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Katharina Zeitz. *Max von Laue (1879-1960): Seine Bedeutung fÃ¼r den Wiederaufbau der deutschen Wissenschaft nach dem Zweiten Weltkrieg.* Stuttgart: Franz Steiner Verlag, 2006. 299 pp. EUR 59.00, cloth, ISBN 978-3-515-08814-5.

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A comprehensive biography of Max von Laue, the Nobel Prize-winning discoverer of x-ray crystallography, symbol of anti-Nazi integrity and leader of several important German scientific institutions, remains to be written. As Katharina Zeitz explains in her foreword, this book, originally a doctoral dissertation, also lays no claim to being such a full-scale biography, but rather aims at filling a gap in the historical literature. Previous studies concentrated on Laue's life and career up to 1945; Zeitz, however, is interested primarily in Laue's role in the reconstruction of German science thereafter. The difference in focus is due, in part, to new availability of sources. Zeitz relies extensively on collections only recently opened to researchers that primarily deal with the postwar period. The book thus has a strongly empirical character, assembling information gleaned from the archival record into coherent narratives of several key episodes. Within these parameters, Zeitz's study makes an illuminating contribution to a growing historical literature on the history of German science in the postwar era. Due to Laue's well-connected but often controversial position in the professional structures of German science, this book is of value for historians seeking a more detailed picture of the redevelopment of German science in this era.

Laue's prominent role was inextricably linked to his reputation as a figure who had maintained an unambiguously anti-Nazi stance in the previous years. Émigrés such as Albert Einstein and Lise Meitner, for example, regarded Laue as one of their erstwhile German colleagues whose integrity in the face of National Socialism they could trust without reservation. Laue was also well known to scientific control officials of the victorious Allies as a reliably anti-Nazi figure. Zeitz details how this reputation was instrumental in the renovation or establishment of several major scientific institutions.

Zeitz sets the stage for the postwar story in her relatively brief part 1. Though the young Laue first gained a reputation as an expositor of Einstein's relativity theory, the event that most strongly shaped his career was his discovery of X-ray diffraction, for which he won the 1914 Nobel Prize. After brief stints in Zurich and Frankfurt, Laue ended up in 1919 in Berlin, a city to which

he retained a close attachment throughout his life. Zeitz notes how this first stage of Laue's career revealed some persistent traits: a reserve in personal relationships which made him a rather unsuccessful teacher and, for most fellow scientists, a respected but not especially chummy colleague. He did, nevertheless, establish close personal and professional relationships with some scientists such as Max Planck, Meitner and especially Einstein.

In Zeitz's reading of events, even for a while after the Nazi takeover in 1933 Laue remained a stereotypically "apolitical" scholar. A series of confrontations over the autonomy of science, however, induced Laue to take stances that counted as highly politically charged in the Third Reich. These included disputes with the pro-Nazi Johannes Stark over the leadership of the Deutsche Physikalische Gesellschaft (DPG), his steadfast loyalty to figures such as Einstein, Meitner and Fritz Haber and his discreet but effective support (for example, via recommendations to resettlement committees) for colleagues who had been forced to leave Germany. Zeitz refers to these attitudes and actions, often expressed in carefully crafted symbolism, as "Widerstand im Verborgen" (p. 50). A critical judgment might be that the relatively "concealed" quality of Laue's resistance portended an avoidance of risk; Zeitz, however, seems to agree with many of Laue's colleagues that he manifested a consistent, unswerving opposition to Nazism.

Part 2, which constitutes the bulk of the book, details several different efforts by Laue to pursue an agenda of rebuilding German scientific institutions. Some of these institutional histories have been told before, but Zeitz's accounts are clear and concise, while also often adding some telling details relating to Laue's specific role. In the creation of the Max-Planck-Gesellschaft (MPG) as a successor, though not in a technical legal sense, to the Kaiser-Wilhelm-Gesellschaft, Laue was a key advisor in framing its new statutes, but even more importantly was a critical negotiator in gaining the support of military government authorities. With the case of creating a successor to the formally disbanded DPG, Laue was eager to quickly re-establish a truly national professional society for German physicists. This vision met not only practical difficulties in creating societies that went beyond zonal boundaries, but also resistance from several physicists who had strong regional loyalties and suspicion of centralized structures, which echoed tensions, dating back to well before 1933, about the perceived dominance of Berlin within the DPG. After extensive wrangling over statutes, a compromise of sorts was reached with the creation of the Verband Deutscher Physikalischer Gesellschaften in 1950.

An unexpectedly intriguing section is a discussion of Laue's central role in ensuring the continued appearance of several leading physics journals: a complex process of securing institutional sponsorship, and funding, in a very fluid context and finding willing and able, that is, licensed, publishers. For the ***Physikalische Berichte*** the process was rendered even more complex by a sponsorship shared between the Akademie der Wissenschaften der DDR and the Physikalische-Technische Bundesanstalt. Laue was also instrumental in establishing the latter in Volkenrode, near Braunschweig, as the West German successor organization for the former ***Reichsanstalt***. In this instance, securing a physical plant for the laboratories, finding adequate housing for workers and appointing a president were all difficult problems and Zeitz attests that British trust in Laue was instrumental in solving all three.

In 1951, Laue returned to Berlin as Director of the Kaiser-Wilhelm-Institut für physikalische Chemie und Elektrochemie, Fritz Haber's former institute, which under Laue's leadership was renamed in Haber's honor, re-integrated into the MPG and considerably expanded. Zeitz's discussion of this process, along with the short-lived efforts to create a Forschungshochschule in Berlin,

provide a excellent example of the bureaucratic challenges facing postwar German science. Zeitz also relates an episode of symbolic importance that Laue rather mishandled: he spearheaded the installment of a commemorative plaque at the Max-Planck-Institut für Chemie for Otto Hahn, the institute's former co-director and, after 1947, MPG president, which was, justifiably, seen as a slight by the other co-director, Meitner. This misstep was a notable exception, however, to the general rule of Laue's skillful deployment of symbolic capital and correct management of relations with professional colleagues.

The strength of Zeitz's study is clearly the detailed narratives presented in part 1 and, especially, part 2. In comparison, the thematic overview summary presented in part 3 is less developed. Some passages echo or simply repeat earlier material (pp. 141, 225). More substantively, Laue's story as presented by Zeitz seems to raise more questions than it answers about what it means to be either a "nonpolitical" or a "political" scientist moving across the boundaries of 1933 and 1945. Laue was clearly devoted to his vision of the integrity of science and clearly he was no friend of the Nazis, but whether this relationship was correlation or causation requires some further analysis in the context of the growing historical literature on Nazi-era science. Likewise, as Zeitz herself repeatedly notes, Laue's reputation for sterling personal integrity was used for professional purposes after 1945; the internal tensions here are sketched but not fully explored. These criticisms are, however, symptomatic of an unfair reaction of wishing the author had written another book. The book remains a clear window on the social and political history of German science since World War II.

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