

Book Review: Alice Dreger, *Galileo's Middle Finger: Heretics, Activists, and the Search for Justice in Science*. New York: Penguin, 2015. ISBN: 978-1594206085 (Hardcover). 337 Pages. \$27.95.

Reviewed by Mikaila Mariel Lemonik Arthur¹

[Article copies available for a fee from The Transformative Studies Institute. E-mail address: journal@transformativestudies.org Website: <http://www.transformativestudies.org> ©2016 by The Transformative Studies Institute. All rights reserved.]

Perhaps it is news to the casual non-academic reader that scientific research can be a minefield of controversy, with new ideas struggling to gain acceptance in the face of active and overt resistance. Science-studies scholars, of course, are used to this notion, as it has been over fifty years since Thomas Kuhn exploded the idea that “normal science” proceeds in a continuous and logical fashion. Further, all practitioners of academic research are now familiar with the periodic scandals wracking various fields. Alice Dreger, former professor of Clinical Medical Humanities and Bioethics at the Feinberg School of Medicine, Northwestern University, dives headfirst into several of these scandals in her engaging, enthusiastic, and accessible book—but she does more. Rather than simply charting the progress of academic discord and the way that it does (or does not) impact the development of knowledge in a field, Dreger shows how such discord can be the result of sustained activist campaigns. Her cases detail the ways in which activism by those opposed to particular scholarly developments can hinder the progress of science and the pursuit of truth. This introduction to her work may make Dreger sound as if she is opposed to knowledge activism, but she is not—indeed, her work might also serve as a handbook for scholars seeking ways to

¹ **Mikaila Mariel Lemonik Arthur**, Ph.D., is an associate professor in the sociology department at Rhode Island College where she teaches courses on research methods, law & society, race & justice, and education. She has published two books, *Student Activism and Curricular Change in Higher Education* (Ashgate, 2011) and *Social Change* (Volume 7 in the *Student Handbook to Sociology*, Facts on File, 2012), and several research articles on issues related to social movements in higher education along with many pedagogical publications. Address correspondence to: Mikaila Mariel Lemonik Arthur, Rhode Island College; e-mail: marthur@ric.edu.

influence scholarly trends, and it contains many useful meditations on her own work as a scholar-activist.

Dreger's fundamental argument is that "science and social justice require each other" and that "the pursuit of evidence is probably the most pressing moral imperative of our time" (11). She believes that the this pursuit of evidence was integral to the foundation of the United States, a point she illustrates metaphorically by telling the story of David Rittenhouse's Philadelphia astronomical-observation platform, which became the site at which with signing of the Declaration of Independence was announced.

She makes this argument over the course of several extended case studies of scientific controversy, including her own work on the medical treatment of intersex children and the scandals over J. Michael Bailey's work on autogynephilic transgender identity and Chagnon's ethnography of the Yanomamö, while presenting several other more cases, albeit in a limited capacity. In her final chapters, Dreger discusses a campaign in which she participated to stop an NIH-funded investigator from treating pregnant women with dexamethasone, a potentially-dangerous steroidal treatment which can reduce the chance of atypical genital development in girls with congenital adrenal hyperplasia, without proper informed consent. In this effort, Dreger and her allies were unsuccessful. And while I am not equally familiar with all of the cases Dreger features, Dreger's analysis accords with my prior reading on the Chagnon case. She strives to be as objective as she can in telling these tales, though she obviously developed close friendships with some of the scholars she writes about, and one gets the sense that Dreger is typically inclined to favor the underdog in any fight. Yet she is committed to truth even when it conflicts with her political goals—which she demonstrates through her increasing acceptance of sociobiology throughout the narrative.

There are clearly multitudes of other cases at which Dreger could have pointed her astute analytical lens. To be sure, her case selection here is influenced more by her own connection to the issues and scholars at hand than any scientific or logical sampling method. While most of the cases she covers involve activists who, in her words, privilege some identity or ideology over the truth, her concluding chapters on the dexamethasone case suggest the utility of her analytical lens for considering other circumstances in which scholars have been attacked for misleading publications. The Regenerus case, for example, would fit well with Dreger's long-standing interest in sexuality.

For those unfamiliar with this study, Regenerus published an article based on survey data in which he claimed that children of gay parents

have worse life outcomes than those raised by heterosexual parents. It turns out that this analysis was produced from a survey in which vanishingly few children were actually raised in households with same-sex parents; instead, Regenerus treated those who spent brief periods of time living with gay or lesbian parents as if they had grown up being parented by a same-sex couple, and many analysts believe his results reflect this instability more than anything else. This study attracted intense scrutiny and opposition from both academic social scientists and activists, ultimately leading to an audit of the reviewing and editorial process at *Social Science Research* (which published the paper in question), much like the audit Dreger clearly wishes had occurred at the *American Journal of Bioethics* in relation to the dexamethasone case. Regenerus's supporters clearly believe that he is being targeted by activists who wish to avoid the truth, but most mainstream sociologists who have followed the case believe the evidence points to serious flaws with the paper.

It might also be worthwhile to apply Dreger's perspective to the Alice Goffman case. Goffman's book, *On the Run*, has been both vehemently criticized and staunchly defended by those both within and beyond academia, with critics focusing on supposed violations of research protocols and ethics, including illegal activities and fabricated stories. Supporters, including several investigative journalists, have suggested that these charges are false or exaggerated, while sociologists point out that Goffman's research practices were consistent with IRB requirements. Perhaps it is too soon for the careful historical work that Dreger does to uncover the political intrigue that some suspect is at work in the Goffman case, but Dreger on Goffman would certainly be an interesting read.

For activists, especially scholar-activists focused on knowledge-related issues, there is much to learn from Dreger's stories. While she does not organize her insights about activism into an orderly list of suggestions, readers will find tidbits and ideas through the text. For instance, she highlights the importance of acceptable self-presentation for activists hoping to be taken seriously in the intellectual sphere (43). But her book may be even more useful for the targets of such activism. She powerfully explores the impact of being caught in the controversy on scholars' careers and emotional lives and provides suggestions from her own experience and that of other scholars on how to weather the storm. For example, she relates's the advice proffered by Elizabeth Loftus who wrote about the possibility of implanting memories of sexual abuse in children:

If you think you are working for the greater good, you take the knocks and keep working, doing good research to figure out reality. You stop worrying about yourself. And so—staying firmly focused on the work that matters—you survive (234).

In her detailed discussion of the Bailey case, in which a group of transwomen mounted an all-out campaign to smear Bailey's reputation, a campaign that went as far as accusing him of sexual crimes against his own children, Dreger's readers learn both how to go about mounting such a smear campaign as well as how to do the research necessary to debunk it. For those of us who study social movements, the cases Dreger details provide fruitful avenues for thought about the nature of contention. More recent scholars have advanced on Kuhn's notion of the paradigm shift by arguing that new intellectual currents, and even new academic fields, can be born out of intellectual activism. To Frickel and Gross (2005), such new knowledge emerges through Scientific/Intellectual Movements (SIMs), which are much like social movements but stay within the academic/intellectual sphere in terms of both subject matter and consequences, avoid public confrontation, and are led by high-status academics. (Dreger suggests, by the way, that our system of scholarly prestige affords researchers with the most status the most opportunity to get away with scholarly misdeeds.)

Dreger's cases fit somewhat uneasily into this discussion. The first issue is that the activists she discusses are typically seeking to oppose or debunk new ideas rather than advance them, but that probably just means we might classify them as counter-movements. These counter-movements involve interesting and varying coalitions of well-known scholars and outsiders, often featuring prominent scholars in fields other than the one in which the challenged scholarship was situated. In most cases, they involved clear linkages to activist groups outside of academia. Also, they utilized confrontational tactics that went well beyond intellectual contention, including those designed to attract extensive media coverage as well as legal threats to the scholars they sought to debunk. Intellectual contention is not new, obviously—as Dreger's title makes clear, the trends she details stretch back at least as far as Galileo. But the increasing accessibility of scholarly controversies to activists outside of the fields from which these controversies emerged may make it more likely that intellectual contention will proliferate and that it will precipitate broader contention outside of academe.

Dreger's book is perfect for this moment in history when college campuses across the country are struggling with the question of what academic freedom really means. Many activists for justice and equality on campuses today argue persuasively that intellectual inquiry can be harmful to oppressed and disadvantaged groups and seek reforms to campus life that could limit such harms. While Dreger does not take up this question directly, she does argue that only those with enormous privilege have the luxury of arguing that "identity is more important than facts" (137), reminding us that where facts are discounted, the secret police may not be far behind. Ultimately, she concludes that the pursuit of truth may be more a more radical path and a more enduring one: "If you want justice, you must work for truth. And if you want to work for truth, you must do a little more than wish for justice" (262).

But there are other, more pressing threats to academic freedom, as Dreger argues in her conclusion. Those without the protections of tenure (or, I would argue, a strong faculty union) cannot risk involvement in the types of scholarly scandals Dreger details, no matter their importance for the development of knowledge and the pursuit of justice. Trends such as corporatization, increasing publication and grant-seeking demands, and the casualization of academic labor further reduce the likelihood that scholars will take on difficult and risky questions. And Dreger does not limit her warnings to the academy—she also highlights the decline in investigative journalism over the course of her career, noting that, when she first began studying areas of scientific controversy, she could count on mainstream investigative journalists to bring those tales to a broader audience, but today she often has to write the journalistic account herself and hope a mainstream publication will be willing to pick it up.

The book touches on other important areas of contemporary debate in the academy. For example, she argues that the invention of peer review is "the genius of science" (133), leading me to wonder what she makes of the trend to post-publication review in many scientific fields. A lack of pre-publication review, of course, can permit both new ideas and their detractors to flourish, and Dreger's work leads to interesting questions about the potential unanticipated impacts of such developments, especially given her concerns about the need for scholars to develop better systems for policing each other for accuracy (262). Indeed, in her discussion of the case of dexamethasone, Dreger provides frightening evidence about the extent to which the Office for Human Research Protections—the agency charged with ensuring that federally-funded studies comply with IRB and human subjects protections—"is no longer doing its job" (274).

While this may not be a surprise to social scientists and humanists who have studied the medical establishment, her findings highlight the limitations of medicine as a rational, empirical discipline. In her cases, medical standards are retained based on aesthetic or social concerns and a bias in favor of action, rather than medical scientists relying on careful consideration of the evidence about outcomes. Thus, doctors still recommend genital surgeries to the parents of newborns with obvious intersex traits, despite the fact that such surgeries lead to worse adult outcomes and despite the fact that there is clear evidence that shame and stigma have more powerful impacts on adults with intersex than do particular anatomical features. Dreger convincingly argues that such treatments stem from a broad medical and societal interest in limiting human (and especially female) sexuality to reproduction and parenting. She even points out, in a related anecdote about her research on conjoined twins, that advocacy of separation surgeries often stems from concern about sexual lives.

The analysis Dreger presents could also be seen as a persuasive defense of the importance of the liberal arts, including—even especially—for those who primarily study other fields. It is also essential to note here that until recently, Dreger was a professor of medical humanities and bioethics at Northwestern, until she resigned her position in August 2015 due to concerns over censorship of her colleagues by her dean. She argues for the importance of both literature and history as guiding forces in understanding the human condition. As a historian, she feels that “There’s something really liberating in knowing you don’t matter” (21), but yet history, is “always too late,” as “People don’t want to listen to us historians and our warnings” (276). As for literature, she argues that it is fiction (Jeffrey Eugenides’s *Middlesex*) that was most powerfully able to change doctors’ minds about the treatment of children with intersex traits, rather than empirical evidence—a pretty persuasive claim for the role of medical humanities in physician education.

Besides being useful for scholar-activists and those who wish to debunk them, Dreger’s work is a broadly accessible read that would be of interest to general audiences who enjoy books about science or philosophy, particularly those with an interest in the science of sex, gender, and sexuality. It would also be useful for those teaching undergraduate courses in science studies. The book is well-referenced for a trade publication, giving scholars who would like the ability to double-check Dreger’s evidence ample opportunity to do so, and these references would enable instructors using the book to assign students to

locate and delve into the raw material at the core of the debates Dreger covers.

REFERENCES

- Arthur, Mikaila Mariel Lemonik. 2009. "Thinking Outside the Master's House: New Knowledge Movements and the Emergence of Academic Disciplines." *Social Movement Studies* 8(1):73-87. <http://dx.doi.org/10.1080/14742830802591176>
- Dreger, Alice. 2015. "Letter of resignation." Website accessed 03/11/2015, <http://alicedreger.com/sites/default/files/Dreger%20resignation%20from%20Northwestern.pdf>
- Frickel, Scott and Neil Gross. 2005. "A General Theory of Scientific/Intellectual Movements." *American Sociological Review* 70(2):204-232. <http://dx.doi.org/10.1177/000312240507000202>
- Kuhn, Thomas. 1962. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

SUBSCRIPTIONS
(Print) ISSN: 1937-0229

Theory in Action

Published quarterly by the Transformative Studies Institute

Annual Subscription Rates (in \$USD):

Individual \$350.00

Institutions \$650.00

Orders can be placed online at:

<http://www.transformativestudies.org/products-page/>

Or, mail this form with payment to:

Transformative Studies Institute, Orders, 39-09 Berdan Avenue, Fair Lawn, NJ 07410

I am enclosing a check or money order made payable to: Transformative Studies Institute

Charge my credit card: Visa Mastercard Discover

Card Information:

Card number _____

Expiration date _____

CVC Code (last 3 digits on the back of the card) _____

First Name: _____ MI _____ Last Name: _____

Address Associated with Card:

Street: _____ Apt. # _____

City: _____ State/Province: _____

Country: _____ Postal Code: _____

Tel.: _____ Email: _____

Mailing Address for subscription if Different From Above:

Street: _____ Apt. # _____

City: _____ State/Province: _____

Country: _____ Postal Code: _____

Signature _____ Date (MM/DD/YYYY) _____

Transformative Studies Institute is a U.S. registered 501(c)(3) tax-exempt nonprofit organization.
All funds received by TSI are tax-deductible.

Dear reader: If you wish to recommend this journal to your library fill out the information below and forward it to your institution's librarian in charge of serials/orders or electronic resources specialist.

Attn: Journal Selection/Electronic Resources Librarian

Name/Title: _____

Library: _____

College/University/Institution: _____

Address: _____

Here is our library recommendation for the print journal:

Theory in Action (Print ISSN 1937-0229)

Recommended by:

Name: _____

Title: _____ Department: _____

Signature: _____ Date (MM/DD/YYYY): _____

I plan to use this journal:

- | | |
|---|---|
| <input type="checkbox"/> as a publication outlet | <input type="checkbox"/> for my own research |
| <input type="checkbox"/> for articles as class handouts | <input type="checkbox"/> for coursework assignments |
| <input type="checkbox"/> professional discussions | <input type="checkbox"/> other _____ |

Name: _____

Title: _____ Department: _____

Signature: _____ Date (MM/DD/YYYY): _____

I plan to use this journal:

- | | |
|---|---|
| <input type="checkbox"/> as a publication outlet | <input type="checkbox"/> for my own research |
| <input type="checkbox"/> for articles as class handouts | <input type="checkbox"/> for coursework assignments |
| <input type="checkbox"/> professional discussions | <input type="checkbox"/> other _____ |

Theory in Action – the Journal of the Transformative Studies Institute
39-09 Berdan Avenue, Fair Lawn, NJ 07410 USA
www.transformativestudies.org
Email: journal@transformativestudies.org