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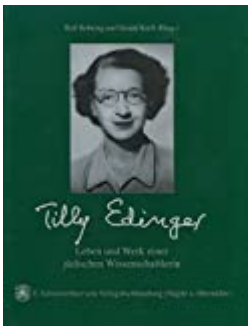

Rolf Kohring, Gerald Kreft. *Tilly Edinger: Leben und Werk einer jüdischen Wissenschaftlerin.* Stuttgart: E. Schweizerbart'sche Verlagsbuchhandlung, 2003. 639 S. + 35 s/w Abb. Euro 39.80 (cloth), ISBN 978-3-510-61351-9.

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The Madame Curie of Paleoneurology: Tilly Edinger's Life and Work

One of the outstanding personalities within German history of science is neurologist Ludwig Edinger (1855-1918). Less known is his daughter Tilly (Ottilie), who was the founder of paleoneurology–the study of fossil brains. Paleoneurology, as paleontology, is an academic field studied by few and so public interest in Tilly Edinger has been mainly restricted to those in the field. But there are additional factors that complicated her professional path and, therefore, fame: being a woman in science whose career started in the 1920s; being Jewish in Germany; and having an early onset hearing impairment. These factors influenced Tilly Edinger's life and career in such a way that they can only be described by interruptions and losses. Nevertheless, Tilly's strong personality, passion for science, and extraordinary intelligence made her recognized worldwide as a leader in the field.

Tilly Edinger was born in 1897 in Frankfurt/Main. She grew up in a wealthy and progressive Jewish environment, surrounded by scientists and integrated into an old German family to which she was deeply attached. The early and, to her, fascinating visits to the Senckenberg Museum in Frankfurt with its collection of fossil animals influenced Tilly's scientific interests later in life. It was also there that she had her first (unpaid) position. Her Ph.D. thesis, finished with *magna cum laude*, was about the *Nothosaurus*–not a dinosaur, but a long-necked, lizard-like aquatic reptile. Although increasing reprisals by the Nazi laws turned Tilly's life into a humiliating and fearful hidden existence at the margins of academia and society, she stayed at the Senckenberg Museum until the *Reichskristallnacht* in 1938. But only in May 1939, after having insisted, for a long time, upon staying in Germany, did Tilly go to London where she worked as a translator for one year. She probably had escaped from death at the very last minute. Tilly lost several family members to the Nazis, including her brother and beloved aunt ("the woman I loved best in the world," p. 509). She also lost her considerable family wealth and lived in very modest circumstances until relatively late in her life, when she received some funds from the German government ("Wiederjudmachung," p. 394).

Tilly's new life started in 1940 when she went to

Harvard. There she held a position, albeit one without a significant salary. She loved America, which for her meant liberty and academic realizations. Apart from the successful, though sometimes difficult, integration into the American way of life, Tilly nevertheless maintained a bitter-melancholic relationship to her *Heimat* (homeland) Germany, which she visited five times after 1950. A colleague, Helmut Hofer, wrote to her saying that she had become the "Madame Curie of paleontology" due to her ever-growing scientific recognition. She had become a respected scientist, as well as the co-founder and later the president of the Society of Vertebral Paleontology. Except for a short, though successful period, Tilly Edinger did not teach. This was mainly because of her hearing difficulties. Indeed, this handicap was responsible for her early death, when on her way to work in 1967, she did not hear the approaching car that fatally injured her.

These are, of course, only some of the facts about Tilly Edinger's life that are woven together in the book edited by Rolf Kohring and Gerald Kreft about this "remarkable and extraordinary scientist" (p. 12). The book is a well-researched document which shows the complex interplay of life, work, and historical background. The authors–two German editors and two U.S. scientists–include an enormous amount of detail and form their complex images of Tilly based on her extensive correspondence with friends and colleagues, interviews with a number of people who knew her, and material from sixty archives. The authors stick close to their sources; only sometimes is a hypothesis offered, more a suggestion to the reader than a final statement (e.g., on the question why Tilly had left Germany so late or why she never married).

In order to capture the complexity of a life history, differently positioned observers might highlight complementary and even contradictory aspects of this life. The different perspectives of the four principal authors–a sociologist/historian, a paleontologist, a physicist, and a paleoneurologist–provide such a multiple perspective. Also, the different nationalities (American and German) provide further differences in the way the material is being read, for example, the divergent interpretation of Tilly's adaptation to American life. Some readers might be disturbed by the fact that some articles are in English, while the major part of the book is in German. This nevertheless mirrors Tilly's life between Germany and America. Some overlap in material covered in the chapters is inevitable, and there were some repetitions. However, there are still a few divergences in the understanding of the carefully documented material, and as the editors write in the introduction, this invites the reader to become part of the conclusion process. It reflects the editors' concept of history where objectivity and subjectivity are inseparably interwoven.

The book starts with four short prefaces, wherein each author describes his impressions of and admiration for Tilly. These authors include Stephen Jay Gould (writing that he shared with Tilly a Jewish background and a "similar love and commitment to the science of paleontology" (p. 7)); Dietrich Starck, president of the Ludwig Edinger Foundation; Harry Jerison, Professor Emeritus of Psychiatry, who had met her on several occasions; and, finally, Reiner Wiehl, Professor Emeritus of Philosophy and Tilly Edinger's nephew.

The body of the book begins with Rolf Kohring's 270-page-long overview of Tilly's life, personality, and work. Because of its length and the number of details presented, this chapter by the paleontologist could be a book by itself. One gets a neat impression of Tilly's entangled life and her personality. Kohring describes her as an extraordinary person and scientist:

"She was more than 'just' a scientist who created a subdiscipline. She was the first female paleontologist to get a doctorate in Germany (indeed, she was one of the first female students of geography in that country). This, in a time in which a woman in paleontology was at best an exotic or belittled exception; she was proud and self-confident" (p. 24). "Tilly Edinger preserved certain childish traits all her life.... She could be enthusiastically delighted, or even deliver incomprehensible misinterpretations, getting annoyed by details" (p. 27).

Despite some breaks in argumentation, it is a well-written text; the only astonishing part of this chapter is an interpretation of Tilly's hand-writing by a graphologist. (It seems that natural scientist Tilly Edinger also ordered graphological evaluations about people around her.)

Kohring's extensive description, nevertheless, leaves some space for a deepening of his data by the other specialists. Paleoneurologist Emily Buchholtz adds two shorter texts. The first one examines Tilly's life as seen through her scientific contributions. Buchholtz shows that "Edinger's scientific contributions were shaped to at least some extent by her family, her ethnicity, her gender, and the political events of the mid-20th century" (p. 301). Although the general outline of the article repeats part of what Kohring had already provided, the reader gains

additional knowledge about paleoneurology. For a non-paleontologist this might be a bit too specific in parts; conversely, specialists will probably miss a more complex scientific discussion–a common dilemma when writing for a broader audience. It might have been helpful to discuss more extensively how paleoneurolgy–a field which was created and lead by Tilly Edinger–has survived her death and how her thinking influenced the direction of contemporary paleontological theory.

Bucholtz's second text describes Tilly's "teaching interlude" at Wellesley College (1944-45). Not only did Tilly need to teach for academic reasons, she also needed the salary. Despite the difficulties of teaching with a serious hearing impairment, Tilly succeeded, was popular with her students, and was invited to continue. But, as she wrote, it was too time-consuming. She had to give up "private life and correspondence almost entirely" (p. 378). It was at Wellesley College in 1950 that Tilly gained one of her three honorary doctorates. Marie Curie had gotten one there also, nearly thirty years earlier.

Harry Lang's chapter about "Tilly Edinger's Deafness" provides a sensitive reading and understanding of Tilly's life. The author, himself a deaf physicist, has already published other studies of scientists with this handicap. In the case of Tilly, her hereditary otosclerosis helps to explain, in part, her loneliness and the difficulty she had following scientific conferences and other academic activities. For instance, the deafness impeded her ability to secure a better academic position, as documents written by her director at Harvard showed: he recommended her only "partially" because of her hearing problems. Her impairment may also have been linked to the fact that she did not get married, because as she once mentioned, she was afraid of passing on the disease to her offspring (although that might be only one factor, as several of the authors have shown). It was surely an "emotional burden–all through her life she would be more or less haunted by memories of sounds she was no longer able to enjoy" (p. 361). And, of course, it caused her fatal accident when she was seventy years old.

The most delicate–and in my opinion most elegant–chapter is the one written by sociologist and historian of medicine Gerald Kreft: the description of Tilly's life as a Jewish life. The difficulty of writing about Jewish history (in Germany) appears when reading the relatively long introduction in which the author carefully defines what this focusing means–that being Jewish is an important factor for understanding Tilly Edinger's life, the way her life developed over the time, and even her scientific approach; but not referring to Jewishness in a traditional, religious definition. In the introduction to his chapter, Kreft carefully describes how his work references recent concepts of German-Jewish acculturation, referring to the texts written by Marion Kaplan, Shulamit Volkov, and George L. Mosse.[1] It is impossible here to mention the variety of facts and sources presented to the reader. Kreft's chapter is more interpretive than the others, and at times he applies an almost psychoanalytical touch. The way he correlates German-Jewish acculturation and the history of neuroscience is remarkable and–as far as I can see–unique. It is also the chapter in which Tilly speaks most with her own words, revealing her complex personality. Indeed, Kreft's chapter sometimes resembles a Sherlock Holmes story, both in his use of dense images and his indication of gaps in the "investigation" because of insufficient data. The deep sympathy Kreft feels for Tilly becomes especially clear as he repeatedly leaves space for her creative use of wordplay in her lively, private writing–as well as for the black humor that she used in the attempt to overcome personal adversity. (In 1926 she wrote during carnival, a "Gojim festivity": "Today I will go dressed as a fascist. That makes me look so slim. I am sure they will beat me up" (p. 456.))

This is a thick book: 639 pages, 95 photographss and illustrations, and 2056 footnotes. For quite some time, I carried "Tilly" around with me, getting more and more involved with her life story. Without this book I probably would not have become interested in someone who wrote about the evolution of the horse brain. I do not feel, though, that my pleasure as a non-paleontologist was diminished by the disciplinary background of the book. It is a book conceived for a heterogeneous audience, including scholars from a number of fields within the social and natural sciences such as historians of science and paleontologists, as well as those interested in biographical studies, Jewish studies or German history. Tilly Edinger's life is a piece of *Zeitgeschichte*, deeply moving and, as Stephen Jay Gould wrote in his preface: "a lesson to all of us about one of the most remarkable natural scientists of the twentieth century."

Note

[1]. See, for example Marion A. Kaplan, *Die jÃ¼dische Frauenbewegung in Deutschland: Organisation und Ziele des JÃ¼dischen Frauenbundes 1904-1948* (Hamburg: Hans Christians, 1981); and *The Making of the Jewish Middle Class* (Oxford University Press, 1991); Shulamit Volkov, *Reflections on German-Jewish Historiography: A Dead End or a New Beginning¿*' Leo Baeck Institute

Year Book *(1986): pp. 309-319;* JÃ¼disches Leben und Antisemitismus im 19. und 20. Jahrhundert, Zehn Essays *(MÃ¼nchen: C. H. Beck, 1990); and* Die Juden in Deutschland 1780-1918 *(MÃ¼nchen: R. Oldenbourg, 1994); George L. Mosse, "Between Bildung and Respectability," in* The Jewish Response to German Culture, *ed. Mary Steinhausen and the Dokumentationsarchiv des Ã¶sterreichischen Widerstandes (Wien: Junius, 1985), pp. 10-23; and "Das deutsch-jÃ¼dische BildungsbÃ¼rgertum," in* BildungsbÃ¼rgertum im 19. Jahrhundert_, part 2, ed. Reinhart Kosellek (Stuttgart: Klett-Cotta, 1990).

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