

sense" and that the two of them as husband and wife had done that for him throughout his life. Genia taught him "that difficulties in external life are problems to be thought about and solved not to be worried about" (page 477).

The Bethe–Peierls Correspondence has been beautifully edited by Sabine Lee, a lecturer in modern history at the University of Birmingham. Both the original German version of the letters and Lee's English translation are in the book. The text contains useful summaries of biographies of the principals and brief biographical information in footnotes about people referred to in the letters. References for the research articles mentioned in the letters are also provided. The correspondence spans the years 1927 to 1995, when Peierls died. Lee has divided that timeline into three parts, with breaks occurring at the time Bethe and Peierls were together in Manchester from 1933 to 1934, and from 1941 to 1945 when both were engaged in problems concerning wartime weaponry. In fact, the two worked together at Los Alamos Laboratory during 1944 and 1945.

When the 19-year-old Peierls came to the University of Munich in the fall of 1926, Bethe, then 20, was a student in Arnold Sommerfeld's seminar. The two young men became good friends and went skiing, hiking, and dancing together. But as their correspondence from 1928 to 1933 indicates, their friendship at the time was cemented by their scientific interests and their respect for each other's abilities and integrity. They constructively criticized each other's work and egged one another on to greatness. The letters from that period—which are predominantly from Bethe to Peierls, since many of Peierls's letters during that time have been lost—give valuable glimpses into the two men's scientific activities. They provide further insight into how the two arrived at some of their important discoveries during that period—variational principles, what is now called the Bethe ansatz, and Umklapp processes. The correspondence also vividly conveys their anxiety about finding suitable positions outside Germany after Adolf Hitler's ascent to power and the racial laws that prevented them from holding university positions in Germany.

Correspondence between Bethe and Peierls resumed after Bethe left Manchester in 1935 for a teaching position at Cornell University. Until 1939 the let-



ters continued to be in German, but they switched to English with the outbreak of World War II. Anyone interested in the development of nuclear physics after the discovery of the neutron by James Chadwick in 1932 will find the 1935–40 correspondence fascinating. The letters reveal the seminal contributions of Bethe and Peierls to nuclear theory and their assessment of the principal contributors to the field during the 1930s: Niels Bohr, Enrico Fermi, Eugene Wigner, Robert Oppenheimer, George Placzek, and many others. We become privy to the correspondents' exertions in finding employment for physicists who had lost their positions in Germany, and to Bethe's efforts to help Peierls get his parents out of Germany. We also find out that after the fall of France in 1940, with England facing Nazi Germany by itself, the Bethes offered to take care of the Peierlses' children, Gaby and Ronnie, then 8 and 6, respectively, for the duration of the war. But the offer was appreciatively declined, as the children were evacuated to Toronto.

The third chapter of the book covers correspondence from 1945 until Peierls's death in 1995. After the war, Bethe went back to Cornell, where he helped build an outstanding research center in high-energy physics. Peierls returned to Birmingham, where he created the outstanding school of theoretical physics in Western Europe. The two physicists established a pipeline between the two institutions and offered their generous evaluations of the young postdocs and colleagues—Hugh McManus, Edwin Salpeter, Steward Butler, Richard Dalitz, Freeman Dyson, and others—that they sent to one another. Their correspondence likewise gives perceptive overviews of advances in high-energy physics, especially of the progress made after 1955 in the nuclear many-body problem on which Bethe was concentrating. Their letters also concern policy challenges posed by, for example, the cold war, nuclear weaponry, nuclear test ban treaties, and antiballistic missiles.

I highly recommend *The Bethe–Peierls Correspondence* to anyone interested in the character of physics after the advent of quantum mechanics. These two remarkable physicists became deeply respected for their scientific contributions, good sense, and wisdom. They became iconic figures representing integrity by virtue of their comportment as teachers, mentors, and

public intellectuals. The last words Bethe wrote to Peierls upon hearing that his colleague lay dying would have most likely been reciprocated by his life-long friend: "We travelled together a great deal in physics. You did a lot in physics and you educated countless good physicists. . . . I was greatly impressed at your 80th birthday when they all came to celebrate. You had a full and good life, and I thank you for letting me participate in it."

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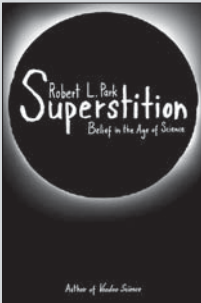
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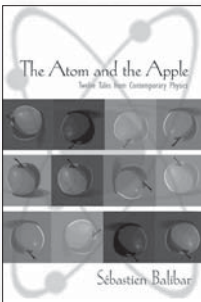
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