SCIENCE, TRUTH,

AND DEMOCRACY

By Philip Kitcher.

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PHILIP KITCHER is a distinguished philosopher of science who is well known for several books, including "Vaulting Ambition: Sociobiology and the Quest for Human Nature" (1985), "The Advancement of Science" (1993) and "The Lives to Come: The Genetic Revolution and Human Possibilities" (1996). His goal in "Science, Truth, and Democracy" is to equip the philosophy of science with the ethical dimension it still largely lacks: we need to rebuild the great house of science so that the views of the people can guide decisions about the goals, and the financing, of research. The issue is not new, but it has a new urgency and visibility as the Human Genome Project gathers speed. (Kitcher prefers to call it "the genomes project," because we should not forget that it works on a bundle of DNA fragments drawn from a number of distinct individuals.)

Kitcher's central thesis can be put in a sentence: democracy should guide science in its search for truth. And his principal concern is with the "should": with the moral constraints on science; with how science should be run. But before he can take this up, in the second half of the book, and make explicit policy recommendations, he has to moderate an old argument about truth and objectivity that still rumbles on inside philosophy of science, just as it does throughout the humanities.

On one side we find the relativists, the subjectivists, the antirealists, the postmodernists. They say the strangest things. They say that there is no such thing as the way the world is, considered as it is in itself -- i.e., independent of ourselves and our concepts. They say that the idea of objectivity, the idea that science aims at and sometimes attains the truth about how things are,
is incoherent -- a foolish bauble left over from the babyhood of thought. They say that all we really do, when we do science, is spin a great system of sentences, and although we like to think these sentences state how things are, we are wrong. The sentences play only with one another, they don't connect to reality, they're not made true or false by the way the world is. According to Richard Rorty, one of the high priests of this church, "only a sentence can be relevant to the truth of another sentence." So don't appeal to the way the world is, for there is no such thing.

This, or something like it, is still the dominant view in vast areas of the humanities. But when Rorty says (so blithely) that only a sentence can be relevant to the truth of another sentence, a sentence like "Millions of human beings were murdered in the 20th century" comes to mind. For what makes this sentence true, and is therefore relevant to its truth, is not other sentences in a web of sentences, but the strictly nonlinguistic fact that millions of human beings were murdered in the 20th century. "Twenty million people have died of AIDS." "The sea is salty." "The World Trade Center has been destroyed."

Might the nonsense be less bad if it didn't build in such an astonishing contempt for the reality of human suffering? I think it would be just as bad, but Kitcher doesn't get as cross as I do. He is, in his own phrase, a modest realist, a gentle, ingenious debater, brilliant at taking over the fragments of good sense in the excesses of his opponents and finding mild, true uses for their slogans, thereby voiding their rhetoric. He fully endorses their insistence that the practice of science is penetrated by human interests, and shaped by moral and cultural values. He wholly agrees with them that scientific progress is not a rarefied, autonomous accumulation of truth, but is grounded in particular social contexts, contingent on the accidents and biases of past preoccupations, successes and failures. He even co-opts the chic claim that "we make the world" rather than confronting a world independent of us. It is quite true, he says, that we profoundly transform our natural and cultural environment by our scientific discoveries and by the technologies and worldviews to which they give rise. In this sense we do make our world, and have always done so -- all the way from stone axes to quantum computers. But none of this puts in question the realist notions of truth and objectivity, or science's claim to represent the way the world is.

With his "modest realism" unassailably in place, Kitcher moves on to the ethics and politics of science. He quickly dispatches what he calls the theology of science with its "myth of purity," according to which the pursuit of knowledge is an absolute good, to be curbed only by a ban on inhumane methods (here he cites the wickednesses of the Nazi doctors and the 1932-72 Tuskegee syphilis experiments, in which black men in Alabama were left untreated "for the sake of science"). There is, as he says, no overriding right to pursue knowledge for its own sake, quite independently of the consequences. Still less is there a duty to do so. There must be constraints on the aims and targets of scientific inquiry, and not just on its methods. Kitcher quotes Tom Lehrer's famous lines: "'Once the rockets are up, who cares where they come down? / That's not my department,' says Wernher von Braun."
So what should these constraints be? Should we ban certain types of inquiry in order to protect existing schemes of values? Kitcher takes the question seriously, but points out that such regimes are most unlikely to work. The deepest "shocks to our self-esteem" have come from apparently innocent quarters. It was an attempt to reform the church calendar that led Copernicus to eject us from the center of the universe, and it was a passion for cataloging exotic organisms that led Darwin to put us in our place as a species of primate. And Freud, when he came to the conclusion that we are not even masters in our own house -- our own minds -- was simply trying to find an effective treatment for the spectacular emotional difficulties of upper-middle-class Viennese women.

So how should we manage scientific research in a democratic society? What should guide us? Kitcher takes the problem right down to the root, where he turns up Socrates' old question, the first question of ethics: How should we live? What makes a life go well? He launches himself straight at it, undeterred by 2,000 years of argument, and lays out a neat scheme for its answer before returning to the specific question of how to regulate scientific research. Here there are many difficult questions of detail, and Kitcher addresses them with delicacy and dialectical sophistication, setting out his ideal of "well-ordered science": a democratic system that would create and gather information about the "tutored personal preferences" of the citizenry and feed it into the vast institutional engine of science. It is at best an ideal, as he says, and he spends some time considering how it might have a regulatory role in an imperfect world.

WHEN Kitcher asks his fundamental questions -- What exactly is the goal of scientific inquiry in a democratic society?" "What is the collective good that we want inquiry to promote?" -- one may flinch. It sounds too limited and efficient, too threatening to pure, blue-sky research. It's hard not to regret the 1993 decision to scrap the Superconducting Supercollider in Texas, which would have advanced (but at vast expense) our understanding of fundamental physics. But Kitcher persuades, by patient argument, that new forms of accountability and direction are required. He is as concerned as anyone to preserve all the necessary freedoms; but he insists that we need more controls on the practice of science, that we need them now and that we will have to make certain sacrifices.

"Science, Truth, and Democracy" is an outstandingly good book; it flashes with the steel of reason. It is, however, highly condensed, and not always easy to take in at a single reading. Sometimes the dialectic is a little oversprung, and one is unsure where one is in the exchange of point and counterpoint. But Kitcher has almost perfect aim when it comes to what really matters. The book as a whole is a remarkable illustration of the sheer force of thought, the conceptual firepower, conferred by successful training in philosophy. (Some years ago, The Economist reported on a survey, conducted over 19 years, that showed that philosophy students scored at least five percentage points above average in admission tests for professional and graduate schools in America. No other subject matches that.) Perhaps the relevant government officials should be enrolled in Philosophy 101 and kept there until they can follow
every move in "Science, Truth, and Democracy."

Photo (Andrei Poteryaylo)