, while I think it's bunk; you think how the candidate writes his gs is relevant to whether he can be trusted, while I scoff at your "evidence."[14] Or – a real example, this: in 1944, when Oswald Avery published his results, even he hedged over the conclusion to which they pointed, that DNA is the genetic material; for the then-accepted wisdom was that DNA is composed of the four nucleotides in regular order, and so is too monotonous to carry the necessary information.[15] But by 1952, when Hershey and Chase published their results, the tetranucleotide hypothesis had been discredited; and then it could be seen that Avery already had good evidence in 1944 that DNA, not protein, is the genetic material. But these kinds of disagreement and change of mind have no tendency to undermine the objectivity of the determinants of evidential quality: how supportive it is of the claim in question, how comprehensive, and how independently secure – regardless of how supportive, how secure, and how comprehensive you or I or anyone believes it to be.

Paradigm-relativity is just one member of a whole extended family of relativist theses, all of which hold that something is relative to something, but which differ among themselves in what they say is relative to what, and in the meaning they give "is relative to."[16] Not all forms of relativism are self-undermining, and

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some are true: the truth of sentences, for example, really is (as Tarski held) in a sense language-relative – and there's nothing self-undermining about saying so. But some cynics confuse harmlessly anthropological forms of relativism (e.g., that what evidence is taken to be relevant to this or that claim varies from culture to culture)[17], with much more consequential philosophical relativisms (e.g., that it makes no sense to speak of evidence as relevant or irrelevant except relative to the practices of some community or culture). And others, among them Richard Rorty, shift up and back between relativism and tribalism: between denying that it makes sense to think of epistemic standards as objectively better or worse, and claiming that their (non-white, non-Western, non-masculinist, non-scientific, etc.) standards are superior – a strategic ambiguity that makes it possible to duck accusations that their relativism is self-undermining, and at the same time evade the necessity of explaining what makes their, tribalist epistemic standards better.[18]

Scientific inquiry is a social undertaking; and science is, among other things, a large and powerful social institution. But it obviously doesn't follow from the fact that scientific discoveries can be put to bad uses that the natural sciences haven't achieved genuine knowledge after all; nor does it follow from the fact that scientific inquiry is the work of a vast community that it is nothing more than a process of social negotiation in which scientists trade their theoretical loyalties for prestige, or that the entities postulated in scientific theories are nothing more than social constructions. The desire for prestige *is* a significant motive for scientific work; but if science can be so organized as to ensure that prestige is well-correlated with real achievement, this very human motive can be put to good use. Both laboratory artifacts, and scientific concepts and theories, *are* brought into being by scientists' individual or joint work; but (except in rare cases) the objects to which scientific theories apply are not.[19]

Scientific work is carried out in a larger social environment, which may significantly influence what questions get looked into, what results get wide attention, and even, sometimes, what conclusions are reached. The values of the larger society often play a role, for better or – most dramatically in the case of Nazi and Soviet science, but not negligibly whenever science is politicized, or bureaucratized, or commercialized – for worse. But it doesn't follow that scientific work is inevitably influenced by socio-political values; let alone that it is desirable that it should be, provided the values that inform it are "progressive."

Science, like literature, requires imagination. Scientists, like writers of literature, stretch and amplify the language they inherit: a non-proteinaceous substance in the nucleus of cells is dubbed "nuclein," and later comes to be known as "nucleic acid"; then we have "deoxyribose nucleic acid"; then "ribonucleic acid", subsequently acknowledged to be "ribonucleic acids," in the plural; and then – almost a century after "nuclein" was coined – "transfer RNA," "messenger RNA," and so on. Again, like writers of literature, scientists rely on metaphors: the chaperone molecule, the Spaghetti Hypothesis, the uncles-and-aunts experiments, parental investment, and so forth. Moreover, scientists engage in writing, and writers of literature engage in inquiry. But it doesn't follow, and it isn't true, that science is indistinguishable from fiction. The difference between the imaginative (which contrasts with the pedestrian or uninspired), and the imaginary (which contrasts with the real) is key.

A scientist dreams of structures, classifications, and laws which, if he is successful, are real, and explanations which, if he is successful, are true. Imagination, and imaginative exploration of imagined explanations, comes first; but to go beyond mere speculation, this must be followed by appraisal of the likely truth of the imagined conjecture, itself often requiring imagination in the design of experiments, instruments, etc., must come after. And this requires that scientific metaphors which aren't just picturesque speech but working intellectual tools eventually be spelled out in literal detail: what, literally, is invested in reproduction? what constitutes maximizing return? is reproductive behavior as predicted?

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Many scientific metaphors, like this one, call on familiar social phenomena; but it would be silly to eschew the "parental investment" metaphor on the grounds that capitalism is an undesirable form of economic organization, or to assume that a biologist who relies on the metaphor thereby reveals his reactionary political preconceptions.[20]

Thanks to Rorty, the New Cynicism has come to be associated with pragmatism. This is very peculiar; for classical pragmatism was fallibilist, not cynical.

Here is C. S. Peirce, the founder of pragmatism: "Out of a contrite fallibilism, combined with a high faith in the reality of knowledge, all my philosophy has always seemed to grow";[21] and William James, who made pragmatism known: "Those of us who give up the quest for certitude do not thereby give up the quest or hope of truth itself."[22] But Rorty, who writes that "the pragmatist view is of … 'true' as a word which applies to those beliefs on which we are able to agree," and that "truth is entirely a matter of solidarity," offers an essentially opposite message. Rorty observes that he "do[es] not have much use for notions like 'objective truth'" (apparently not noticing that those scare quotes, which are a kind of verbal tic with him, undermine the point he is presumably trying to make).[23] "You certainly opine that there is such a thing as truth," Peirce might have replied; "otherwise, reasoning and thought would be without a purpose."[24]

But according to Rorty, "revolutionary movements within an intellectual discipline require a revisionist history" – a *very* revisionist history, to judge by his breezy comment that "since I persist in treating Davidson as the most radical of the American pragmatists, it suits my purposes to define pragmatism as something Davidson approves of." He has no qualms about simply cutting Peirce out of the pragmatist family portrait, dismissing him as "just another whacked-out triadomaniac" whose contribution to pragmatism was "merely to give it a name."[25] Granted, things are considerably less straightforward with regard to James and Dewey, where it is less a matter of Rorty's cutting them out of the family portrait altogether than of his touching up a nose or chin here, an eyebrow there, or painting in a distinctive birth-mark, to exaggerate their resemblance to himself. Perhaps, for example, one source of Rorty's idea of pragmatism as "anti-representationalism" is Dewey's hope that purposive success might replace accuracy of representation as the criterion of well-conducted inquiry. But Rorty's repudiation of epistemology is far more radical than Dewey's critique of the Spectator Theory; for, unlike Rorty, far from abandoning the theory of inquiry, Dewey pursued it, in his characteristically instrumentalist way, all his life.[26]

In fact, not only were the classical pragmatists much concerned with what we would call "epistemology" but they called "theory of inquiry"; they already took many of the essential steps towards that realistic picture of our epistemological condition of which we are now so urgently in need. For example, both Peirce and Dewey, each in his own way, challenged Descartes' presumption that, philosophically speaking, it is absolutely certain knowledge that is of the first importance, and his exclusive focus on the individual knowing subject; both were thoroughly fallibilist, and both explored the significance of the social aspects of inquiry. Again, both Peirce and Dewey, again each in his own way, acknowledged the continuities between human learning and other animals' explorations of their environment, and both resisted the apriorism of older approaches to knowledge.[27] Though the term is relatively recent, the idea of social epistemology isn't new; and neither is a naturalistic approach to epistemology. (Dewey had written explicitly of "the naturalization of intelligence,"[28] and Sidney Hook of "Naturalism and First Principles";[29] but there is no reference to either in Quine's "Epistemology Naturalized").[30]

Thanks to such influential proponents as Sandra Harding,[31] the New Cynicism has also come to be associated with feminism. This co-optation of feminism is no less peculiar than the hijacking of pragmatism, and in some ways even more disturbing.

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The old feminism emphasized the common humanity of women and men, and focused on equality, justice, and opportunity. "The fundamental thing is that women are more like men than anything else on earth," wrote Dorothy Sayers, "they are human beings"; and warned against the "error of insisting that there is an aggressively 'feminist point of view' about everything."[32] Winifred Holtby declared her allegiance to a style of feminism committed, not to pressing the claims of a supposed "woman's point of view," but to "the primary importance of the human being."[33] But contemporary academic feminism, turning the sexist stereotypes that the older ethical-political feminism used to deplore into new-fangled "women's ways of knowing," or demanding "politically adequate research and scholarship" instead of honest inquiry, offers an essentially opposite message.

In its simplest form, the idea of science as a masculinist enterprise relies on a crude conception of the values of science, along the lines of "objectivity," "rationality," "linear reasoning," etc. – the scare quotes hold these supposedly masculine concepts at arms' length – and a crude contrast with such supposedly feminine values as emotion, connectedness, holism; as if a unified account of apparently diverse phenomena weren't a goal of scientific inquiry, and a passionate desire to understand a motive for undertaking it. It also relies on old stereotypes of women as emotional, irrational creatures; as if there were no cool-headed and reasonable women, and no excitable and unreasonable men. In a somewhat subtler form, the idea of science as a masculinist enterprise relies on the idea that the values science exemplifies are *perceived* as masculine, and that it neglects values *perceived* as feminine. This avoids endorsing stereotypical ideas of the masculine and the feminine, but still remains apparently blind to the way the sciences can combine delight in an elegant theory with respect for evidence, care for detail with a sense of potential connections, experimental rigor with imaginative sweep.[34]

Not unexpectedly, hyper-sensitivity to supposedly sexist metaphors is ubiquitous in this new, cynical style of feminism; and the Passes-for Fallacy looms large. Ruth Bleier, for example, complains that the claim by some neurophysiologists that there are differences in brain structure corresponding to the sex-related differences in cognitive ability (Bleier adds, the supposed differences), rests on "sloppy methods, inconclusive findings and unwarranted interpretations," not to mention "unacknowledged ideological commitments." Quite possibly, she's right; but if so, the reasonable conclusion would be: that if, after carefully re-examining its presuppositions, we determine that the question is a legitimate one, what is needed is better investigation using rigorous methods, seeking more conclusive findings based on warranted interpretations and free of ideological commitments. Bleier, however, commits the Passes For Fallacy, and draws the cynical conclusion: bias is everywhere, objectivity is impossible, and the "social production of knowledge" is inextricably conditioned by "gender, class, race, and ethnicity."[35]

Sometimes it is suggested that the idea of "science as social" is a specifically feminist contribution. And, indeed, feminist philosopher of science Helen Longino was among those who, in the early 1990s, turned their attention to social aspects of science.[36] However, this (relatively) recent revival of interest in social aspects of the scientific enterprise was just that – a revival, not a radically new project. Moreover – though it is true, and important, that science is a social enterprise – to make a connection with feminism requires a further step beyond acknowledgment of the importance of evidence-sharing or the division of labor, even beyond acknowledgment that the values of the larger society sometimes influence scientific work: the step that takes us to the false conclusion that science is an unavoidably political enterprise which has till now been pervasively informed by masculinist values, and so stands in urgent need of transformation by an infusion of more progressive, feminist values.[37]

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Given the implausibility of its claims and the weaknesses of its arguments, you might wonder how the New Cynicism has become, as I said earlier, "almost an orthodoxy." Part of the explanation, I believe, is psycho-sociological.

The overwhelming flood of information, and misinformation, to which we are all now subject tends to promote first credulity and then, as people realize they have been fooled, disenchantment with claims to truth or knowledge. For when it becomes notorious that *Pravda* is full of lies and propaganda, or that the scientific breakthrough or miracle drug prematurely trumpeted in the press was no such thing, people are bound to become increasingly distrustful of truth-claims, and increasingly reluctant to speak of truth without precautionary scare quotes. Still, most ordinary people know well enough that there is a real difference between the truth and a lie, knowledge and propaganda, strong evidence and rhetorical flim-flam. So why do academics seem peculiarly susceptible to a factitious despair of the concepts of truth, evidence, etc.?

Commenting on the ethos of the universities, Jacques Barzun observes that, putting the first last and the last first, "valuing knowledge, we preposterize the idea, and say: 'everyone must produce written research in order to live, and it shall be deemed a knowledge explosion'."[38] As preposterism has become the way of academic life, conceptions of "productivity" and "efficiency" more appropriate to a manufacturing plant than to the pursuit of knowledge have become firmly entrenched. The effect, not surprisingly, has been a gradual erosion of intellectual integrity. We are overwhelmed by a bombardment of books and journals and a clamor of conferences and meetings in which it is close to impossible, except by sheer luck, to find the good stuff. No wonder that many take the easy way out, conforming to whatever party line will best advance their career, or that many lose their grip on the demands of real inquiry, forgetting that you may work for years on what turns out to be a dead end, and that it is part of the meaning of the word "research" that you don't know how things will turn out.

Pseudo-inquiry is ubiquitous: both what Peirce called "sham reasoning," making a case for some proposition to which you are already unbudgeably committed at the outset (i.e., advocacy masquerading as inquiry); and, especially, what I have called "fake reasoning," making a case for a conclusion to the truth-value of which you are indifferent but advancing which you believe will benefit your reputation or advance your career. Long ago, Peirce predicted that when pseudo-inquiry is on the rise, we will "come to look upon reasoning as mainly decorative. The result of this state of things is of course a rapid deterioration of intellectual vigor. … Man loses his conceptions of truth and of reasoning" (woman too, I am sorry to say).[39] When pseudo-inquiry is ubiquitous, people are uncomfortably aware, or half-aware, that reputations are made as often by a clever defense of the indefensible or the incomprehensible as by real work, and become increasingly skeptical of what they hear and read. Soon those wretched sneer quotes, and the Passes-for Fallacy, are everywhere. And many, afraid of being duped or of being thought naive, manage to persuade themselves that honest inquiry isn't really possible or desirable anyway.

As radical feminists and multiculturalists jumped on the bandwagon of the New Cynicism, it has come to be thought that to suppose that there is such a thing as truth, that it is possible to discover the truth by investigation, or that the natural sciences have made many true discoveries, must be to harbor regressive political tendencies. It is true that excessive confidence that what you take to be true *is* true – the "blight of cocksureness," in Peirce's phrase[40] – can be a tool of oppression, and has sometimes served the purposes of sexism and racism. It is true that, as we inquire, people's feelings will sometimes be hurt. As we fumble our way to the truth, incomplete evidence will sometimes mislead us into accepting hurtful falsehoods; and some of the truths we discover will be painful, unpalatable, not what we would have wished to be the case. But unless it is possible to find out how things really are, it isn't possible to discover that sexist or racist

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stereotypes *are* stereotypes, not truths; nor to trace the roots of sexist or racist prejudices, or figure out how to overcome them; nor to know what changes really would make society better.

Perhaps the bizarre idea that the New Cynicism represents the interests of the oppressed and marginalized owes its influence in part to the fact that, as universities have tried to welcome "women and minorities," we have allowed ourselves to be distracted from the entirely admirable goal of making a person's sex or race matter less to our judgment of the quality of her or her mind, and begun looking for ways in which sex or race might themselves be qualifications for intellectual work. As the stress on the interests of this or that class or category of person has waxed, our sense of our common humanity and our appreciation of individual differences seems to have waned. And now we are in danger of forgetting that the ragged, untidy process of groping for, and sometimes grasping, something of how the world is isn't a white male thing but, as Francis Bacon observed centuries ago, a human thing.[41]

Notes

[1] The first quotation is from *The New Organon* (1620), Book One, Aphorism LXXXVIII; the second is from Bacon's essay "Of Truth" (1625)

[2] Richard Rorty, *Essays on Heidegger and Others* (Cambridge: Cambridge University Press, 1991), p.85 (philosophers who think of themselves as seeking the truth are "lovably old-fashioned prigs"); Stephen P. Stich, *The Fragmentation of Reason: Preface to a Pragmatic Theory of Cognitive Evaluation* (Cambridge, MA: MIT Press, 1990), p.101 ("once we have a clear view of the matter, … most of us will not find any value .. in having true beliefs").

[3] The phrase is Clark Glymour's, from *Theory and Evidence* (Princeton, NJ: Princeton University Press, 1980), p.ix.

[4] Adam Rogers, "Come in Mars," *Newsweek*, 15 August 1996: 56-8; Sharon Begley and Adam Rogers, "War of the Worlds," *Newsweek*, February 10, 1997: 56-8. For the continuing saga, see Haack, *Defending Science – Within Reason: Between Scientism and Cynicism* (Buffalo, NY: Prometheus Books, 2003), pp.59, 118.

[5] I first introduced this analogy in my "Rebuilding the Ship While Sailing on the Water," in *Perspectives on Quine*, eds Barrett, R. and Roger Gibson (Oxford: Blackwell, 1990), 111-27; it is developed in my *Evidence and Inquiry: Towards Reconstruction in Epistemology* (Oxford: Blackwell, 1993), chapter 4; and further developed in my *Defending Science – Within Reason* (note 4 above), especially chapters 3 and 4.

[6] Wendy Bounds, "One Family's Search for a Faulty Gene," *Wall Street Journal*, 15 August 1996; "Wish You Were Here," *Oxford Today* 10.3, Trinity 1998, p. 40; Gregory White, "GM Takes Advice from Disease Sleuths to Debug Cars," *Wall Street Journal*, 8 April 1999, B1 and B4.

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[7] The key case is Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S.Ct. 2786 (1993) – the first case in its 204-year history in which the U.S. Supreme Court ruled on the standards of admissibility of scientific testimony. See also Haack, "An Epistemologist in the Bramble-Bush: At the Supreme Court With Mr. Joiner," *Journal of Health Politics, Policy, and Law*, 26.2, April 2002: 217-48, and "Disentangling *Daubert*: An Epistemological Study in Theory and Practice," APA (American Philosophical Association) *Newsletter on Philosophy and Law*, 03.1, fall 2003: 118-22.

[8] My source is J. W. Grove, *In Defence of Science: Science, Technology and Politics in Modern Society* (Toronto: University of Toronto Press, 1989), p.p.13. He doesn't give an exact reference, and I have not been able to locate the original.

[9] Albert Einstein, "Physics and Reality" (1936), translated by Sonja Bargmann in *Ideas and Opinions of Albert Einstein* (New York: Crown Publishers, 1954), 290-323, p.290.

[10] Gustav Bergmann, *Philosophy of Science* (Madison, WI: University of Wisconsin Press, 1957), p. 20.

[11] Throughout this section I have drawn on my "Puzzling Out Science" (1995), reprinted in my *Manifesto of a Passionate Moderate: Unfashionable Essays* (Chicago: University of Chicago Press, 1998, 90-103; "Science as Social? – Yes and No" (1996), reprinted *in Manifesto of a Passionate Moderate*, 104-22; and *Defending Science – Within Reason: Between Scientism and Cynicism* (note 4 above), chapters 1, 3, and 4.

[12] The term "Passes-for Fallacy" was first introduced in my "Knowledge and Propaganda: Reflections of an Old Feminist" (1993), reprinted in *Manifesto of a Passionate Moderate* (note 11 above), 123-36.

[13] On the use of scare quotes to neutralize success-words, the classic treatment is David Stove, *Popper and After: Four Modern Irrationalists* (Oxford: Pergamon, 1981), reprinted under the title *Anything Goes: Origins of the Cult of Scientific Irrationalism* (Paddington, Australia: Macleay Press, 1998), chapter 1.

[14] An argument first suggested in *Evidence and Inquiry* (note 5 above), pp. 206-7.

[15] See Horace Freeland Judson, *The Eighth Day of Creation* (New York: Simon and Schuster, 1979), pp.33 ff.

[16] For a classification of the many forms of relativism, see Haack, "Refle-ctions on Relativism: From Momentous Tautology to Seductive Contradiction" (1996), reprinted in *Manifesto of a Passionate Moderate* (note 11 above), 149-66.

[17] See my *Defending Science – Within Reason* (note 4 above), pp. 182 ff.

[18] See my *Evidence and Inquiry* (note 5 above), pp.193 ff.

[19] See Haack, "Science as Social? – Yes and No" (note 11 above), and *Defending Science – Within Reason* (note 4 above), pp.69-71 (on evidence-sharing), 106-9 (on division of labor, etc.), and 190-91 (on social constructivism).

[20] See also Haack, *Defending Science – Within Reason* (note 4 above), chapter 8.

[21] Charles Sanders Peirce, *Collected Papers*, eds. Charles Hartshorne, Paul Weiss, and Arthur Burks (Cambridge, MA: Harvard University Press, 1938-51), 1.14, c. 1897. References are by volume and paragraph number.

[22] William James, *The Will to Believe* (1897; New York: Dover, 1956), p.17.

[23] The quotations come (in order of appearance) from: Richard Rorty, "Science as Solidarity," in John S. Nelson, Allan Megill, and Donald McCloskey, eds, *The Rhetoric of the Human Sciences* (Madison, WI: University of Wisconsin Press,`1987), 38-52, p.45; *Objectivity, Relativism, and Truth* (Cambridge University Press, 1991), p.32; "Trotsky and the Wild Orchids," *Common Knowledge*, 1.3, 1992: 140-53, p.141.

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[24] Peirce, *Collected Papers* (note 21 above), 2.135, 1902.
[25] The quotations come (in order of appearance) from Rorty, *Consequences of Pragmatism* (Hassocks, Sussex: Harvester Press, 1982), 1982, p.211, and "Realism, Anti-Realism, and Pragmatism: Comments on Alston, Chisholm, and Davidson," in Christopher Kulp, ed., *Realism/Anti-Realism and Epistemology* (Lanham, MD: Rowman and Littlefield, 1997), 149-72, p.149; "The Pragmatist's Progress," in Stephan Collini, ed., *Interpretation and Over-Interpretation* (Cambridge: Cambridge University Press, 1992), 89-108, p.93; *Consequences of Pragmatism*, p.161.
[26] See also Haack, "'We Pragmatists ...'; Peirce and Rorty in Conversation" (1997), reprinted in *Manifesto of a Passionate Moderate* (note 11 above), 31-47, and "Pragmatism, Old and New," forthcoming in *Contemporary Pragmatism*.
[27] Peirce, "Questions Concerning Certain Faculties Claimed for Man," *Collected Papers* (note 21 above), 5.213-63, 1868; "Some Conse-quences of Four Incapacities," *Collected Papers* 5.264-316, 1868; and "The Fixation of Belief," *Collected Papers* 5.358-87, 1877. John Dewey, *The Quest for Certainty* (1929; New York: Capricorn Books, 1960); *Logic, The Theory of Inquiry* (New York: Henry Holt and Company, 1938).
[28] This is the title of chapter VIII of Dewey's *The Quest for Certainty* (note 27 above).
[29] Sidney Hook "Naturalism and First Principles,"in Hook, ed., *American Philosophers at Work* (New York: Criterion Books, 1956), 236-58; reprinted in Hook, *The Quest for Being* (New York: St. Martin's Press, 1961), 172-95. Hook argues for naturalism both in the sense in which it is opposed to apriorism and in the sense in which it is opposed to supernaturalism.
[30] Quine, W. V. O., "Epistemology Naturalized," in *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), 69-90.
[31] Sandra Harding, *The Science Question in Feminism* (Ithaca, NY: Cornell University Press, 1986); *Whose Science? whose Knowl-edge?* (Ithaca, NY: Cornell University Press, 1992).
[32] Dorothy Sayers, "The Human-Not-Quite-Human," in *Unpopular Opinions: Twenty-One Essays* (New York: Harcourt Brace and Company, 1947), 142-9, p.42 ("women are more like men ..."); "Are Women Human?" (1938), also in *Unpopular Opinions*, 129-41, p.141 ("the error of insisting ...").
[33] Winifred Holtby, cited in Rosalind Delmar's "Afterword" to Vera Brittain's *Testament of Friendship* (London: Virago, 1945), p.450.
[34] In these paragraphs I have drawn on *Defending Science – Within Reason* (note 4 above), chapter 11.
[35] Ruth Bleier, "Science and the Construction of Meanings in the Neurosciences," in Sue V. Rosser, ed., *Feminism within the Science and Health Care Professions: Overcoming Resistance* (Oxford: Pergamon Press, 1988), 91-104, pp.92, 100.
[36] Helen Longino, *Science as Social Knowledge* (Princeton, NJ: Princeton University Press), 1990.
[37] Which is why, in "Science as Social? – Yes and No" (note 11 above), I contrasted Peirce's understanding of the social aspects of science with Sandra Harding's, Helen Longino's. etc.
[38] Jacques Barzun, *The American University* (New York: Harper and Row, 1968), p.222. See also Haack, "Preposterism and Its Consequences (1996), reprinted in *Manifesto of a Passionate Moderate* (note 11 above), 188-208.
[39] C. S. Peirce, *Collected Papers* (note 21 above), 1.58, c. 1896.
[40] C. S. Peirce, *Collected Papers* (note 21 above), 1.13, c.1897.
[41] This is a much expanded and adapted version of an earlier paper, "Staying for an answer: the untidy process of groping for truth," published in the *Times Literary Supplement*, July 9th, 1999, 12-14. My thanks to Mark Migotti for helpful comments on a draft.

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