Ratf**cked: The True Story behind the Secret Plan to Steal America's Democracy. David Daley. 2016. New York: Liveright Publishing. ISBN 978-1-63149-162-7 (cloth).

Students of politics are well aware of the significance of the decennial process of legislative redistricting. They are also highly cognizant of gerrymandering, an approach used by the majority party to enhance its proportion of legislative seats by constricting districts that contain a favorable balance of its voters in as many districts as possible. But even those who closely follow politics may not be aware of just how sophisticated gerrymandering has become. David Daley provides a detailed account of how the Republican Party gained majorities in state legislatures and then used gerrymandering to ensure its dominance at both the state legislative and congressional levels.

The colorful term in the title describes political dirty tricks done on the cheap. It is most often associated with Donald Segretti and the dirty tricks team assembled in 1972 for President Richard Nixon's reelection. The term is also associated with Republican National Committee counsel Ben Ginsberg in the early 1990s. Ginsberg entered into an unlikely alliance with black political leaders to create majority-minority districts, as provided in The Voting Rights

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Act. Democratic voters were packed into solidly Democratic districts. This led to an increase in the number of black representatives in Congress while making the surrounding districts whiter and safely Republican. Ginsberg referred to the plan as *Project Ratfuck*.

Daley describes the key role played by Chris Jankowski, a political tactician with the Republican State Leadership Committee (RSLC). The RSLC was founded in 2002 as an organization to focus on state elections. After Barack Obama's 2008 election, Jankowski saw redistricting as an opportunity for the GOP to regain political power. He identified the 44 states where the legislature was responsible for redistricting. He looked for state legislative chambers that were fairly evenly divided and where there was a Republican governor, so that a proposed redistricting plan could not be vetoed. He found 18 chambers where fewer than four seats separated the parties. In all, 107 seats in 16 states were targeted. The plan was called Redistricting Majority Project, or REDMAP.

The plan was an unmitigated success. In 2010, the GOP picked up 63 House seats, six Senate seats, and 680 state legislative seats, resulting in Republicans controlling 29 governorships and 26 state legislatures. The Democrats held only 15 state legislatures. Today, Republicans control 32 state legislatures to 14 for the Democrats.

As Republican majorities began the 2010 redistricting, the RSLC offered the assistance of their experts. The results of the 2012 election show how successful they were. Nationally, the Democrats polled 1.5 million more votes for Congress than the Republicans but they gained only eight seats. The impact of the GOP gerrymander is more dramatically revealed at the state level. In Ohio, the GOP won 52% of the statewide congressional vote but won 75% of the seats. In Pennsylvania, the Democrats won almost 100,000 more votes total across the Commonwealth, but the Republicans won 13 of the 18 seats.

Daley presents two case studies from Pennsylvania to demonstrate how dirty tricks were employed to defeat Democratic incumbent state legislators to achieve a Republican majority. Both were undermined by deceptive mailers. David Levdansky was running for a fourteenth term. Flyers were mailed to his constituents accusing him of voting to spend \$600 million to build a library for deceased former U.S. senator Arlen Specter. In actuality, he had voted to spend two million dollars to finance a library at the University of Pennsylvania. David Kessler was done in by the same flyer. In his case, the Specter library was compared to the Taj Mahal.

Six states employ nonpartisan commissions to some degree in the redistricting process. The most successful is Iowa's commission. Daley attributes this success to the attitudes of Iowa's voters. He reports that Iowans genuinely support such an approach to redistricting. Arizona offers an example of an unsuccessful attempt at nonpartisanship, according to Daley. Established in 2000, the redistricting board consisted of two Democrats, two Republicans, and one independent. It was initially viewed as an improvement, but by 2011 Daley states that this "experiment in bipartisanship devolved into ever more devious forms of ratf**king."

While the REDMAP plan was a decided success for the Republican Party, the implications for the political system generally are decidedly more negative. Gerrymandered districts result in too many voters who are denied a real choice in the general election. The crucial election becomes not the general election but the majority party's primary election. The dramatic increase in safe districts has also contributed to the extreme partisanship that currently plagues our system. Competitive districts that are more likely to produce moderate legislators have been gerrymandered out of existence. Safe districts force legislators to appeal to the extreme elements in their respective parties. Attempts at moderation increase the possibility of opposition in the primary. There is little incentive to engage in bipartisanship.

Daley details how sophisticated redistricting has become in an era of sophisticated modeling and immense computing capacity. Today, experts draw district lines with no lack of census or voter data. Districts can be constructed block by block with little fear of errors. A party in control of the legislature and governorship can make districts safe for at least a decade.

This is a well-researched, well-written book. It calls attention to a situation that should concern all citizens. Electoral competition is central to all democracies. Daley describes a concerted attack on that competition in America.

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Fracking America: Sacrificing Health and the Environment for Short-Term Economic Benefit. Walter M. Brasch. 2016. Sacramento: Greeley and Stone. ISBN: 978-0-942991-27-7 (paper).

While shale gas exploration is commonly perceived to have marked a turning point in American energy policy, Walter M. Brasch in *Fracking America* reveals the extent to which the reality of public health concerns, economic benefits, and private property violations does not live up to the hype. The design and format of the book reflect a careful examination of the problems associated with shale gas exploration. The author seeks to promote a comprehensive understanding of fracking's impact on diverse issues that include human health, the environment, political discourse, academic integrity, and media coverage.

Although uneven across its 25 chapters, the book's main focus on fracking's consequences generates an important dimension to our understanding of nontraditional energy sources, namely that shale gas exploration is, on the whole, an unsafe process that harms our environment and health. This review identifies three key themes: economic impact, legal problems, and public health issues (in particular related to water pollution).

The Economics of Fracking

According to Brasch's sources, hydraulic fracturing wells can cost anywhere between \$3.5 million to \$10 million per well. The author claims that only 20% of wells are profitable in their lifetime, which can be just 10 years. In fact, most wells experience a production decline in the third year.

Furthermore, faced with an economy in recession, many of the first landowners approached were easily convinced to lease mineral rights for a lump sum and the promise of royalties. As owners became more knowledgeable, they negotiated for cleanup costs and free natural gas to heat their homes. In response, the large corporations became shrewder, and owners were quick to accept lower leasing costs for the possibility of larger royalties. As a result, corporations legally deducted portions of final production costs from royalty checks that they issued to surface owners.

A recurrent problem of the book, particularly noticeable in chapter two, is that it alienates the audience it hopes to persuade. In particular, the landowners are accused of being greedy and selfishly interested in short-term benefits with a lack of foresight. Likewise, the author paints natural gas corporations as actively malicious (p. 41) and quickly dismisses alternative reports on the economic benefits of shale gas as exaggerated and inflated (p. 42). Direct affronts to landowners and natural gas corporations might not represent the best persuasive strategy. Last, the flowchart on page 52 makes little sense and appears careless and unsystematic.

Eminent Domain

An important legal clarification on page 55 examines the problem of split estate. Old English common law allows for separate ownership of surface rights and underground mineral rights, which are considered to be "the dominant estate." This opens the discussion about eminent domain: the power to take private property for public use while offering just compensation to those whose property is acquired. The author believes TransCanada, the company behind the Keystone Pipeline, has taken advantage of eminent domain in its construction work. When landowners turned down easement funds, the company requested that the state's Railroad Commission "seize private property and then transfer it to TransCanada for economic development" (p. 56). Even more troubling, a portion of the land seized was an archaeological site, specifically a Native American burial site.

Owners were also concerned about their water rights. Between 2000 and 2013, the author identified 8,132 pipeline incidents, resulting in 218 deaths and about \$5.4 billion in property damage (pp. 57–58).

Critics call these acts unconstitutional, citing court rulings that forbid seizure of property for private use. However, Pennsylvania's Act 13 gives these companies even more opportunities for similar morally disreputable acquisitions. Marcus Rowland, the chief financial officer of the natural gas producer Energy Corp is cited as acknowledging this problem and admitting that at least half of Chesapeake's gas drilling has been involuntary (p. 61). Furthermore, such problems are not limited to the United States. Despite 99% public opinion opposition, the United Kingdom allowed gas companies to access a shale bed beneath residences.

Public Health Issues

Public health problems associated with fracking, and in particular water pollution, constitute the most serious negative consequences of shale gas exploration. In Pennsylvania, the act that preceded Act 13 initially contained a stipulation to provide up to \$2 million a year to fund the Department of Health for "collecting and disseminating information, preparing and conducting health care provider outreach, and education and investigating health related complaints and other uses associated with unconventional natural gas production activity" (p. 140). That provision never appeared in the final bill.

Furthermore, states like Colorado, North Dakota, and Pennsylvania track unconventional drilling related health complaints, but refuse to make the complaints public. Other states do not track those complaints at all. Some doctors note that there is no financial incentive to collect such data, which could come from fees collected from the industry itself.

The book highlights independent studies from the University of Pennsylvania and Columbia University that found an increase in dermatological, neonatal, and cardiovascular illness in those living in fracking zones. Scientists from the University of Missouri discovered that some chemicals used during fracking blocked estrogen and androgen hormones. Dr. Theo Colborn, a medical professional who analyzed the chemicals, posited that approximately one-third of these chemicals "may cause cancer, while almost 90 percent of the toxins in a fracking mixture could cause damage to the skin, eyes, ears, nose, and throat" (p. 142). It is important to note that exposure to these chemicals can occur not only through the water and air but also through the soil, plants, and animals. It is with the help of such comprehensive health assessments that New York's Department of Health banned fracking in the state.

One of the most elaborate arguments made in *Fracking America* concerns water pollution: unconventional drilling poses a huge threat to natural watersheds and local biodiversity with a variety of pollutants, from radioactive to explosive. Hydraulic fracturing requires a company to tap large amounts of water from local sources. Often, public officials are easily persuaded to grant access to energy companies, despite the potential for contamination, depletion, and disturbance to watershed biodiversity.

Brasch cites a comprehensive study commissioned by the European Union that led to the recommendation that no fracking be allowed near areas where water is used for drinking. It normally takes tens of thousands of years for contaminants to move to the surface, but shale gas drilling has cut that time to decades (p.163).

In the United States, both individual doctors and medical associations recommend testing wells near drilling sites on a regular basis for dissolved chemicals, noting the higher risk of contamination from metals such as barium and strontium (p.165). In one family's home, methane levels in the water were so high, they needed to constantly ventilate their home for fear of an explosion. This family, and many others mentioned in chapter 9, experienced a reduction in respiratory and dermatological ailments after switching from their contaminated wells to shipped-in water.

While the number of case studies analyzed in relation to water pollution remains impressive, I recommend a more careful examination of sources for several of the cited studies. The author tends to view studies by proponents of the industry as subjective, but sources benefitting his argument as objective. Calling attention to the subjectivity of certain sources without applying that same thoroughness to *all* sources constitutes a double standard.

A Look into the Future

The book concludes by examining alternatives to the current dependency on fossil fuels and explores the possibility of hyperaggressive renewable energy sources that currently provide 16.6% of energy in the United States. Arguments in favor of moving in this direction come from public opinion, as

three-quarters of Americans support increased development of renewable sources, the most popular of which is wind. The plan also includes a complete switch to electric and hydrogen fuel cell cars.

Brasch concludes that, despite its temporary status as a cheap viable energy source, shale gas will eventually fall by the wayside. In recent years, the American public and scientists alike have increasingly opposed horizontal drilling. Their opposition extends to other aspects of the process, including pipelines like the Keystone XL. The author notes, however, that when the shale gas industry ends, it will leave behind shell towns and environmental damage that will take years to recover.

The particular strength of *Fracking America* is the comprehensive and profound description and analysis of all problems associated with fracking. It is well written, rich in data and analysis, though it likely will not appeal to fracking's advocates, because it is too quick to dismiss contrary arguments. A recurrent problem is that it alienates the audience it actually tries to persuade. Last, while renewable energy may truly represent alternatives to fracking and its inherent problems, the author did not offer a solution to the cost (and by extension, the sustainability) of the renewable energy process.

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