history buffs particularly—will long be in debt to Edward G. Holley for having rekindled the historic coals of the conference out of which came the American Library Association. As for the book itself, it is beautifully printed, admirably illustrated, handsomely bound—a credit to the publisher, the printer, and the designers. *Raking the Historic Coals* is a solid contribution to library history, to the literature of librarianship, and, what is more, it is a real charmer. —*John David Marshall, Middle Tennessee State University.*

British Public Library Buildings. By S. G. Berriman and K. C. Harrison. New York: London House and Maxwell, 1966. 260p. $25.

Public library architecture has long been debated, discussed (and cussed), and studied. Too often there has been more wind than logic; too often architectural whims or professional prejudices have dominated the scene, and the convenience of the user or aesthetic qualities have suffered.

As the authors have rightly pointed out in their monumental record of postwar British public library construction, public libraries the world over were freed from the ornate institutionalism found in buildings constructed prior to the 1940's. Undoubtedly two important factors influenced this change: one a breath of fresh air created by architects, working with newer materials and under a different economy thus permitting materials hitherto too expensive for public buildings; and the other, a completely new understanding on the part of librarians, not only for the functional operational needs of the staff, but also greater consideration for the interrelationship of uses of a public library by the public. This in many buildings has produced a happy combination in a joint understanding and relationship between architect and librarian. A study of this volume will indicate the extent to which this has occurred in Britain.

The book, containing an index, is divided into seven sections: Commentary; Municipal Main Libraries; County Library Headquarter Buildings; Municipal Branch Libraries; County Branch Libraries; Tabulated Data of other Municipal Library Buildings; and Tabulated Data of other County Library Buildings.

The Commentary contains a good summary of public library architectural trends and recommendations. It is all too short in proportion to the book as a whole. This reviewer would have appreciated more comments and thinking by the authors, for they are in a position to exert great influence on future public library buildings. Indeed it is a pity that the text was not available to architects and librarians before some of the structures illustrated were built. It is exciting to think that a team of architects in the Ministry of Education is producing prototype library plans for varying sizes of communities. These, however, should be subject to continual review for changes required as new services or equipment is required and there should be reasonable acceptance of the prototype plans by all concerned—public, librarian, and architect. There is a danger also, of course, in that the prototype will be duplicated without thought as to local requirements for site and local services. Experimentation and logical evolution must not be squelched.

The volume is well illustrated, giving in many instances a real dimension to the plans. It would have been helpful to have had the plans all drawn to the same scale and to have had tabulations of pertinent statistics. Some floor plans give neither the scale used nor the square footage. This, however, is a most welcome volume which will lead to further thinking on public library building problems.—*Emerson Greenaway, Free Library of Philadelphia.*

Formulation of Research Policies; Collected Papers from an International Symposium. By Lawrence W. Bass, and Bruce S. Olds, eds. [Washington, D.C.] American Association for the Advancement of Science, 1967. 210p. (Publication No. 87). (67-29695).

Research forty years ago, according to a colleague, was less than a respectable activity for a young PhD in chemistry. In recent decades research has taken on an entirely different character and is, in fact, in *Formulation of Research Policies* the subject for attention of nineteen ranking officials in government and industry.

Most of this volume (proceedings of a Gordon Research Conference held January 30 to February 4, 1966, in Santa Barbara, California) is an inventory of organized research activity in a number of western bloc countries, several international communities, and selected industrial and governmental situations.

The ecology of research varies widely. The pattern of research sponsorship so well known in the United States where government, industry, and universities all participate extensively, is not necessarily the pattern in other countries. Many countries have created since World War II some kind of a national research committee or council. Functions and responsibilities range from that of a loose advisory nature at one end of the spectrum to well-defined, highly respected policy and research agencies at the other.

In Canada, for example, the National Research Council effectively advises the government on scientific policy and promotes scientific research by others by underwriting some 50 per cent of the cost of new research undertaken by industry. In the United Kingdom centralized planning at the government level gives strong research direction to industry, while in West Germany research is largely university-based with support coming both from the federal and provincial governments as well as from industry. The Netherlands government expends strong influence on research activity, as is true in Belgium where some eighty institutes are serving closely various industrial and agricultural interests.

At the far end of the spectrum is the United States where the National Research Council serves as a coordinating body over a highly complex system including many kinds of private and governmental interests. The government by dollar support, however, obviously exerts strong influence on research policy. In 1966 a total of $15.3 billion was spent on research and development with $10.1 billion going to industry (in 1965 this was 55 per cent of industry's R & D expenditure), $1.4 billion to universities, $750 million to other nonprofit groups, with the remainder spent within government itself.

Attention paid to research by the OECD (Organization for Economic Cooperation and Development) and cooperative RA's (research organizations) in a number of European nations, as well as the increasing research activity in developing countries, and the development of research policy in two industrial complexes—Montecatini (chemistry) in Italy and Philips (electronics) in the Netherlands—are discussed. The situations described in different countries or in different types of agencies are not necessarily comparable nor is the presentation in these proceedings.

One of the most useful items analyzes distribution of inputs and outputs relative to the research industry. A dozen factors are compared, among them population, production of crude steel, consumption of commercial energy, annual expenditures for research and development as a percentage of the gross national product, and several bibliographical items such as output of papers in nuclear structure theory and in chemistry and the paid circulation of *Science*. Four groups of countries are identified—the U.S. and the USSR at the top, while 130 countries are described as being in the RD—"research desert."

Although the dollars going into research are large, representing 2.5 per cent of the gross national product in the U.S. (3 per cent is advocated), much duplication of effort is readily apparent. Frederick Seitz, U.S. National Academy of Sciences president, poses but does not answer, one particularly penetrating question—are the benefits to be expected from research and development near saturation? He concludes that regardless of progress to date the problem of establishing research policies at the national level will not become routine in our lifetimes. Few of the authors recognize the value of technical information activities as a means of getting more for the research dollar. It is obvious that librarians and others in information transfer must continue their efforts to increase the percentage of the research budget spent on information from the lows of 1.5 to a figure nearer 10 per cent as reported by some research-minded industries.—*Bill M. Woods, Engineering Index.* ■■