

Review of Alice Dreger’s *Galileo’s Middle Finger: Heretics, Activists, and the Search for Justice in Science* (New York: Penguin Press, 2015)

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Assaults on free speech and academic inquiry are increasingly familiar in the present age of social media. Even as I started Alice Dreger’s compelling new book, *Galileo’s Middle Finger: Heretics, Activists, and the Search for Justice in Science*, Dreger’s colleague at Northwestern, author and film professor Laura Kipnis, was the target of a Title IX investigation for publishing an opinion piece in the *Chronicle of Higher Education* (Kipnis 2015a). Kipnis had criticized new codes regulating sexual relations on campus for infantilizing students “while vastly increasing the power of university administrators over all our lives” (Kipnis 2015b). Students at Northwestern clamored to be protected from these harmful ideas, simultaneously proving Kipnis’s point about the deterioration of campus discourse, and initiating the surreal and pointless investigation.

Although the charges against Kipnis were eventually dropped, the incident highlighted growing demands from students to be shielded from any form of emotional discomfort, including exposure to ideas with which they might disagree. Such exposure is now routinely portrayed as equivalent to physical injury, a metaphorical conflation of words with violence that manifests itself in a variety of forms, including the popular concepts of microaggression and triggering. This invidious comparison is designed for one purpose alone—to justify the suppression of speech by some higher authority.

What happens, though, when it is not political speech that is deemed offensive and threatening, but an empirical claim about the natural world? Jonathan Rauch, in his book *Kindly Inquisitors*, warned that liberal science is perpetually under threat from a “humanitarian” stance that judges ideas not by their truth, but by their potential for harm. A minor example of this caught my eye recently when a study was published estimating that 64% of women who do scientific fieldwork are subject to sexual

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harassment, and 21.7% to sexual assault, while in the field (Clancy et al. 2014). Although the study was widely and justifiably praised for drawing attention to an important but neglected problem, a few scholars also raised questions about the methodology, which included a somewhat expansive definition of harassment, and a sampling regime that was potentially biased toward respondents who had been harassed or assaulted. One of the lead researchers swiftly took to social media, not to defend the study's approach but to assert that anyone expressing concern with the accuracy of the reported rates must believe that some rate of sexual assault is acceptable. There is, of course, no logical connection between one's desire to know what a rate actually is and one's ideas about what that rate ought to be in an ideal world. The real message was clear enough, though: if you question my data, I will question your motivations for doing so, and cast some very nasty aspersions along the way. Not, perhaps, the environment most conducive to discovering truth.

Galileo's Middle Finger is a disturbing but deeply informative exploration of what happens when liberal scientists and humanitarian activists clash over matters of human identity. Alice Dreger's long history of evidence-based activism makes her the perfect guide to this territory, in part because the appalling attacks that she has endured from other activists have heightened a natural empathy for the scientists she writes about. Dreger also possesses a keen sense of irony and a sharp wit; these regularly get her into trouble but, in recompense, make her a pleasure to read.

The opening chapters recount Dreger's efforts, with intersex activist Bo Laurent, to change the prevailing medical approach to infants born with ambiguous genitalia. In the early 1990s this consisted of sex assignment after birth, invasive surgery to reinforce that assignment, and deception about the medical history in adulthood. Laurent and Dreger are opposed to such life-altering surgeries being imposed on infants who cannot give informed consent, and they document the unmistakable harm that this approach can inflict. Quickly, though, they decide that they are not interested in ideology. They resolve that if the evidence eventually shows that "normalizing" surgery for infants is the best option for long-term well-being, they will change their minds.

What follows is a remarkable portrait of successful social justice activism. Dreger and Laurent recognize that to change the medical establishment, they can't demonize the well-intentioned surgeons within it. Instead, they master the scientific and medical literature on intersex and campaign to educate doctors, whom they treat as valued partners, not adversaries. Dreger invests in frilly dresses and lipstick to render her appearance less threatening. Eventually they bring activists and doctors together to rewrite the standard medical guidelines for intersex pediatric care.

Dreger's own confrontation with activism occurs when she tackles controversial work on transsexualism by the psychologists Michael Bailey and Ray Blanchard. Blanchard and Bailey had found evidence that some cases of transsexualism involve *autogynephilia*, or men being sexually aroused by the idea of becoming women. Although some transsexuals self-identify as autogynephiles, the classification is threatening to others, who fear the potential implication that transsexualism is about sexual fantasy, not gender identity. Consequently, even though Blanchard and Bailey are supportive of transgender rights, including the right to sex reassignment, they become targets of a vicious, vocal, and mendacious smear campaign by an influential minority of transgender activists. Dreger falls afoul of the same group when her research reveals their various exaggerations, distortions, and deceptions.

These experiences motivate Dreger to seek out other scientists persecuted for their inquiries, and she provides brief but fascinating case studies of several. Randy Thornhill and Craig Palmer received death threats and were branded as rape apologists when their book *A Natural History of Rape* challenged the conventional wisdom that rape is entirely about power, having nothing to do with sex. Elizabeth Loftus, whose elegant experiments have shown how easy it is to implant false memories in the brain, was subjected to formal ethics complaints when she questioned the veracity of some repressed memories of childhood sexual abuse. And Bruce Rind, Philip Tromovitch, and Robert Bauserman were painted as defenders of pedophilia and actually saw their work condemned by an act of congress when they published evidence that some victims of childhood sexual abuse grow up to be psychologically healthy.

Most of the campaigns that Dreger describes follow the same basic script or formula. First, invent some reprehensible view, action, or motive and attribute it to the offending scientist (Dreger's "number-one rule of making shit up: Make it so unbelievable that people have to believe it.") Second, disseminate this invention widely and demand that the scientist's university, or some other professional body, investigate. Third, publicize the fact that the scientist is "under investigation" to further undermine his or her credibility. This is the basic script. The specific tactics employed in each case make for fascinating reading. About halfway through the book one starts to wonder how people who profess a concern for social justice can deliberately and repeatedly exhibit such hideous behavior toward others. The only answer seems to be that those who think they are doing God's work tend, in the words of Christopher Hitchens, to "award themselves permission to behave in ways that would make a brothel keeper or an ethnic cleanser raise an eyebrow."

A large section of the book is devoted to the most extreme example in recent memory of politics trumping evidence in the academy: Patrick Tierney's fabrications, in the book *Darkness in El Dorado*, regarding the work of anthropologist Napoleon Chagnon and geneticist James Neel with the Yanomamö. Readers of *Human Nature* will be familiar with this material already, as Dreger's (2011) detailed account of the incident was published in *Human Nature* and remains the journal's most downloaded article. Although I have read Dreger's careful research on this issue many times, I continue to find myself astonished every time I do so.

The campaign by Patrick Tierney, Terence Turner, and Leslie Sponsel to discredit Neel and Chagnon followed precisely the model adumbrated above. Turner and Sponsel disliked Chagnon's sociobiological research for purely political reasons. Tierney's motives were more nebulous, but Dreger notes his close association with the Salesian missionaries whose conduct toward the Yanomamö Chagnon has frequently criticized. Tierney produced a book-length indictment, supported by an imposing array of phony citations, charging that Chagnon and Neel had intentionally started a measles epidemic among the Yanomamö to test their "eugenic" theories. Chagnon was additionally accused of purposefully starting wars, withholding medical care while subjects died, and falsifying data. Turner and Sponsel summarized and embellished the most lurid claims in a sententious memo to the leadership of the American Anthropological Association (AAA), and requested the AAA's help in publicizing them. Sensational headlines about Chagnon and Neel's purported genocidal behavior appeared soon after.

The most interesting thing about the whole *Darkness in El Dorado* controversy turns out to be how quickly and easily Tierney's accusations were refuted by competent scholars. Within a very short period of time, the University of Michigan had issued a

point-by-point rebuttal of the accusations, in the provost's name. Susan Lindee, a historian of science at the University of Pennsylvania, issued an open letter detailing problems with Tierney's book, based on her work with Neel's archives. Other professional associations, including the National Academy of Sciences, the American Society of Human Genetics, the International Genetic Epidemiological Society, and the Society for Visual Anthropology, issued fact-based criticisms of the book.

The leadership of the AAA, by contrast, decided to take Tierney's accusations seriously, engaging in a series of craven and sinister maneuvers to push them forward. The bylaws of the AAA did not allow for ethics investigations, so instead they initiated an "inquiry": the El Dorado Task Force. The only practical difference appears to have been that, with the inquiry, Chagnon was not allowed to present evidence in his defense. AAA president Louise Lamphere personally called Chagnon's chair at UCSB, Francesca Bray, to suggest that his department censure and investigate him. (They declined.) All of this despite the fact that everyone involved was fully aware that Tierney's claims were "sleaze," as evidenced by a damning e-mail that Dreger uncovered, authored by task-force chair Jane Hill.

Eventually the full extent of Tierney's fabrications was documented by numerous scholars, and the membership of the AAA voted to rescind the El Dorado Task Force's final report. It took a threat of legal action, however, to convince the AAA to finally remove the report from its website. Occasionally one still hears grumbling that Chagnon must have been guilty of *something*, perhaps inappropriate gift giving, or not contributing as much as he might have to Yanomamö welfare. Dreger makes the point that these might be interesting questions for anthropologists to ponder, but the appropriate context for doing so is not alongside accusations of genocide from a crackpot.

Dreger successfully conveys the toll that these vitriolic campaigns can take on their recipients, but she does so without becoming maudlin or pretending that her subjects are saints. Her portrayal of Chagnon, who enjoys playing with his spurious reputation as a reactionary, is particularly fun. Among other things, he repeatedly introduces Dreger as his assistant, just to needle her.

Dreger's final case study addresses what happens when scientists get ahead of the evidence and engage in well-intentioned but potentially harmful research. It involves the work of Dr. Maria New, a leading proponent of the use of dexamethasone to treat pregnant mothers with infants at risk of congenital adrenal hyperplasia (CAH). The treatment is designed to prevent intersex conditions, a common effect of CAH in female infants. However, Dreger discovers that the potential side effects of dexamethasone exposure in early development have not been well studied in humans, and that parents are not given appropriate warnings about potential complications when the treatment is offered. Her efforts to change the establishment are not as successful as her earlier intersex activism, but her work draws critical attention to the gaps in oversight that can occur when patients become the subjects of medical research.

Galileo's Middle Finger is not, ultimately, about scientists versus activists, but about the necessity of anyone interested in social justice primarily being concerned with truth. For a "sustainable justice," Dreger argues, "is impossible if we don't know what's true about the world." Liberal science, with its insistence on evidence and explicit rejection of arguments from personal authority, is the best system yet designed for distinguishing truth from falsehood. And for this reason, Dreger reminds us, "Evidence is an ethical issue."

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