



Socially Just Science

Brendan P. Foht

With campuses rife with trigger warnings and some social justice activists demanding the suppression of ideas that fall outside a narrow window of politically correct opinion, there seems to be a growing rift between the ideology of progressives and the ideal of free inquiry, including scientific inquiry. But according to a new book from Alice Dreger, *Galileo's Middle Finger*, the activists need the scientists: “justice and thus morality *require* the empirical pursuit,” and the smooth operation of science requires justice. Dreger, a bioethicist and historian of science at Northwestern University, makes this argument largely by recounting her own activism and scholarship, both on behalf of oppressed minorities against the medical community, and on behalf of persecuted academics against activists who put “identity politics” ahead of the pursuit of truth. The rousing stories of slander, injustice, and vindication are told in a witty and charming style. But the focus on particular episodes of libel and injustice leaves little room for the bigger questions Dreger poses about

whether and when science is good or bad for the search for justice.

The book's title refers to a relic of Galileo's actual finger that Dreger saw on a trip to Italy as a graduate student, the symbolic import of which is rather obvious. Galileo, for Dreger, stood up for truth, objectivity, and facts, often in an abrasive and arrogant manner, against what Dreger anachronistically calls “Catholic identity politics.” Rather than assuming “authorities know what they're talking about,” Galileo made the case “for finding truth together through the quest for facts.”

*Galileo's Middle Finger:
Heretics, Activists, and the Search
for Justice in Science*
By Alice Dreger
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Dreger contends that when, in our own day, scientists collect evidence that points us toward counterintuitive conclusions with consequences that are

difficult to accept—for example, the idea that our understanding of the distinction between the sexes is rooted more in social construction than in biology—then we should follow Galileo's example by encouraging our interlocutors to “think harder.”

However, Galileo was not only a great scientist but also a somewhat irreverent and quarrelsome figure. Dreger describes these traits as the

“Galilean personality,” embodied by scientists who boldly confront orthodoxy without much concern for the threat of persecution, to say nothing of the common politeness that would cause most people to forgo directly challenging other people’s cherished beliefs. Some scholars, most famously Leo Strauss, have argued that philosophy has long been shaped by the threat of persecution, which has led philosophers to conceal the ways in which their ideas challenge or subvert the traditional morality of their communities. Philosophers used dialogues and other literary forms to conceal their true teachings “between the lines.” Galileo, too, wrote a dialogue, in which he almost literally called the Pope an idiot—not exactly a sensible way to avoid persecution. Perhaps it is this rejection of authority and indifference to persecution that distinguishes modern science from philosophy, and not, for instance, a turn to empirical methods—after all, in this very dialogue Galileo famously praised those who “have through sheer force of intellect done such violence to their own senses as to prefer what reason told them over that which sensible experience plainly showed them to the contrary.” On this view, modern science is not just a quest for facts but is also characterized by a set of attitudes toward authority, dogmatism, and orthodoxy.

Such an interpretation of Galileo’s significance points to how science

might serve the interests of justice and democracy. Science challenges and overturns the false beliefs that those in power use as tools of oppression. Some philosophers of science, notably Karl Popper, have advanced a similar view, arguing that the “critical attitude” is at the heart of both the scientific enterprise and the “open society.” For Dreger, science goes beyond subjecting claims about the natural world or political proposals to rational criticism; in fact, Galileo’s new science was “a revolution in *human identity*” and was “fundamentally a shift in what we can know *about ourselves*” (emphases in original). But what Galileo taught us about ourselves was that we are less significant than we believed, and that “we humans are on just another whizzing planet—not a special, still place made for us by an attentive biblical God.” Whatever value Galileo’s critical attitude may have for democracy, it seems that the Church’s teaching about human significance is a better foundation for democracy and human rights than the claims about human insignificance implied by the findings of modern science. Such fundamental questions about the moral implications of the findings of modern science are only hinted at, and certainly not answered, in Dreger’s book.

Dreger’s view that science and social justice require each other—that is, that a just system is needed to do science, and that science

is necessary to “know how to create a sustainably just system”—is based on her own experiences as both an activist and a scholar. Dreger recounts four major episodes that contributed to her understanding of the relationship between science and justice: two stories of activism, in which Dreger worked to change the way doctors treated patients with ambiguous sex characteristics, and two stories of what might be called “anti-activism,” in which she stood up for beleaguered scientists under attack by activists upset with the implications of the scientists’ work for our understanding of human nature.

The first major episode Dreger recounts involves her activism on behalf of intersex people—the term used today for “hermaphrodites,” or individuals born with ambiguous sex characteristics. After some intersex activists contacted her about her early research, Dreger started working with the activists, urging doctors to stop surgically “correcting” ambiguous genitalia. Unlike many activists coming from the academy who “wanted to just spew cute slogans and academic postmodernist horsesh—,” Dreger and her colleagues made a serious effort to understand the scientific and clinical evidence, and to meet doctors on their own terms to persuade them that many of the surgeries performed on intersex children were unnecessary and harmful.

After recalling her intersex activism, Dreger turns to her involvement in the controversy over Northwestern University psychologist J. Michael Bailey’s 2003 book *The Man Who Would Be Queen*. Bailey’s book sought to popularize University of Toronto psychiatry professor Ray Blanchard’s theories that sexual orientation can explain a great deal of transsexuality. According to Blanchard and Bailey, particularly effeminate homosexual men can become transgendered, often as an adjustment to pressure from homophobic societies. (Dreger mentions Iran as one repressive society where sex changes are used to “straighten out’ homosexual desires”—in fact, Iran reportedly performs the second-highest number of sex change operations in the world.) More troublesome to the transgender community, however, was the idea advanced by these scientists that other men seeking to become women do so out of a sexual fetish that Blanchard labeled “autogynephilia,” a kind of sexual fantasy connected with the idea of being a woman. Blanchard and Bailey’s theories contradicted the self-understanding of many in the transgender community, and threatened the prevalent—and, according to Dreger, politically convenient—theory that those who sought male-to-female sex changes were simply women trapped in men’s bodies.

As Dreger recounts, a trio of transgender activists, Lynn Conway,

Andrea James, and Deirdre N. McCloskey, attempted to discredit Bailey by accusing him of violations of ethical norms governing research. Bailey, according to these activists, failed to follow the standard procedures for protecting human research subjects for the people he interviewed and used as case studies in the book. The whole Bailey affair was, to say the least, a tangled web, and while Dreger does her best to clear Bailey of accusations of ethical violations, even her sympathetic account leaves Bailey looking like a reprobate.

Next, Dreger turns to her defense of anthropologist Napoleon Chagnon, whose studies of violence among the Yanomamö people of the Amazon starting in the 1960s brought him both fame and notoriety in the anthropological community. Many writers on war and violence, including Steven Pinker, a friend of Dreger's who has himself been involved in controversies with academics on the right and left, have used Chagnon's work to refute the old myth of the "noble savage" and to argue that war and violence are part of human nature.

For many anthropologists, Chagnon's going of sacred cows was enough to put him outside the pale of respectability. It also didn't help his case that he was in many ways an abrasive and arrogant character—a real "Galilean personality." But there were also very serious allegations leveled at Chagnon by Patrick Tierney, a journalist who

in 2000 accused Chagnon and his fellow researcher James Neel of crimes ranging from disrespecting the beliefs and taboos of the Yanomamö to attempted genocide. Dreger found that the charges made by Tierney against Chagnon and Neel were largely fabricated. But the American Anthropology Association was willing to make an example of Chagnon. Jane Hill, the former president of the association, led a task force to investigate the accusations, and even though she privately believed that Tierney's book was "just a piece of sleaze," the task force's 2002 report was damning of Chagnon's work. (This report, however, did not end the controversy, and in 2005 the association voted to rescind its acceptance of the report.)

Dreger concludes by returning to intersex activism, in this case, her campaign, joined by a number of other activists and bioethicists, to put a stop to the use of the steroid dexamethasone. "Dex" is employed to prevent intersex conditions (or even "behavioral masculinization," such as "tomboyism" or lesbianism) in the daughters of women affected by a condition known as chronic adrenal hyperplasia. Together with other bioethicists, Dreger in 2010 sent a letter of concern to government agencies responsible for overseeing the protection of human research subjects, specifically focusing on the intersex treatment conducted by pediatrician Maria New, which led to a heated exchange in the *American Journal of Bioethics*.

Though Dreger raised some important criticisms of the use of these steroids, her effort to get the Office for Research Subjects Protection to crack down on New's studies was ultimately unsuccessful—the “accountants on white horses,” as Dreger describes the federal bureaucrats, found that New's work conformed to the letter of the law.

Between these four stories Dreger recounts some of her conversations with other persecuted academics, including biologist E. O. Wilson, whose sociobiological theorizing made him the target of left-wing demonstrations; Ken Sher, the editor of the academic journal *Psychological Bulletin*, who in 1999 published a review claiming that childhood sexual abuse may result in less long-term psychological harm than is generally believed, which was condemned by a resolution of the U.S. Congress; and Craig Palmer, an evolutionary psychologist, who earned an unsurprising amount of ire from feminists for the biological explanations he offered for rape.

Dreger's memoir-like approach makes her book a lively and engaging read but provides little sustained argumentation about the old and vexed question of the tension between free inquiry and morality.

Dreger defends her narrative approach at the outset by saying she recognizes that she has her own personal biases and that her presenta-

tion of the facts may not be perfectly objective. But the chief shortcoming of the book is not that it lacks objectivity or is short on facts; rather, Dreger devotes too much effort to the factual questions to spend any time answering the big questions she poses about science and justice with anything better than clichés about “Truth, Justice, and the American Way” (the title of the book's concluding chapter).

However, we can discern some important ideas about the relationship between science and politics in some of Dreger's observations and arguments. For instance, Dreger writes that the American Founding Fathers were “science geeks,” and that they “understood the usefulness of the scientific review model.” Despite the anachronistic wording, there is an element of truth in these claims. But Dreger's more specific claim that the separation of powers in the U.S. Constitution is “meant to do just what the review process of a good journal is meant to do: Weed out the bad, leaving the good” is quite implausible. It is true that the separation of powers, checks and balances, and the other relevant elements of the Constitution were understood by some of the framers to have been “scientific,” in the sense that the Constitution was based on principles discovered by what was thought of as “the science of politics.” But the separation of powers was certainly not modeled on the peer review system

of the scientific community, which provides for the review of scientific claims by *peers*, not by authorities in different institutions. If the framers of the constitution wanted something like scientific peer review, they would have designed a very different system of government.

This admittedly offhand and perhaps careless remark by Dreger about the origins of the Constitution does point to an important way of thinking about the relationship between science and politics, where science is valued more for its example than for its specific teachings. Just as the example of anti-authoritarian thinking set by Galileo is more important than, say, the specific theory of the heliocentric solar system, so too is the example of the scientific community's dedication to free and open inquiry more important than any of the particular theories of scientists. To return to the Founders, they understood there to be some tension between what careful observation of human nature and history taught about the demands of politics and the value of free and objective inquiry for political life. Alexander Hamilton, in Federalist 1, writes of the nobility of establishing a new government from "reflection and choice" and of the importance of relying only on those impressions "which may result from the evidence of truth"; yet he writes also of the inevitability of "prejudices little favourable to the discovery of truth" influencing the public.

Madison, in Federalist 49 (writing of the separation of powers, as it happens) argues that too-frequent appeals to the people would "deprive the government of that veneration which time bestows on every thing, and without which perhaps the wisest and freest governments would not possess the requisite stability." Such a concern for the veneration of tradition would be irrelevant "in a nation of philosophers," but for Madison, the existence of a nation of philosophers was hardly to be expected.

For many liberals like Dreger, we can and should strive to be a nation of free-thinking philosophers. Since much evidence from history and psychology suggests that bias and prejudice will continue to thwart dreams of a purely rational political order, conservatives remain justified in their belief that some veneration of tradition is needed for social stability. The ideal of objectivity in politics is "more ardently to be wished for," as Hamilton wrote, "than seriously to be expected"—and so the post-modern project of undermining the ideal of objective inquiry by gleefully unmasking the prejudices behind it should be recognized as reckless, irresponsible, and even anti-democratic. Even while we acknowledge the limits of scientific objectivity for political life, we should nonetheless recognize that scientists, at their best, can serve as exemplars of the intellectual and moral virtues needed by self-governing citizens in a democracy.

Dreger herself sets a good example for her readers with her steadfast activism on behalf of both persecuted scientists and oppressed minorities, and particularly with her meticulous research into the complicated accusations made against Bailey and Chagnon. But the specific allegations against these scientists are only part of their stories, and, indeed, were apparently only derivative of the activists' deeper concerns with the moral implications of the scientists' theories. Explaining why these scientists have been criticized, and understanding how activists and scientists ought to interact in the future, means looking at the moral implications of scientific theories.

Dreger is a staunch defender of academic freedom, but she does recognize that academic freedom needs limits. Obviously, scientists are not free to do whatever they want with human research subjects, and Dreger is at least as passionate in her defense of vulnerable research subjects as she is in her defense of beleaguered scientists. But, for a brief moment in the book, in a "reactionary calculus," she asks if there is "anything too dangerous to study." After raising this question, Dreger acknowledges that "no good and much harm could come from certain scientific pursuits," such as studying race and IQ. But instead of going into the reasons why it is dangerous to study race and IQ, which might have helped to show how we could identify analogous

cases of dangerous science, Dreger doubles down on the sanctity of academic freedom, writing that for academics—unlike the devotees of "identity politics"—the only identity that should matter is "our identity as academics, as truth seekers."

This invocation of academic freedom is all well and good, but those critics of scientists who appear to be in the thrall of identity politics would probably argue that inquiry into race and IQ is not the only area of science that can do "no good and much harm." According to Deirdre McCloskey, "the worst feature of [Bailey's] theory is the treatment it inspires," which includes not only the withholding of sex-reassignment surgery but also "murders and lesser mistreatments which can be laid at the door of those who have wanted so very much and for so very long to define a free human choice as a sexual pathology." Meanwhile, anthropologists who were critical of Chagnon argued that "he has damaged" the Yanomamö by "his activities in the field but most of all by his insistence on portraying them as primitive savages." Other scientists, notably E. O. Wilson and many of his followers in the field of sociobiology and evolutionary psychology who have ventured into biological accounts of human nature, have been criticized for espousing theories that are said to lead to racism, sexism, eugenics, and all manner of reactionary political projects.

Are these critics right? Dreger argues that Bailey and Chagnon certainly *meant* no harm, and cared deeply about the people their theories were said to harm, and she refuted many of the specific allegations made against them. But the fact that Bailey and Chagnon did not intend any harm does not mean that their theories will not result in any harm. And even if the scientists are innocent of specific crimes against research subjects, their research might still have dangerous implications for the people whom their theories describe.

These criticisms raise several deeper questions. Can scientific ideas themselves be harmful, and if so, why and when? And how can we distinguish harmful scientific ideas from those that are benign or those that do more good than harm? As Leon R. Kass argued in a 2009 essay in *Science and Engineering Ethics*, answering questions like these requires “engaging not in the scientific activity that gives rise to the difficulties but in a different kind of inquiry: the search for the truth about the human and moral significance” of the scientific advances in question. This kind of truth-seeking is not limited to those who identify as academics; and, unlike scientific inquiry into human behavior—which, according to Dreger, may be used to establish a “sustainably just system”—this kind of inquiry will seek the truth *about* justice. And justice, in this sense,

serves not only to ensure that people are, as Dreger writes, “free to do science” but also to establish the moral and prudential limits to the responsible exercise of freedom of thought and science.

This kind of criticism of science must be distinguished from the more straightforward limitations on scientific inquiry imposed by the need to protect human research subjects, or questions related to whether new technologies made possible by science will be beneficial or harmful. Criticizing certain scientific theories for the effects they might have on our moral beliefs is a more extreme measure, one that sits less comfortably in a society that prides itself on its protection of free speech and a vibrant public square. Before any form of scientific inquiry can be curtailed, it is at least necessary to show why the beliefs generated by that inquiry will impair human flourishing.

Looking again at the controversy over Bailey’s theories—and setting entirely aside all the specific allegations against the man—we can see that the activists who criticized his work were concerned that his theory about transsexuals being motivated by their sexual orientations would cause many people in society to think ill of them, and that such a theory is inconsistent with the self-understanding of many of the transsexuals the theory purports to describe. Dreger defends Bailey on these scores by arguing that Bailey’s theory comports with the

self-understanding of many transgender people, and that, in any case, society should accept self-declarations of gender regardless of the biological theories that may or may not help explain those self-declarations.

These arguments do not defend researchers like Bailey against charges of irresponsibility from activists like McCloskey, who asserted that the Bailey-Blanchard theory will result in “more dead queers”—plainly a very bad outcome. Of course, McCloskey may be wrong to believe that the promulgation of the Bailey-Blanchard theory will result in persecution, but Dreger’s chief counterargument—that Bailey was himself highly supportive of transgender people and endorsed granting them access to sex-reassignment surgery—is not very persuasive. Bailey’s open-mindedness shows only that it is possible to hold his theories and be supportive of transgender people, not that his theories are not conducive to thinking ill of transgender people. In any case, McCloskey’s concern is not implausible; transsexuals are certainly subject to violence and mistreatment, and the belief that transsexuals are sexual fetishists, which is a crude but understandable interpretation of the Bailey-Blanchard theory, would be unlikely to make them better respected by most people. It could be argued that, rather than concealing the truth about transsexuality, we ought to change the attitudes of people toward that truth, certainly

if those attitudes include a disposition to murder. Indeed, that we should change murderous and otherwise violent attitudes about our fellow citizens is obvious, regardless of whether the attitudes have anything to do with scientific theories. But especially when the truth of the theory is itself highly contentious—and these kinds of psychosexual interpretations can never reach the kind of certainty and clarity of an exact science—moral considerations about the likely consequences of the theory should be taken seriously.

According to Dreger, “good scholarship had to put the search for truth first and the quest for social justice second.” But given the risk that Bailey’s theory might cause serious harm, we ought to ask what the upside might be. What good might come from formulating such controversial theories about why people want sex reassignment? Arguing for the priority of truth over justice, Dreger invokes the technological benefits of science and the dangers of unquestioned authority. But weighing the moral implications of scientific theories is quite different than thinking about whether and how technologies may be good or bad for us. And while a concern for the truth can help us resist authoritarian governments, the historical track record of science and scientists is somewhat mixed: scientific institutions and scientific theories have both enabled and countered authoritarian politics. Science does not speak with

a monolithic voice on most controversial political issues, and evaluating the moral implications of scientific theories, like the moral implications of technologies, can be done only on a case-by-case basis.

As to the value of free inquiry as an antidote to authoritarianism, Dreger writes that only people “with insane amounts of privilege, could ever think it was a good idea to decide what is right before we even know what is true.” But in some cases, knowing what is right can make pursuing the truth much easier. For instance, on the question of how to assign gender to intersex children, Dreger writes that “I hope we never require biological ‘proof’ to believe someone’s self-declaration of gender,” and that “how they got there may be scientifically interesting to us...but how they identify themselves as individual persons in terms of gender is for *them* to decide.” But this does not seem so very different from the moral position Dreger attributes to some unnamed “colleagues in the humanities” against whom she “argued back” earlier in the book: “We have to give voice and power to the oppressed and let *them* say what is true.” When the pressing moral issues that scientific inquiry might be thought to bear on are declared to be already settled, the scientific inquiry becomes just “interesting” rather than deeply controversial. The authority of moral norms can render science less dangerous, but also less important.

Science is not just a way to critically dismantle prejudice or to help develop useful technologies; it can also provide us with knowledge about the world that, rather than giving us more power and more freedom, could give us reasons to restrain the exercise of our freedom. The biggest political controversies relating to science today are not those about human nature that Dreger discusses, but about the relationship between humans and nature—specifically, environmental issues. Scientists tell us about the unintended consequences of a variety of human activities that appear morally benign in themselves but can be seen as imprudent in light of the new ecological sciences.

Analogous claims might be made for the social sciences. For many on the left, social science has been seen as the foundation for social engineering. But much as ecological scientists have come to recognize the complexity of ecosystems, so too have social scientists recognized that societies respond in unpredictable ways to the well-intentioned efforts of scientists to master either non-human or human nature. Social scientists’ rejection of the assumption that human beings are infinitely malleable, and the understanding that the institutions and traditions of societies are evolved forms of spontaneous order that may be better suited to solving problems than the intelligently designed agencies of central governments, are in part why conservative

political thought has been so much more lively than the stale technocracy of the left in recent decades.

Under this more ecology-minded form of social science, we might recognize that many of the taboos, including some of those relating to both race and sex, that scientists seek to explain away or undermine as mere prejudice may indeed be, to borrow Kass's phrase, "embodiments of reason and goodness." In defending theories that would make gender-identity a matter of sexual orientation, Dreger denies that sexual desires ought to be subject to moral evaluation. Many transgender activists find this to be unrealistic, while other critics may consider it too extreme of a moral position: Should we not condemn *any* expressions of sexual desire between consenting partners? While sexual liberation has come a long way, there remain some sexual taboos—for instance, the vast majority of Americans still condemn extra-marital infidelity. As Peter Augustine Lawler has argued in these pages, a Darwinian social science reinforces the view that moral norms about sexuality, which may include taboos rooted in human nature and human culture, should take their start not from the perspective of the liberated individual, but from the child-rearing pair-bond.

Scientific inquiry into the truth about human nature is a worthy part of the modern scientific project, and one that deserves our support. However, it is not morally neutral. Scientists who want to study human nature must justify their research in moral terms: What might this research tell us about who we are as human beings, and what might it mean for how we should live? Trying to separate the moral questions from the results of inquiry by claiming that all the moral questions are already settled would make scientific inquiry both irresponsible and irrelevant. Making such claims is irresponsible because it ignores the reality that many people in society who see things differently may use the claims for pernicious ends. But it is also an admission of irrelevance. Why inquire about human nature if not in the service of the Socratic question of how we should live? An open-minded dedication to free inquiry into the truth, notwithstanding the barriers of taboos, traditions, and authority, is admirable—but real open-mindedness also calls for recognizing when taboos, traditions, and authorities embody reason and goodness and deserve our respect.

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