

nary research on these matters, to bring together his tetrad of population, environment, economy, and culture. I agree; what scientist would not? But I am dubious about the future of such research in this country. U.S. universities and funding agencies have a long tradition of indifference to, or fleeting support of, interdisciplinary work. Foundations value research considerably less than actions. The research Cohen wants done requires "localitis," careful consideration of local conditions and interests, and the involvement of scientists in other countries in mutually beneficial ways. I wonder whether "localitis" will be as bad for academic careers as it used to be for the careers of U.S. diplomats. And the political allure of the global view on population is strong; there will be continued temptation to "fabricate 'unambiguous answers' " (p. 348).

Analysis aside, the choices that are actually made, and how people are induced to make them, are important issues. In his final chapter, Cohen presents a brief but illuminating discussion of games that points to the importance of cooperation, as opposed to coercion or confrontation. He recommends research on ways to define and demonstrate the mutual benefits that link nations and peoples. This is vital, given the widely held view that relationships between nations are zero-sum games. Such considerations are equally important for relationships between individuals and governments, particularly when human freedoms are often viewed as up for grabs in a larger trade-off justified by appeal to population problems. Cohen notes early on that "tyranny by governments does not work in the long run" (p. 11). He also recommends attention to institutional and political factors that influence the trade-offs between efficiency and inequality. But, like many demographers, he does not discuss coercion when talking about recent declines in China's fertility. I wish he had; scientific work can provide valuable perspective on the limits of authoritarianism.

The last of Cohen's recommendations that I mention here is for work on accounting systems that can incorporate factors usually ignored as externalities but intrinsically important to the quality of life and environment. Externalities play an interesting role in what Stanley Engerman (*Social Science History* 17, 161 [1993]) called the problem of Chicken Little: if the sky is falling, when will it happen? Economists argue that if impending resource limits, say, are going to make the sky fall, we should receive economic signals of impending doom. The absence of such signals is often attributed to unaccounted externalities, usually by people who are not economists. My reading of history is that externalities do force their way into account-

ing systems, as happened with pollution costs in the industrialized countries. Clear scientific recognition of an externality is usually the first step, and comprehensive accounting can provide a way of achieving this recognition.

Cohen shows that there is no direct answer to his title question. Instead the relationship between people and the planet is evolving and complex, deserving of a careful and searching analysis.

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## A Physicist in Germany

**Heinrich Hertz. A Short Life.** CHARLES SUSSKIND. San Francisco Press, San Francisco, CA, 1995. vi, 190 pp., illus., + plates. \$18.25.

Heinrich Hertz was only 31 when he discovered electromagnetic waves in 1888 and only 36 when he died of blood poisoning in January 1894. His was indeed "a short life," but one filled with achievement. He worked at the pinnacle of classical physics, and his discovery of electromagnetic waves not only clinched the case for James Clerk Maxwell's field theory but laid the foundations for technologies that have come to pervade modern life. The son of a leading Hamburg jurist whose own father had converted from Judaism, Hertz was raised in a

dent pride in his achievements was mixed with gnawing self-doubt, and the upward arc of his career was punctuated by bouts of severe emotional turmoil. In both his successes and his anxieties, he is a fitting representative of German intellectual life in the last quarter of the 19th century.

Charles Susskind, a professor of electrical engineering at Berkeley, opens his tale by telling how he came to write it. While in London in the early 1960s, he learned that Hertz's daughter Mathilde was living in Cambridge, where she, her mother, and her older sister Johanna had settled after leaving Germany in the 1930s. When Susskind paid her a visit in 1968, she pressed him to help her bring out a new edition of the volume of her father's letters and diaries that Johanna had first published in Germany in 1927. Knowing the labor such a project could involve, Susskind hesitated, but Mathilde's charm and determination soon won him over. Their collaboration resulted in 1977 in a beautifully produced edition (also from San Francisco Press) with German and English text on facing pages. Sadly, Mathilde Hertz died just over a year before it appeared.

The present book draws heavily on the earlier volume and to a lesser extent on letters and family papers held in German archives. After the second chapter, which details Hertz's family background and Hamburg milieu, there is relatively little here that is really new. But Susskind tells the story of Hertz's life and work in a lively and accessible way, and his conversations with Mathilde and forays into the archives help him to illuminate some previously dark points. We learn, for example, that Hertz's depression in 1884-85 resulted from a frustrated love affair (though all details have been lost), and excerpts from his correspondence with Emil Cohn in 1889 shed light on his relations with the British Maxwellians.

This book is hardly the last word on Hertz. Its vigor fades in the last chapters, and the account of Hertz's final years at Bonn is sketchy and repetitive. Susskind could also have made better use of recent secondary works on Hertz and his contemporaries. But the book succeeds at its main purpose: evoking the character and keeping alive the memory of one whose life was all too short.

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Left, Heinrich Hertz commemorative postage stamp issued by the Federal Republic of Germany shortly after World War II. Right, Hertz as a student. [From *Heinrich Hertz: A Short Life*]

