

Collecting Science: Sokal, Dawkins, and McKibben

THREE COLLECTIONS OF SCIENCE WRITINGS for the general intellectual readership—and three very different physical artifacts to house them. But what is the symbolic, implied, or desired meaning of these variations in book design?

For example, what message should we understand when a book is larger than the standard octavo size, 7 by 10 instead of 6 by 9? This is the case with Alan Sokal's *Beyond the Hoax: Science, Philosophy and Culture*¹ from Oxford. The paper is very smooth and white, the type somewhat larger than usual, the volume as a whole a hefty tome suggesting a reference book of longstanding value. But is it?

Also from Oxford, Richard Dawkins' *The Oxford Book of Modern Science Writing*,² only slightly larger than octavo at 6¹/₈ by 9³/₄, on heavy white paper, rougher and stiffer than Sokal's, with type slightly smaller but a binding so tight that physical force is needed to keep it open as you read. Why was Oxford making it extra-easy for the reader of Sokal but so fighting-hard with Dawkins?

The estimable Library of America's *American Earth: Environmental Writing Since Thoreau*,³ edited by Bill McKibben with a Foreword by Al Gore, sticks to its now classic 5 by 8¹/₂ compact dimensions but with thicker than usual, faintly yellower paper and less dense lines of type, different from its customary thin paper with more compressed lines. The result is a fatter and heavier volume.

Alan Sokal, an appealing, sensible, sharp but unpretentious physicist, catapulted into notoriety by the now legendary Sokal Hoax of 1996, has emerged from his role as whistleblower in the anti-science culture wars of the humanities to tell his story and to fight another day, which he now does in this curious, slightly updated and refurbished collection from Oxford, whose aim, his Preface tells us, is to emphasize the importance of the scientific worldview as well as the "centrality of evidence" so badly lacking in much public debate. "In the summer of 1994, having become acquainted—thanks principally to Paul Gross and

¹ BEYOND THE HOAX: Science, Philosophy and Culture, by Alan Sokal. Oxford University Press. \$34.95.

² THE OXFORD BOOK OF MODERN SCIENCE WRITING, ed. by Richard Dawkins. Oxford University Press. \$34.95.

³ AMERICAN EARTH: Environmental Writing Since Thoreau, ed. by Bill McKibben. The Library of America. \$40.00.

Norman Levitt's *Higher Superstition* [subtitled *The Academic Left and Its Quarrels with Science*—with the phenomenon of postmodernist literary intellectuals pontificating on science and its philosophy and making a complete bungle of both, I decided to write a parody of postmodern science criticism, to see whether it could get accepted as a serious scholarly article in a trendy academic journal." Spending several months in libraries researching postmodern texts about science, he produced a brilliant, obfuscatingly nonsensical, parodic essay that he sent to *Social Text*, a politically correct cultural studies journal of the left. As the world soon came to know, it was unwittingly accepted as a serious article (Spring/Summer 1996) that was presumed to side with the debunking ethos of the journal and its "assault on reason and science," which at that time came from the left but since then has been increasingly adopted by the conservative anti-Darwinian, Intelligent Design right. Embarrassing the duped editors and adding firepower to the culture wars, Sokal exposed the parody, shortly after it was published, in the now defunct *Lingua Franca* (May/June 1996). The *New York Times* produced a front page story and the rest is history.⁴

All of this was followed by *Impostures Intellectuelles* by Sokal and Jean Bricmont, first in French in 1997 and then in English as *Fashionable Nonsense: Postmodern Intellectuals' Abuse of Science* in 1998. In the Preface to the English edition, they wrote that their book "grew out of the now-famous hoax in which one of us published . . . a parody article crammed with nonsensical, but unfortunately authentic, quotations about physics and mathematics by prominent French and American intellectuals." Since only a small portion of Sokal's library research could be used in the parody, the two physics professors decided to present a richer sampling of the source materials and their absurdities, which they surveyed in their book.

In her massive account of the so-called "Sociobiology Debate" in the year 2000, Ullica Segerstråle wrote that "many have regarded the Science Wars as a simple opposition between Right and Left, an interpretation almost invited by the subtitle 'the academic left' in Gross and Levitt's book. The political distinctions now seem to be much more subtle. It has become increasingly clear that the political conflict is *within* the contemporary academic left. Strong indications of this appeared particularly in conjunction with Alan Sokal's famous hoax." She then goes on to explain: "Many have taken it for granted, guided by the subtitle of their book, that Gross and Levitt were conservatives criticizing the left. In fact, they were self-described *leftists*. But their leftist convictions were of a different, earlier brand . . . concerned with the welfare of society, large-scale electric networks, urban development, and so on—and the connections of these things to money and power. . . . [They] saw *objective science as a moral weapon in the struggle for better living*

⁴ Readers of *The Hudson Review* may recall my own account of the contested issue of *Social Text* ("My Science Wars," Vol. XLIX, No. 4 [Winter 1997]).

conditions and social justice [italics in original].”⁵ It was the shibboleths of identity politics and postmodern word games that rubbed them the wrong way. And indeed, Sokal makes it clear how strong were his own identifications with the left, “understood broadly as the political current that denounces the injustices and inequalities of capitalist society and that seeks more egalitarian and democratic social and economic arrangements.”

Far from being pious verbiage, the real-world counterpart of these remarks was enacted during the summers of 1986–88 when Sokal taught mathematics as volunteer professor at the National University of Nicaragua to show his support for the 1979 popular insurrection led by the Sandanista National Liberation Front against the Somoza family dictatorship, an insurrection undermined, starting in the Reagan administration, by clandestine U.S. funding of the right-wing Contras.

As Sokal describes it, the old left’s respect for evidence and logic involved “the incessant confrontation of theories with the real world; in short, for reasoned argument over wishful thinking, superstition and demagoguery.” In the introduction to *Fear of Knowledge: Against Relativism and Constructivism*, Paul Boghossian tells a story that has become a locus classicus for illustrating postmodern political correctness, identity politics, and the often mendacious relativist doctrines of the social construction of knowledge. Boghossian quotes a statement by an official of the Cheyenne River Sioux, a Lakota tribe from South Dakota: “We know where we came from. We are descendants of the Buffalo people. They came from inside the earth after supernatural spirits prepared this world for humankind to live here. If non-Indians choose to believe they evolved from an ape, so be it.” Boghossian follows this up with the words of a British archaeologist who has worked for the Zunis: “Science is just one of many ways of knowing the world. [The Zunis’ view] is just as valid as the archaeological viewpoint of what prehistory is about.”⁶ Sokal has not overlooked Boghossian’s story, taking it up in his chapter on “Truth, Reason, Objectivity, and the Left.” Today, the connections of this story to the Intelligent Design movement need hardly be pressed, as the constructionist mentality has indeed veered to the right. But at the time of Sokal’s hoax the mealy-mouthed equivocations and mendacities of academia were alarming enough.

Contrary to the theme that pervaded the 1996 issue of *Social Text*, Sokal argues that science is not just one story among many, that truth is not just an equal opportunity employer, but that the scientific disciplines have things to tell us about a real world. This real world is not to be understood as a Kantian noumenon or as the Mind of God. Rather, the universe is accessible to mortals in terms of the structure and functionality of the evolved human brain. Even in these more modest terms, the sciences continue to “get things right.” In chapters devoted

⁵ Ullica Segerstråle, *Defenders of the Truth: The Sociobiology Debate* (New York, 2000), p. 339.

⁶ Paul A. Boghossian, *Fear of Knowledge: Against Relativism and Constructivism* (New York, 2006), pp. 1–2.

to cognitive relativism in the philosophy of science, to a modest defense of scientific realism, and to pseudo-science and religion, Sokal keeps reminding us that in daily practice no one is a complete skeptic, in the sense of believing one story to be as good as another. He reviews the positions of a range of philosophers of science—Popper, Feyerabend, Quine—as well as thinkers in the sociology of science, such as David Bloor and Bruno Latour, showing the weaknesses of their skeptical arguments. Although Sokal agrees with Hume that “no statement about the real world can ever actually be *proven*” (Sokal’s words), he reminds us, for example, that in criminal investigations it is possible to find the actual criminal through forensic and logical methodologies. But of course examples of getting it right are commonplace and abundant, not vitiated by instances of getting it wrong. Even the profoundest skeptic will take a pain reliever when he has a headache; and if it upsets his system, he will try something else.

Sokal’s general conclusion about what the sciences can achieve is a position he describes as “epistemological opportunism.”

We are, in some sense, “screened” from reality (we have no immediate access to it, radical skepticism cannot be refuted, etc.). There are no absolutely secure foundations on which to base our knowledge. Nevertheless, we all assume implicitly that we can obtain some reasonably reliable knowledge of reality, at least in everyday life. Let us try to go farther, putting to work all the resources of our fallible and finite minds: observations, experiments, reasoning. And then let us see how far we can go. In fact, the most surprising thing, shown by the development of modern science, is how far we seem to be able to go.

As serendipity would have it, I write this paragraph on May 27, 2008 when the newspapers are running extensive stories about the landing of the Phoenix Mars Mission along with photographs already taken by the Mars Lander. Is it equally true that no such landing has taken place? Not even if you happen to be a Zuni? Not even if you believe the CIA blew up the World Trade Center?

Given the good sense of this book, why have I described it as a curious production? Oxford, in bestowing it with such a luxurious embodiment, would seem to be suggesting that in some way it represents a scholarly innovation that begs for special attention, but this is far from being the case. What is disappointing about this genial collection of Sokal’s writings is how dated and stale much of it turns out to be. Approximately the first third of its 465 large pages is devoted to the famous hoax, including an annotated version that spans about 85 pages, with a huge bibliography of the source material from which it was generated. Although there has never been any doubt in my mind about its virtuosity, the almost line by line footnoted annotations occupying many entire facing pages as well as half pages of small type explaining

exactly what is being parodied are not likely to be more than sampled by even the most devoted readers. The generating source-texts are now more than twelve years old and of greatly declining ideological interest (as the account of Bruno Latour below will indicate). And much of the material has been already covered or hinted at in *Fashionable Nonsense*, some of whose text is even reproduced in the new volume. The chapters that follow in this Part One, taken from previously published (as well as an unpublished) writing by Sokal on the affair, and capped by a final commentary titled "What the *Social Text* affair does and does not prove," amount to a good deal of repetitious overkill about a faded intellectual scandal.

Parts Two and Three of the book, on science, philosophy, culture, and religious superstition, are all quite good but retrace very familiar territory that has now been worked over many times by others. The long chapter on religion, politics, and survival depends so heavily on extensively quoted text from Sam Harris' brilliant *The End of Faith*, with which Sokal is in almost total agreement, that it seems superfluous to go through it all once again. On the other hand, his critical but judicious account of Michael Lerner introduces a thinker whose views would be less familiar to readers unacquainted with Lerner's magazine *Tikkun*. Still, books by Dennett, Dawkins, Harris, and Hitchens attacking religious ignorance, mendacity, and superstition leave little new for Sokal to say.

The extremely discursive footnotes occupy (at a guess) at least a third of the real estate of this book, and the various chapters are followed by sometimes immense bibliographies. Perhaps these provide the justification Oxford had in mind for the grand format: space and legibility for acres of small print. Sokal has indeed done his homework, though he nevertheless exhibits great modesty about his knowledge of fields outside his own. But a briefer, physically smaller book, a string quartet rather than a Berlioz symphony, with drastically filtered and reduced text, would have done greater service to what Sokal is able to offer at this late date, rather than such nonplussing "documentation" that few will actually read.

As for the science wars and the sociology of knowledge, some words are in order about Bruno Latour, an important figure in science studies as taken up by Sokal. Latour was a pioneer of sorts in cutting scientists down to size. His *Laboratory Life: The Construction of Scientific Facts*, written with Steve Woolgar and first published in 1979, is a report on Latour's long-term research project to investigate what actually goes on in a high-level laboratory, in this case the Salk Institute in La Jolla, California, where he spent considerable time as spectator. This was a major, daunting, and innovative procedure, especially for a researcher whose "knowledge of science was non-existent," whose "mastery of English was very poor," and who "was completely unaware of the existence of the social studies of science," as Latour himself describes it years later in a postscript to the second edition of 1986, comparing himself to "an

ethnographer sent to a completely foreign environment." So at the risk of seeming somewhat brutal (even with some admiration for Latour's book), if I had to describe his project in a very reductive way, I would say its salient conclusion was that scientists eat bag lunches and sit on toilets just like you and me. And the implied and sometimes expressed query from this discovery was: what sort of intellectual transcendence (if any) can be expected from such an earthbound, plebian ontogenesis?

For years, as a virtuoso of social "critique," Latour specialized in revealing the seamy underside, the feet of clay—the gossip, sexual needs, ambition, happenstance, etc.—that support the weight of even the most insightful discoveries of scientists, whose triumphs conceal the mundane triggers, motivations, and often shabby mortality that make science possible. Each time I would read Latour's mortalization of scientists, Auden's little poem, "Who's Who," a debunking of debunkers, had a way of commandeering my defenseless neurons:

A shilling life will give you all the facts:
How Father beat him, how he ran away. . . .
Some of the last researchers even write
Love made him weep his pints like you and me.

And then the millennium! In 2004 Latour underwent a cataclysmic sea-change announced in a long article in *Critical Inquiry*: "Why Has Critique Run Out of Steam?" Powerfully cognizant of the way in which right-wing fundamentalism and politics have mastered only too well the debunking *mentalité* of "critique"—denial of global warming, endorsement of Intelligent Design, anti-science evasions of law and sideswipings of constitutionality to promulgate a war and reward the super-rich—Latour reversed gears (with a vengeance): "While we spent years trying to detect the real prejudices hidden behind the appearance of objective statements, do we now have to reveal the real objective and incontrovertible facts hidden behind the *illusion* of prejudices? And yet entire Ph.D. programs are still running to make sure that good American kids are learning the hard way that facts are made up, that there is no such thing as natural, unmediated, unbiased access to truth, that we are always prisoners of language, that we always speak from a particular standpoint, and so on, while dangerous extremists are using the very same argument of social construction to destroy hard-won evidence that could save our lives." As I pick myself up off the floor, I need to confess that Latour goes even further than I would care to go (Who could believe it?), since "unmediated" and "natural" are problematic terms I rarely use without scare quotes! Still, I'm not about to quarrel with someone who can ask, "Shall we apologize for having been wrong all along? Or should we rather bring the sword of criticism to criticism itself and do a bit of soul-searching here[?]." And, if the reader can bear just a tiny bit more, one has to appreciate the wry question Latour asks

himself: "What's happening to me, you may wonder? Is this a case of midlife crisis?"

But space is running out and I must say a few words about two more science collections: Oxford has done much better for Richard Dawkins in the form of a somewhat more compact and portable volume for *Modern Science Writing*, since this rich collection of science classics from 1900 to the present will be revisited over and over again by many addicted readers. Although the selections tend toward fairly brief pieces from larger works, generally about one to four pages, the range extends from James Jeans's *The Mysterious Universe* to Steven Pinker, Jared Diamond, Oliver Sacks, Francis Crick, Albert Einstein, Brian Greene, Stephen Hawking, Steven Weinberg, Douglas Hofstadter, and many science writers less known to the general public. What gives the collection its distinctive fillip are the introductory paragraphs before every selection, provided by the redoubtable Dawkins himself, all of characteristic interest. If only this handsome and sturdy volume did not behave like a snapping clamshell!

For sheer excellence of the book producer's art, I award the prize to The Library of America's environmental collection, *American Earth*. At forty dollars, this provides a lavish, slow-digesting, whole-foods feast for the cost of a quickly metabolized "cheap" meal at a pretentious restaurant. After introductory essays by Al Gore and Bill McKibben, there is an enormous series of generous selections from Thoreau to Michael Pollan and Barbara Kingsolver and everybody in between. The distinctive features of the volume that differentiate it from most of its brothers and sisters in the Library start with the colorful photograph on the hard cover itself. Inside we find photographs, paintings, legendary title pages, cartoons, and editorial matter rarely seen in this series: brief introductions to each of the selections, with a back of the book Chronology of landmark environmental events starting ten to fifteen thousand years Before the Common Era (BCE, i.e., the year marking the BC/AD divide). The entries become grimmer as we get closer to the environmental destructions of the present. Nonetheless, the determination was clearly to produce a volume as elegant as it is enlightening. With marked success.