

case for funding and development of the U.S. National Research and Education Network (NREN) as well as for more effective and extensive exploitation of coordinated collection development and services. The sole quibble this reviewer has with Webster's exposition is his inaccurate depiction of the debate between the proponents of local ownership and those who predict a rosy future based on the so-called paradigm of access. There may be some political reasons for this construction.

Gordon Graham's paper on the publisher's perspective on the economics of journal publishing is a gentlemanly review of the recent history of the situation. Although he attends to the important relationship between publishers and librarians, he passes lightly over the possibility of altering the expectations of the scholarly community, which is ultimately the consumer as well as the supplier of texts.

Two papers on scholarly communication in the sciences, one by Anthony Pearce about physics and another by Anthony J. Turner on biochemistry, present discipline-based views and describe the influence of the learned societies on the present crisis.

In "The Future of Scholarly Communication" Colin Campbell, then vice-chancellor of the University of Nottingham, suggests a plan for regional coordinated collection development and advocates more experimentation with information technology.

Cliff McKnight and Lynne Brindley consider the electronic journal and the electronic library respectively. McKnight presents some experiences in applying mainframe computer resources to a journal-publishing venture, the BLEND project, and a hypertext electronic journal based on a CD-ROM workstation, the Project Quartet. A useful feature of McKnight's paper is his presentation of some schematic models of information delivery systems. Brindley's paper rehearses the advances which suggest to her the possibilities for a true electronic library, and in the conclusion to her excellent brief she offers seven assertions which, taken together, describe the path to further developments.

Bernard Naylor's paper, "The Politics of Change in the United Kingdom," examines the matter of "scholarly esteem" and presents several models for understanding the current situation, if not the future.

The concluding panel discussion identifies three main themes arising in the conference (escalating serials prices, technological alternatives, pressures to publish), problems of traditional serials, alternatives to traditional serials, and presents observations on the possibilities of reducing published output.

A program for action is outlined featuring four steps subsequently undertaken by various groups concerned with the problem on both sides of the Atlantic. These steps are: creating an experimental electronic journal; lobbying for change in the appraisal of research; continuing the development of a technological infrastructure suitable for communicating scientific and scholarly reports; and studying how scholars find and use information, especially with regard to serials.

Despite the minor shortcomings of many of the papers, this is a valuable résumé of the crisis in the system of scholarly communication via serials. Although there are a few obvious differences between the British and American environments, the relevance of these discussions is apparent to the global research library community. Given that Bowker-Saur is merely reporting the results of a conference funded by others, the price of the volume is unwarranted. Perhaps in the future, alternate modes of distributing the proceedings of meetings as obviously fruitful and important as this one could be managed.—Michael A. Keller, *Yale University, New Haven, Connecticut.*

Clotfelter, Charles T., Ronald G. Ehrenberg, Malcolm Getz, and John J. Siegfried. *Economic Challenges in Higher Education.* Chicago: Univ. of Chicago Pr., 1991. (A National Bureau of Economic Research Monograph.) 422 p. acid-free, \$39.95 (ISBN 0-226-11050-8). LC 91-23330.

This book consists of three long economics essays on student demand for

higher education (Clotfelter), on the supply of college and university professors (Ehrenberg), and on costs and productivity in higher education (Getz and Siegfried). The authors focus on American higher education; they draw extensively on economic data and studies published over the last twenty years and offer original analysis of some of the data. All the authors are economists. One of them, Malcolm Getz, is associate provost for Information Science and Technology at Vanderbilt University. Each essay starts with a challenging set of policy questions that economic analysis might help answer. Disappointingly, only the essay on the supply of university professors engages fully with these policy questions. Elsewhere, the exposition of data overwhelms thoughtful analysis.

Should academic librarians read this book? None of the essays makes any but passing reference to libraries, so the question is whether this book helps librarians understand the economics of higher education and therefore the business they are in.

There is a great deal of information in this book about the economics of higher education, and different readers will doubtless find different parts of it useful. I was struck, for instance, by the account of significant increases in spending on student services as a way to secure competitive advantage, as well as by the impressive economic manifestations of the tremendous institutional variety of higher education in the United States. That variety makes it difficult to draw broad conclusions about any number of basic questions. It is little wonder that librarians have trouble describing the costs of library programs, given the complexity of larger institutional spending behaviors!

But for all the information this book contains, little here will reshape the understanding of the business of higher education for anyone who has been reading the *Chronicle of Higher Education* for the last decade. This book fails such a reader for two reasons. The first is the narrowness of the economic analysis it offers. Ehrenberg, for instance, focuses almost exclusively on the economic

choices and behavior of those who decide on teaching and research careers in higher education. Yet anyone who has taken that path knows the vital importance of noneconomic considerations and understands how little the academic labor supply can be predicted from the facts of the "dismal science" alone. Similarly, while the authors recognize that highly selective institutions are quite different from less selective colleges and universities, there is little focused analysis of the economic behaviors that result from these differences—differences that go to the heart of any economic argument based on the model of a competitive marketplace. The book also gives little attention to the heavy dependence of some institutions on sponsored research and the economic consequences of that dependency.

The book does not take its own policy questions seriously enough and does not ask some of the most pertinent questions. The three-page summary at the end of the Getz and Siegfried essay, for instance, finds (accurately) that the marketplace for higher education is a competitive one. Unfortunately, that finding, while pertinent, does not take one far toward understanding the play of each of the six possible explanations for increasing costs posed for analysis at the beginning of the essay. (As possible explanations of higher costs, Getz and Siegfried identify product improvement, higher pass-through costs, few opportunities for productivity gains, poor management, government regulation, and self-serving measures by which faculty and administrators insulate themselves from market pressures.) Librarians in particular are sensitive to the capital-intensive nature of higher education, and to the problems of securing increased productivity in the service sector of the economy. This book offers little to readers concerned about such matters.

Librarians wanting to understand more about the economics of higher education might prefer to start with a talk given by another economist, Harold Shapiro (president of Princeton University) at the October 1991 symposium at

the University of Chicago on "The University of the Twenty-First Century." (A shorter version of this paper will be published in the summer 1992 issue of *Minerva: A Review of Science, Policy, and Learning*.) Shapiro's focus on increasing per capita student and faculty costs and on problems of productivity are particularly relevant to the situation of an academic librarian. That he invokes research libraries as a model for industry-wide institutional interdependence is both provocative and disturbing. Shapiro's comments underscore not only how far academic libraries still have to go, but also how little the institutions we serve understand the complexity and economic uncertainty of the tasks before us all. At the most fundamental level, one might indeed wonder whether colleges and universities can carve out a cooperative, interdependent niche for themselves, or for just some parts of their operations, in an otherwise competitive marketplace. The Anti-Trust Division of the Justice Department has opposed such behavior in the administration of student aid, for in-

stance. Are there in fact any models that indicate whether such exceptional economic behavior can succeed, and do we know what its public policy consequences, both positive and negative, might be?—*Scott Bennett, Johns Hopkins University, Baltimore, Maryland.*

Blum, Rudolf. *Kallimachos: The Alexandrian Library and the Origins of Bibliography.* Trans. by Hans H. Wellisch. Madison, Wis.: Univ. of Wisconsin Pr., 1991, 282p. \$37.50 (ISBN 0-299-13170). LC 91-28997.

Rudolf Blum's study was originally published in Germany in 1977 as a monograph and in an issue of *Archiv für Geschichte des Buchwesens*. It presents the argument that Kallimachos (perhaps more familiar in the Latinized form Callimachus) invented the library catalog and bibliography. Kallimachos may be best known as a learned court poet of the Hellenistic period, famous for his remark that a "big book is a big evil," and especially influential with Roman poets like Catullus. Kallimachos was also a

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