

Book Reviews

Physics in Nazi Germany

Scientists under Hitler. Politics and the Physics Community in the Third Reich. ALAN D. BEYERCHEN. Yale University Press, New Haven, Conn., 1977. xii, 288 pp. + plates. \$18.50.

This book tells the sad story of German physicists in the Hitler era. Beyerchen has made effective use of a wide range of unpublished materials, including private correspondence in German and American archives and his own interviews with ten or so of the physicists involved, as well as the extensive literature of the time and the growing number of historical analyses of aspects of Nazi Germany. The result is a detailed account of the responses of German physicists, individually and as a professional group, to the pressures of party and state from the Nazi seizure of power in January 1933 through the end of the war in 1945.

It took only two months for Hitler to begin to keep his well-advertised promises and announce the "Law of the Restoration of the Career Civil Service," under which "political unreliaables" and most "non-Aryans" were to be dismissed from their positions. Since German universities are state institutions all faculty members were subject to this law. The result, according to Beyerchen's conservative estimate, was that "at least 25 percent of the physicists with German positions in 1932-33 were displaced during the Nazi period." The impact of these losses, the great majority of them involving Jewish physicists, was even greater than the numbers might indicate, as is suggested by the fact that the dismissed included no fewer than 11 Nobel laureates or future laureates.

These dismissals were only the first stage of the policy of *Gleichschaltung* or "coordination" of the universities with National Socialism. All future candidates for professorial appointments had to meet appropriate political criteria, and the university often had little to say about the final choice. This resulted in some remarkable occupants of chairs

once filled by world-famous physicists. When Arnold Sommerfeld retired from the professorship of theoretical physics at Munich, for example, he was not followed by Werner Heisenberg, the obvious and appropriate choice. Instead the position went to one Wilhelm Müller, an aerodynamicist who had never done any physics but who had published a pamphlet attacking relativity as Jewish physics. Little wonder that German contributions to physics became relatively minor after 1933 and that physicists like Heisenberg found this "a time of endless loneliness."

Beyerchen devotes a substantial part of his book to the political campaign for "Aryan physics," the effort to make sure not only that German physics was done only by pure Aryans but also that their physics was imbued with pure Aryan ideology and free of the taint of Jewish ideas. The leading advocates of Aryan physics were Philipp Lenard and Johannes Stark, both experimentalists, who had received the Nobel Prize in 1905 and 1919 respectively. Despite this recognition both were, for different reasons, embittered and disaffected men, at odds with much that was new in physics and particularly hostile to the ideas introduced by Einstein and Bohr. They turned to the National Socialist movement early as a way of expressing their bitterness. They had declared their support and admiration for Hitler already in 1924 in a public letter that, as Beyerchen writes, sounds "very much like *Mein Kampf*," although Hitler's book was not yet published. Stark, the younger of the two, became a Nazi party member in 1930 and a vigorous propagandist for the cause. When Hitler took power Stark hoped to become the Führer of German physics. The effort to Nazify physics ultimately failed, partly because Stark managed to alienate Nazi functionaries as he had previously alienated his colleagues, and partly because he was a poor politician, consistently backing the losing side in various internal struggles within the Nazi hierarchy.

There was another reason why the campaign for an Aryan physics failed. German physicists, who "were committed solely to independence in the conduct of professional affairs," did make the effort necessary to protect their professional autonomy. They were able to continue teaching theoretical physics, even those theories that Lenard characterized as "Jewish frauds," so long as certain names were not mentioned. During the war the professionally oriented physicists gained official support at the highest levels (Goering and Goebbels) over their ideologically excited opponents. Their arguments on the importance of physics for the German war effort and the urgent need to catch up with the British-American competition won out.

After the war some German physicists claimed that their adherence to professional values and their defense of those values against the champions of "Aryan physics" were really opposition to National Socialism. Beyerchen carefully weighs this claim, and disallows it: "To combat Lenard and Stark not because they were Nazis, but because they threatened the effectiveness and standards of German science, was professional opposition. But professional opposition to Nazi theory was not the same as political opposition to the Nazi regime, as Himmler clearly recognized when he exonerated Heisenberg. And in an environment like that created by the Third Reich, political opposition is the only opposition worthy of the name."

In April 1933 Einstein resigned his membership in the Bavarian Academy with this explanation: "The primary object of an academy is to protect and enrich the scientific life of a country. Yet to the best of my knowledge, the learned societies of Germany have stood by passively and silently while substantial numbers of scholars, students, and academically trained professionals have been deprived of employment and livelihood." That official passivity and silence persisted through all that followed in the Nazi era.

Beyerchen's conclusion—"not that the scientists were political cowards, but that they did not know how to be political heroes"—applies to all but a rare few, like Max von Laue, who made no secret of their opposition to the regime. This is a disturbing and depressing book that deserves to be read.

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