

absence of “authentic” homeopathic measures would somehow distance the Zentralverein from responsibility for the events. This seems misconceived on several counts. Organizational culpability is hardly the salient issue, and critics of homeopathy who point to such experiments, frequently in sensationalist fashion, are not indicting a professional association but a broader homeopathic milieu. For historical purposes, the matter merits more expansive and contextual consideration than it receives here.

Although Mildenerger is generally careful to make the modest scope of his study clear, the book as a whole is framed in a way that could invite misunderstanding. Both the opening and closing sections suggest conclusions that go beyond the confines of the Zentralverein itself, implying larger lessons on the history of homeopathy and Nazism overall. This is a promise that the book does not fulfill. Nonetheless, the narrow boundaries of this study do not detract fundamentally from its appreciable achievements. Mildenerger has done important work pointing toward new ways of engaging with an ambiguous history. The book offers compelling and informed arguments on a difficult topic, and its findings represent a serious contribution to scholarly understanding of the role of alternative medicine in the disordered world of Nazi Germany.

Peter Staudenmaier

Peter Staudenmaier is Associate Professor of modern European history at Marquette University. His research centers on Nazi Germany, Fascist Italy, and environmental history.

Recent

Rebecca Onion. *Innocent Experiments: Childhood and the Culture of Popular Science in the United States.* (Studies in United States Culture.) xi + 226 pp., figs., bibl., index. Chapel Hill: University of North Carolina Press, 2016. \$29.95 (paper).

One reason philosophers have failed to demarcate science from nonscience conclusively is that science so obviously shares certain characteristics with various nonscientific walks of life. Much that scientists do resembles what journalists and detectives do, and one could easily mistake zoology for hunting, ethnography for gossip, chemistry for cooking. Yet in the United States, at least, the most powerful of science’s extra-scientific affinities has been with childhood. Every time we encounter Einstein sticking out his tongue, we get the message that scientists are childlike, unencumbered by adult inhibitions and preconceptions. But as Rebecca Onion’s *Innocent Experiments* shows, the analogy also runs the other way. Americans think of children—well, white boys—as perfect scientists: always curious, questing, unwilling to accept received wisdom.

That means that Americans’ changing views of childhood are a good probe of their changing views of science. Onion samples this evolving nexus via five case studies spanning the twentieth century: the Brooklyn Children’s Museum before World War I, interwar chemistry sets, the postwar Science Talent Search, Robert Heinlein’s early Cold War novels, and Frank Oppenheimer’s countercultural Exploratorium. Some readers may find the selection of cases rather undertheorized. My reading is that Onion does explain why each case is appropriate for its era, but only in the telling of the cases—and somewhat in passing. That said, there’s no denying that the cases are perceptive, engaging, well-researched snapshots of children and science across the century.

The question many of Onion’s actors asked, but answered in different ways, was this: If children are born scientists, why don’t enough Americans become scientists as adults? Why doesn’t the child-scientist become the childish (adult) scientist? Postwar psychologists faulted conformist peers and pop culture. Heinlein acidly but unfortunately not so unusually blamed women: mollycoddling mothers and teachers (and the latter’s “spiritually castrate” male colleagues), too soft to mete out corporal punishment and too controlling to let boys teach themselves. Oppenheimer thought the problem was hierarchy: having knowledgeable people teach the not-yet-knowledgeable sets up a power imbalance that inhibits learning and interest in science.

Thus, Onion wants to contribute to current debates about “STEM initiatives” designed to get American youth interested in science. She makes a good case that academic history must participate in the STEM debate because folk history is already deeply involved. Invocations of how things supposedly were when the speaker was a child are common and too often persuasive in conversations about how to encourage young people to be scientists—just listen, for instance, to Neil DeGrasse Tyson’s stump speech about Americans’ losing their spirit of exploration. Onion nicely shows, though, that things weren’t so different in the past. Her chapter on the interwar period, for instance, demonstrates that manufacturers of chemistry sets grappled with peer pressure, youth culture, and materialism just as much as postwar psychologists who thought that those “problems” were entirely novel.

Onion also has some pointed observations relevant to those STEM programs that specifically aim to get (and keep) more women and ethnic minorities in science. She shows that the equation of childhood and science has almost always had an exclusionary effect. Different eras thought of different qualities as being both childlike and scientific—but in every era, those qualities were assumed to be disproportionately present in white middle-class boys. Chemistry sets were almost exclusively marketed to that demographic; the Science Talent Search pictured girls as distracting boys from science more than as potential scientists themselves; and Heinlein and his peers thought enthusiasm—whether for rockets, trigonometry, or xenobiology—was a boyish trait endangered by smothering mothers. Even today, Onion notes, toymakers and science museums market science as “messy”—a message that causes little dissonance for boys whose messiness is condoned but that may be more troubling for girls who hear elsewhere that mud and goo are unfeminine.

Throughout, Onion points to slippages between theories of childhood and the actual practice of science—most humorously in quoting the complaints of Frank Jewett (president of Bell Labs and the National Academy of Sciences) that he (and the people he hired at Bell) would have failed the Science Talent Search’s tests. Yet I was most intrigued by episodes where childhood did resemble science, if in unexpected ways. For instance, I often point out to my students that science is a paid occupation and that most scientists are middle managers—that is, that much of science is drab and adult! So I was fascinated to learn that buyers of interwar chemistry kits were encouraged to form organizations with a leader, middle managers, and line staff and to seek remuneration for tasks involving their kits (e.g., testing water quality). Usually, the “childhood” analogized to science is a neoliberal fantasy of unfettered self-actualization. But perhaps the analogy works better if we acknowledge the mundane ways in which both children’s and scientists’ lives are regimented and often boring and frustrating.

Cyrus C. M. Mody

Cyrus C. M. Mody is a professor and chair in the history of science, technology, and innovation at Maastricht University. He is the author of Instrumental Community: Probe Microscopy and the Path to Nanotechnology (MIT, 2011) and The Long Arm of Moore’s Law: Microelectronics and American Science (MIT, 2017).

Jennifer Hubbard; David J. Wildish; Robert L. Stephenson (Editors). *A Century of Maritime Science: The St. Andrews Biological Station*. vii + 477 pp., figs., illus., bibl., index. Toronto/London: University of Toronto Press, 2016. \$85 (cloth).

This multiauthored, interdisciplinary volume resulting from the centennial celebration of the St. Andrews Biological Station (SABS) opens with a bold statement: “Scientists of the recent past must be the first to write their own history” (p. 3). To fulfill this goal, the historian Jennifer Hubbard joins the benthic ecologist David Wildish and the fisheries ecologist Robert Stephenson in editing a volume that explores the intellectual and institutional history of a scientific space, as researched and written by many who have participated directly in that work. The St. Andrews station opened in 1908 as one of two nationally funded marine stations in Canada. In contrast to well-studied privately funded stations such as the Marine Biological Laboratory (MBL), the history and research trajectory of St. Andrews—as of the majority of marine stations