Reviews

Raul Rojas, Editor
Free University of Berlin

Raul Rojas, *Encyclopedia of Computers and Computer History*, Fitzroy Dearborn, 2001, ISBN 1-57958-235-4, 2 vols., xiii + 930 pp., $250.00 (hardcover).

An historical encyclopedia on any subject is a significant undertaking. An encyclopedia that spans the history of computing is all the more difficult because of the subject's breadth and technical complexity. Raul Rojas and his editorial staff have done an impressive job in assembling such a volume.

The *Encyclopedia of Computers and Computer History*'s goal is to provide an accessible (nonexpert) reference for people with an interest in computer history. It avoids technical jargon and delivers a consistent level of technical content. In its two volumes, the work contains more than 500 entries, a substantial bibliography, and two minor appendices. The volume is suitably illustrated and features effective cross-references and a further readings list at the end of each entry.

In terms of coverage, the volume places fairly equal emphasis on computer hardware and software, with additional entries pertaining to more recent developments in the Internet. There are also descriptions of major firms and individuals; the latter entries end with a convenient summary of the individual's biographical data. The volume is intentionally weighted toward more recent developments, but many entries deal with early developments including the prehistory of the computer.

The quality of the entries, for the most part, is consistently high. The volume was produced by nearly 150 contributing authors, many of them acknowledged experts. By necessity, Chris Woodford and Raul Rojas wrote a significant number of the entries, along with a somewhat larger team of writers who presumably produced the material on contract. This poses some limitations, most notably the tendency to reproduce interpretations and errors found in a literature still dominated by autobiographical and journalistic accounts. The entry on IBM, for instance, is disappointing. On the other hand, Rojas has attracted some notable contributors including, but not limited to, I. Bernard Cohen, Martin Campbell-Kelly, David Grier, James Tomayko, and Peggy Kidwell.

A subject index based on a more elaborate system of classification would have strengthened the volume. This would have made it easier to locate related entries. And although the volume deals with software as much as hardware, it contains little in the way of information on how specific uses of the computer—in insurance, accounting, or nuclear weapons design, for instance—shaped the course of computer technology. Of course, the focus on technology is a bias that continues to exist in the history of computing literature as a whole. To some extent, it is also characteristic of the genre. Things, whether hardware or software, are easier to describe.

Rojas' *Encyclopedia* is a useful reference work that is available for purchase by libraries and other institutions. (The project was backed by the New York-based Moschovitz Group's Publishing Division, which specializes in producing specialized reference works.) Factually accurate, it is entirely suitable for undergraduate use and as an initial reference in more substantial historical research.

Atsushi Akera
akeraa@rpi.edu

Karl E. Ganzhorn, *The IBM Laboratories Boeblingen Foundation and Build-Up: A Personal Review*, Sindelfingen, 2000, 170 pp.

Although the history of the computer industry has received much attention in recent decades, the same cannot be said for the German computer industry. Since 1985, when Hartmut Petzold published his pioneering book *Rechnende Maschinen*, no other extensive study on the history of the German computer industry has been published. As long as most technology historians in Germany show only a minor interest in computing, we must rely on studies written by contemporary witnesses involved in the development of the German computer industry, which is the case with Karl Ganzhorn's book.

Ganzhorn's study resulted from an initiative at IBM Germany to document the history of R&D and IBM Germany's contributions to IBM's product line against the backdrop of the general progress of information technology. Ganzhorn had an impressive career from 1952 onward at IBM, where he earned a unique combination of technical insight and management experience. In 1958, he became head of R&D at IBM Germany, then managing director in 1967; in 1973 he was appointed director for R&D of IBM in Europe.

His book is divided into an introduction and 10 chapters. The first and second chapters describe the establishment of the IBM laboratories in Boeblingen. Ganzhorn had just finished his PhD in physics when he was hired to establish a new R&D operation for electronic computing in IBM Germany. After familiarizing himself with transistor technology, and the structure and technologies of early electronic computers, Ganzhorn realized that the industry would have to wait for the further development of transistor technology before using it in digital computing. Therefore, he decided to investigate how to use

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