

resurgence of historical debates about uniformitarianism (labeled as actualism or, in the Nazi period, as “German Geology”) versus catastrophism. Another retarding element in this drama appears in the form of chauvinism. “There was reluctance to accept anything that came from outside the community of Ries experts,” Kölbl-Ebert writes about the attitude of local geologists when Eugene Shoemaker and Edward C. T. Chao presented in 1960 undisputable mineralogical evidence for the impact interpretation. She quotes from one of her interviewees the response of a Ries expert (Georg Wagner) to the foreign “intruders”: “My goodness, there comes this American and he even has a Chinese name! And he thinks he can intrude into our Ries business and say what it is” (pp. 230–231). Besides chauvinism there was local rivalry. The Ries is situated at the border between two German states, Bavaria and Baden-Württemberg, so that geologists from the universities in Munich and Tübingen, respectively, regarded themselves as the responsible local experts. Both dismissed the impact hypothesis, but they also did not agree in their volcanic interpretation.

By 1961, Shoemaker and Chao had offered enough mineralogical evidence to dismiss one or another volcanic explanation for the Ries. In particular, they found coesite, a mineral formed only under very high pressure. This was crucial evidence for the impact interpretation—and the opportunity for Germany’s geologists to align themselves with the international community after a period of self-imposed scientific isolation. The “paradigm shift” experienced with the impact interpretation transformed the whole discipline, according to the author, “from simple, field-based geology to more chemically and physically oriented geoscience . . . and also from chauvinism to internationality” (p. 342). Some historiographic reflections about this paradigm shift might have been appropriate, all the more because Kölbl-Ebert introduced her study with the remark that it was “not an event in a strictly Kuhnian sense” (p. xviii). But even without such reflections this is an extraordinary history. It deserves widespread attention beyond the history of geoscience.

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Lawrence R. Sullivan; Nancy Y. Liu. *Historical Dictionary of Science and Technology in Modern China.* (Historical Dictionaries of Asia, Oceania, and the Middle East.) lxxviii + 547 pp., bibl. Lanham, Md.: Rowman & Littlefield, 2015. \$135 (cloth).

One of the most remarkable developments in the field of the history of science and technology has been the rapid growth in studies on science and technology in modern China both in and outside of China. With increasing availability of primary sources in various forms, including large-scale projects of oral history interviews and scientific biographies in Chinese, and intensifying worldwide interest in the rise of China, such studies are bound to continue to expand. The publication of *Historical Dictionary of Science and Technology in Modern China* seems to be ideally positioned to capitalize on the fruits of recent scholarly labor in this area and to present authoritative and systematic knowledge for a broadening audience. Alas, despite what must have been considerable effort involved in its publication and some merits, this volume falls short of that expectation; serious problems mar the book in terms of both the selection of entries and the accuracy or value of some of the information provided.

The dictionary covers modern science and technology in China from the late nineteenth century to the early twenty-first century, with entries supposedly on major institutions, policy documents, scientists, and engineers, as well as various fields of science and technology as they developed in China during this period. Yet there is a serious imbalance in the selection of entries, as one finds a relative dearth of histori-

cally significant scientific organizations or scientists in comparison with the rather large number of current scientific and educational institutions and active scientists, often with information that appears to have been gleaned directly from their own Web pages. There is, for example, no entry for Zeng Chengkui (C. K. Tseng), a founding figure of modern marine biology in China, but nearly a full page of text devoted to Tang Qisheng, president of the China Fisheries Society since 2001 (the entry does not mention that his term ended in 2008). Tang may well be an outstanding scientist, but he is not more deserving of an entry than Zeng, and his entry should not require three times as much text as that for Tang Peisong, one of the most influential plant physiologists in modern China, whose entry appears right above Tang Qisheng's in the dictionary.

Most troubling is inaccuracy of information provided for many of the entries. Here are a few egregious examples. Kong Linghua, an aeronautical engineer and son-in-law of Chinese Communist leader Mao Zedong, is said to have earned a Ph.D. from McGill University in 2003 (p. 233). However, Kong died in 1999 and never studied in Canada. Shi Changxu, a metallurgist, is said to have earned a Ph.D. in 1952 from Rotterdam University (p. 380), but he never did so—Notre Dame was his alma mater. Electrical engineer Gan Ziyu is said to have been “a graduate of Wuhan University in 1967,” but he graduated from Zhongshan University in 1949. The entry “Two Bombs, One Satellite’ Distinguished Achievement Award” (pp. 424–425) says that “more than half of the awardees were students of physicist Ye Qisun” and proceeds to list “Ren Zhigong, Lin Jiaqiao (Chinese American), Dai Zhenduo, Chen-Ning Yang and Tsung-Dao Lee (now both Chinese Americans),” and others. Through most of their careers, the five Chinese-American scientists listed above played no direct part in the Chinese bomb or satellite programs, nor were they awardees in this category. The entry on the physicist Wu Youxun (1897–1977) says, “In 2000, Wu received one of five prizes given by the Chinese Physical Society” (p. 453). This did not happen; instead, the society established four awards (in 1987) in honor of pioneering Chinese physicists, one of which, for nuclear and particle physics, was named after Wu. In “Appendix C: Prominent Overseas Chinese Scientists,” Chang-Lin Tien is described as a physicist and “the first Chinese-American enrolled at the University of California, Berkeley” (p. 510). Tien, a mechanical engineer, never enrolled at Berkeley as a student but was instead the first Chinese-American chancellor of the university from 1990 to 1997.

There are numerous other careless errors that might not need to be mentioned here if this were not a reference work. Misspellings of names include the aeronautical engineer Wang Zhu as “Wang Zu” (p. 445); the geneticist Fang Zongxi as “Fang Zhongxi” (p. 161); Li Jingjun, another geneticist, as “Li Jingzhun” (p. 241); the botanist Hu Xiansu as “Hu Hanxu” (p. 195); the nuclear physicist Wang Ganchang as “Wang Xinchang” (p. 303, under the entry for “Nie Rongzhen”). One of the books by the aerodynamicist Qian Xuesen (H. S. Tsien) is *Engineering Cybernetics*, not *Cybernetics Engineering* (p. 114). The dissident astrophysicist Fang Lizhi died in the United States on 6 April 2012, not on 7 April (p. 159). Similarly, the historian of science Xu Liangying died in 2013, not 2006 (p. 467); the year of birth for the petrochemical specialist Min Enze is 1924, not 1931 (p. 280). The last part of the Chinese name of the People's Liberation Army University of Science and Technology is “Ligong Daxue” instead of “Keji Daxue” (p. 324).

Additional problems reduce the value of the book as a reference. There is no uniformity in the structure of the entries. Only some scientists have years of birth/death, and only some institutions are given pinyin names. No Chinese characters are provided for any name or term. The bibliography is highly uneven, with few Chinese-language titles published in the last twenty years. It does list the six-volume *Biographies of Contemporary Chinese Scientists* (中国现代科学家传记 or *Zhongguo xiandai kexuejia zhuanji*) published in Chinese by the Chinese Academy of Sciences (1991–1994), but the authors apparently did not consult this authoritative source closely enough. Otherwise some of the errors mentioned above could have been avoided. To their credit, they present a useful chronology and give attention to victims and dissident scientists under the Communist rule, but their repeated invocation of “funny-farm science” to describe Maoist science policy is far too simplistic.

A historical dictionary is a demanding and valuable undertaking, and for this reason Sullivan and Liu (a political scientist and a cancer researcher, respectively) should be commended for having tried to fill

an acute need with this volume. It does provide some basic information that might be useful to a casual reader, but unfortunately, it is neither a reliable guide nor a distillation of current scholarship. Both its appearance and its severe limitations should serve as a call for professional historians of science and technology of modern China to produce something better.

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Dorothy U. Seyler. *The Obelisk and the Englishman: The Pioneering Discoveries of Egyptologist William Bankes.* 304 pp., illus., bibl., index. New York: Prometheus Books, 2015. \$26 (cloth).

On the lawn in front of Kingston Lacy, a very grand house in the county of Dorset in southern England, stands an Egyptian obelisk, transported from Philae in the Nile. Many obelisks were relocated from Egypt, but this is the only one acquired by a private individual. It was removed by William Bankes, the wealthy heir to a vast landed estate, and a significant, but largely unknown, figure in the early history of Egyptology. This is the first biography of a man who was, among other things, a traveler, collector, aesthete, artist, architect, and archaeologist. Dorothy Seyler sets out to revive the memory of this remarkable man. She provides a general account of his entire life, not just of his role as an Egyptologist, and she makes good use of the voluminous archive as well as relevant secondary literature.

The structure of the book is a chronological narrative. Bankes, born in 1786, was the son of an influential politician, whose friends included William Pitt, William Wilberforce, and Arthur Wellesley, later Duke of Wellington. At Cambridge, Bankes was part of a group of friends that included the poet Byron. After a brief period in which he followed the family tradition by entering Parliament, he decided to go abroad, and from 1813 to 1820 he traveled to Portugal, Spain, Egypt, and Palestine. On his return, he again entered Parliament but devoted much effort to improving his houses, including Kingston Lacy, with the help of the distinguished architect Charles Barry. In 1841, however, he was forced to leave England because of his homosexuality; he had already been acquitted at one trial, but the threat of another was too much. He traveled to Europe, buying and commissioning works of art and sending instructions for the decoration of Kingston Lacy, until he died in 1855.

As Seyler discusses, Bankes's claim to a place in the history of science lies in his travels in Egypt and Palestine and in the copious record he made of the sites there in notes, drawings, and plans. He arrived in Egypt in 1815, at about the same time as the much better known collectors Giovanni Belzoni and Henry Salt, both of whom would at various times be part of Bankes's team; unlike them, however, he was not collecting with an eye to a profitable sale. Instead, he developed a genuine scholarly interest in the art, architecture, and archaeology of Egypt. In 1815, he journeyed farther south into Nubia than most European travelers, and in a second, longer expedition in 1818–1819 he again reached the southern limits of ancient Egypt. Between these two journeys he traveled to Palestine; he was one of the first to see Petra but also did important work recording Roman remains, especially at Jerash.

His party included assistants and other artists, and they were occasionally joined by other travelers, who often presented problems in the journey, and occasionally by their activities afterward. Seyler argues that the fact that Bankes is not better known is undoubtedly due to his failure to produce a major publication in his own name. Much of his work is unpublished, but parts of it were the basis for publications by other authors, with varying degrees of approval from Bankes. His long-term assistant, Giovanni Finati, published an account of the travels, but much of this work must have been edited or written by Bankes.