A mother uses the shingle on her son, about 1897. [From *Domestic Tyranny*; courtesy of the American Antiquarian Society]

Ideal, as do so many conservative politicians today, will only "permit, encourage, and serve to maintain domestic violence." The only real solution to the problem, she asserts, is to "affirm the individual liberty of women and children within the nuclear family and legitimize and expand the alternatives to it" (p. 203). To this end, Pleck recommends improving fostering and adoption programs for abused children and offering legal aid, economic support, and job training to battered wives.

While stating her own convictions clearly, Pleck is scrupulously fair in assessing the motives and accomplishments of past reformers and avoids simplistic dichotomies between the goals of humanitarianism and social control. Her work also possesses the great merit of incorporating legal developments with the history of welfare and reform. But readers should be forewarned that this is indeed a study of social policy toward family violence, and not an analysis of its causes. Pleck rarely speculates on why domestic abuse occurs, but rather concentrates on how society responded to that violence in its moral and legal codes.

In an interesting appendix, Pleck does examine the incidence of family murder, the only form of domestic violence for which reasonably reliable statistics exist. Her data suggest that the rates for family murder began to rise in the 19th century and have increased rapidly in the 20th century. These figures seem to contradict Pleck's assertion that "reform against family violence has mainly occurred as a response to social and political conditions, or social movements, rather than to worsening conditions in the home" (pp. 4–5). Leaving the Puritans aside, one might well argue that the late-19th-century and late-20th-century reform initiatives were in some measure a response to the rising volume of domestic discord.

The devastating consequences of the current "epidemic" of family violence makes Pleck's analysis all the more timely. Her thoroughly researched and carefully argued study should be required reading for all those concerned with the problem today.

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A Brief Arousal

Beyond the Laboratory. Scientists as Political Activists in 1930s America. PETER J. KUZNICK. University of Chicago Press, Chicago, IL, 1987. x, 363 pp. $29.95.

C. P. Snow, the physicist who became a novelist, pictured scientists as restless inquirers concerning politics as well as particles. *The New Men*, his tale of the wartime effort to make an A-bomb in England, contrasts engineers, who "buckled to their jobs and gave no trouble," with scientists, from whose ranks came "heretics, forerunners, martyrs, traitors." Not long before Snow died I had the chance to ask him if he recalled writing that and if he still believed it. He instantly remembered and repudiated it. Scientists, he had decided, were mostly like engineers in their political docility. He may have been helped to that change of mind by Alice Kimball Smith's study of the A-bomb scientists in America. When she asked veterans of Los Alamos what they had thought and said to each other about the political implications of the weapon they were inventing, she drew a blank. They had to rack their brains to remember a few offhand comments; Oppenheimer had stopped the one man at Los Alamos who wanted to organize discussions of the bomb's political significance.

Peter Kuznick tries to put American scientists in a different light. He pictures the Great Depression as "politicizing" them, shifting "the prevailing norm within the scientific community" from complaisant "identification with the existing power structure" to demand for "an ethic of social concern and responsibility." Events of the late '30s conspired to undercut that new activism, but even "during the war the scientists consistently argued for sharing atomic secrets with the Soviet Union, warning . . . that . . . the U.S. atomic monopoly would be short-lived, . . . that only international control of atomic energy could avert a disastrous arms race." In fact, as Kuznick must surely know, only a handful of scientists argued that way before Hiroshima. He makes the careless generalization anyhow, implying that the active handful were somehow representative of their passive colleagues.

In the introduction Kuznick declares that he is not attempting "an intellectual history of the entire scientific community"; he is presenting only that small portion that was involved in leftist activities during the 1930s. But he quickly forgets that prefatory caution and extrapolates freely from the exceptional individuals and ephemeral organizations he has studied to the mentality of the majority or even "the scientific community" as a whole. He pictures them as radicalized not only by the Great Depression but also by exciting news of scientifically guided progress in Soviet Russia and by alarming news of racist tyranny in Nazi Germany. Very soon, however, news of mass repression in Russia was reinforced by the 1939 Soviet agreement with Germany, and the "progressive" coalition in America broke apart. Outspoken anti-Communists (such as the philosophers John Dewey and Sidney Hook) confronted Communist sympathizers, leaving the people who loom largest in Kuznick's account (the anthropologist Franz Boas and the physiologist Walter B. Cannon, most notably) in the untenable middle, unable to stem the "red-baiting" that disorganized the left and turned the scientific community back toward its characteristic docility.

Kuznick has combed private papers as well as the public record to give a very detailed account of left-leaning scientists, their organizations, petitions, and campaigns during the '30s. The detail is often excessive, but even so the book is not very large, for there were not many left-leaning American scientists even in that decade of acute distress, and they did not do very much or think very deeply about the world's distress. I suppose Kuznick's book will stand as the definitive account of the topic, and we should be grateful that it has been done by a conscientious scholar in sympathy with his subjects, not by a zealot bent on exposing villains or creating mythic heroes. Kuznick's subjects are recognizable American academics with their familiar milk-and-water ideology. An occasional zealot—such as H. J. Muller in his Communist and eugenicist years—is an ephemeral mutation, quickly swamped by the population's commitment to cautious moderation even when taking a stand.

The characteristic forms of "action" were the staging of panel discussions, the issuance of statements, and the formation of societies that would stage discussions and issue statements, most notably the American Committee for Democracy and Intellectual Freedom. At their most radical Kuznick's activists formed an American Association of Scientific Workers, vaguely resembling a union or a party, which soon fell apart. The major theme was the need for scientists to come out of their ivory tower, assume social responsibility, show how to revitalize an ailing society—in sermonizing generalities, without getting specific enough to arouse much enthusiasm or antagonism. The crest of the activists' wave was a campaign for signatures on a statement that denounced Nazi racism and thought control. An estimated 10 percent of all American scientists put their names on that protest, and there was some truly activist fallout in the excision of obviously racist language from American schoolbooks. But, as Kuznick notes, there was nothing like a serious assault on the deeply ingrained racism of American institutions, not even the colleges and universities where the activist scientists worked. Nor, on the evidence Kuznick presents, did they do much or even think very deeply about capitalist depression or socialist remedies, whether of the Soviet or any other variety.

Kuznick wants to find the reasons why American scientists failed to break out of their "identification with the existing power structure." He believes that the "scientific community" was moving toward such a breakout but foundered on the problem of Soviet Communism, how to appraise it, how to relate it to American problems and possible solutions. I think he is mistaking a symptom for a cause. His scientist activists were few in number and weak in creative thought about America's major problems. Their vulnerability to destructive quarreling over an extraneous issue was more a result of that weakness than a cause of it. Incapable of serious debate about American problems—much less action to solve them—they pelted each other with buzzwords about a rumored solution to supposedly analogous problems in an exotic land.

That has been a persistent habit among the American public at large: using "Communism" as a conditioned stimulus for a flow of feeling rather than thought, whether about the United States or about the countries where Communism is a real issue. Kuznick pictures medical scientists as leading the way out of that mindless response to Communism. "The medical community," he declares, "carefully appraised the Soviet Union's pioneering experiment with socialized medicine," though his evidence shows nothing of the sort. Even if Walter Cannon and Henry Sigerist deserve credit for careful appraisals—it is wild exaggeration to call Sigerist's book on Soviet medicine "the definitive work"—Kuznick does not show that the American "medical community" at large made a serious effort to ponder its own problems in the light of Cannon's and Sigerist's reports on Soviet experience. Nor would they have found much of relevance if they had tried; the basic dissimilarity of the medical situation in the two countries is one of Sigerist's major lessons, whether or not he intended it.

We may feel respect for the activist scientists of the '30s even as we recognize the slightness of their achievement. After all, they had the double disadvantage of being scientists, members of a profession that makes a virtue of separation from politics, and Americans, citizens of a nation that likes to think its way of life is God's model for the world. Kuznick's subjects struggled in vain against those two obstacles to serious thought about their country's problems. Their chronicler would have deepened our respect for them if he had been less inclined to magnify their achievement, more concerned to disclose the cultural traditions that constrained and frustrated them.

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Rapid Radio Emissions

Superluminal Radio Sources. J. ANTON ZENSUS and TIMOTHY J. PEARSON, Eds. Cambridge University Press, New York, 1987. xvi, 361 pp., illus. $49.50. From a workshop, Big Bear, CA, Oct. 1986.

It has been clear from the earliest days of radio astronomy that most extragalactic radio sources consist of two regions of radio emission, typically many arc seconds apart and roughly symmetrically straddling the galaxy or quasar that is detected optically. In many cases there is also radio emission from this optical object, and with the advent of long-baseline radio interferometry it was often found that this central source is double on the milliarc-second scale (a few light years at the source), with the two components separated in the same direction as the outer ones.

An even more remarkable discovery, about 1971, was that the angular separation of the inner double sources is seen to increase at a rate that, with the traditional interpretation of redshift as a distance indicator, implies a linear separation speed well in excess of the speed of light: hence the term "superluminal radio source." The derived speeds depend somewhat on the values of some poorly known cosmological parameters (Hubble's constant and the deceleration parameter, which describe the scale and shape of the geometry appropriate to the universe); this means only that we are not sure whether the speeds are typically five or ten times the speed of light and does not affect the conclusion that the speeds are superluminal. There are currently about three dozen known examples of superluminal sources, and improvements in the techniques used to study them are not simply increasing their number but are providing remarkably detailed maps of their radio structure, in many cases revealing several components in the central radio source.

The most widely accepted interpretation of the phenomenon invokes an optical illusion produced by radiation sources moving at speeds that are (only just) below the speed of light, but almost directly towards us. The sources chase their own radiation, and the sideways motion appears to happen in a shorter time than is really the case. In addition, the high speeds "beam" the radiation and amplify it in our direction, thus favoring our detection of such sources, in spite of the small fraction of objects that might actually be moving in our direction. (This beaming mechanism was suggested before the discovery of the superluminal sources, in order to explain some other observed properties of radio sources.)

This volume reports the proceedings of a workshop honoring the 60th birthday of Marshall Cohen, who has made major contributions to the field through his involvement in the development of long-baseline interferometry and its use to find and study the superluminal sources. There is an excellent introduction to the whole subject by Pearson and Zensus, giving much of the background and including relevant beaming and cosmological formulas, and an equally good summary of the current observational situation by Porcas. The traditional concluding summary is provided by Blandford. The high standard of these contributions is maintained in the remaining papers; most are just a few pages long, but they are presented in a logical order that ensures continuity.

The interpretation of the superluminal sources in terms of simple beaming models is far from straightforward, and there are refreshing contributions by Barthel ("Feeling uncomfortable"), Rudnick, and others that remind us of this. One of Marshall Cohen's own contributions is a presentation and discussion of the relation between the