

Stephenson also contributed the material for sections on atlases, map guides and map librarianship in Part I. R. Cole Harris and J. Keith Fraser were responsible for the section on Canada for Part VI, Regional Geography.

Having outlined all this it would seem relevant to turn to considering possible user groups for the work. Obviously all libraries of colleges and universities in North America with departments of geography should acquire a copy for both reference and collection building purposes. Reading through the bibliography it is apparent that any library which acquired most of these titles over the years 1970-85 would be assured of a good basic collection and 2,903 titles over fifteen years is not an unrealistic number to acquire. Collection development specialists will certainly want to check their holdings against this list. I have used the bibliography in reference work with university-level students on a number of occasions: in every instance the students found it a helpful route in to their various research paper topics.

Because cartography is given peripheral, though adequate, treatment in the bibliography, individual cartographers may decide to let the local library copy suffice for their needs. On the other hand teachers and researchers in geography may want their own copy and would find it an admirable substitute for an unrewarding browse through the stacks. Geographers are poorly served by the Library of Congress classification system by which books in most university libraries are classified and shelved. First published in 1910 the schedule 'G' for geography scarcely reflects the discipline we know today in spite of several revisions, all minor. In consequence most of the literature of geography is spread throughout the total collection providing a 'geographical' aspect to history, sociology, economics, politics and so forth. Unlike other disciplines it is impossible to browse among the recent output of one's peers and observe the overall development of the field. Perhaps the identity crisis geographers are prone to suffer from begins here. The bibliography could be recommended to individuals who want to have on hand a reference to recent basic works across the discipline to supplement their in-depth knowledge of specific sectors.

The book itself is clearly printed, easy to use and substantially bound – good value for the money.

Aileen Desbarats / Map Librarian, University of Ottawa

TECHNOLOGICAL TRANSITION IN CARTOGRAPHY / Mark S. Monmonier, Madison, Wisconsin: The University of Wisconsin Press, 1985. xix, 282 p.: ill., maps. ISBN 0-299-10070-7. Cloth US\$25.

One of the difficulties of writing about new technologies is that they come and go so rapidly. It takes several years for a new text to progress from initial idea through completion, publication and eventual adoption, yet if the pattern of the past few years continues we can expect several major innovations in information processing to have occurred during that time. Cartography is no exception; it is after all an information technology in an information age. So writing about new technolo-

gy in cartography is risky; a book about the exciting innovations of 1986 may be quaintly historical to readers of 1996, or even 1990. A case in point is a device for building models of mathematical surfaces which provided brief excitement in the automated cartography community in the late 1960s. It worked by pushing measured lengths of steel wire through a polystyrene sheet, but had disappeared, a few short years later, and no comparable system has emerged since then.

Anyone buying a personal computer in 1987 knows with reasonable certainty that the same hardware will be available more cheaply in 1988, or put another way that the same amount of money would buy considerably more computing power if one could simply wait for a year. If procrastination is a rational response to this situation, then perhaps it also explains the lack of texts on automated cartography and the related fields of geographic information systems and remote sensing. *The Manual of Remote Sensing* represents another strategy, a compendium which can be revised and republished at regular intervals as the field changes. Monmonier has chosen a third: this is not so much a book on the new technology of the 1980s as on the historical relationship between cartography and the various technologies on which it has depended in the past, and will continue to depend in the future. Of course the digital revolution is central, because of the very significant changes which it continues to produce in map-making and map use, and because of its potential for transforming the entire concept of a map from permanent, paper hard copy to transient electronic image. But to understand present trends, Monmonier argues, it is important for us to examine what has happened in the past when technological changes, such as the introduction of the printing press, have had no less significant impacts on cartography.

The book examines change in five major areas, without suggesting that this set is necessarily comprehensive. In navigation and positioning the discussion ranges from primitive navigational aids among the Pacific islanders to the problem of longitude, Loran and global positioning satellites. Technological innovations have revolutionized geodesy over the past two decades, and the introduction of aerial and orbital platforms has had similar impact on primary cartographic data collection. The fourth area is decision support systems, which focuses on the use of geographic databases and geoinformation systems for the management of spatially distributed resources. In the fifth area Monmonier traces the impact of technological change on map publishing and distribution, from the early years of printing to modern flatbed and raster plotters.

As the author explains in the preface, the primary objective was to explain the impact of technological change, particularly the current digital revolution, to students of cartography. The result is very successful. It is not a textbook in the accepted sense, since it is comprehensive neither as a study of the history of technology in cartography nor as a review of digital technology. But reading it would be a major contribution to the education of a cartography student of the mid 1980s. It had two weaknesses to this reader, neither of them particularly central to the major theme. First, there are several passages on the implications of technological change for public policy, particularly in mapping agencies. This is an extremely important yet difficult area, and the limited discussion simply cannot deal adequately with it. Perhaps part of the problem is that many of the

public policy issues in cartography at the present time are not directly related to technology or technological change, but mirror much broader trends in society and its public agencies. The second is the significance of military innovation in cartography at the present time. Monmonier includes a fairly detailed discussion of cruise missile navigation systems, but notes that one reader of the manuscript found even this uncomfortably enthusiastic. If we were to be realistic we would have to admit that in the United States at least a great deal of very innovative research in digital mapping is currently funded by and conducted for eventual military application, and that this research will influence the civilian sector in one way or another. Furthermore, this merely continues a longstanding historical tendency. Monmonier treats this sensitive issue with tact, but the result is, as it must be, an awkward compromise.

The book is well written and well illustrated, and is recommended for professional cartographers with an evening to spare as much as for students looking for a review of current trends.

Michael F. Goodchild / University of Western Ontario

THE DESIGN OF INTERACTIVE COMPUTER DISPLAYS: A GUIDE TO THE SELECTED LITERATURE / Kate McGee and Catherine Matthews. A Report Store Publication. Lawrence, Kansas : Ergozyst. Assoc. 1986. 618 pp. ISBN 0-916-313-08-5. US\$25.

This book contains summaries of a selection of literature published on the topic of the design of interactive computer displays. The text is one of a series of what the publisher terms 'Consensus Bibliographies'. The objective of this series is to publish multidisciplinary reference tools which will help readers discover, evaluate and acquire useful literature on technical subjects, bringing them up to the current state of knowledge.

The text reviews 301 publications. Each publication is summarised in a 'Capsule Review', a concept trademark registered by 'The Report Store'. A capsule review consists of the author(s) name(s) and a description of the nature and location of the publication, followed by a brief section highlighting the document's purpose and significance, including who may be the potential audience. This is followed by a more thorough review of the work, including a discussion of the author(s) area of expertise, where and how the research fits into the body of knowledge, and strength or weakness of the work. The full table of contents is included for each publication reviewed.

The text commences with instructions on how to use a 'Consensus Bibliography', followed by a quick reference list of the publications reviewed. The next 584 pages are occupied with the actual 'Capsule Reviews'. Four appendices cover respectively a list of references that comprise a 'Recommended Basic Library' for the subject, a list of papers specific to 'Design Guidelines', a list of references specific to 'Graphics Standards', and a list of references for 'Recommended Reading on VDT Health and Safety'. An author and a subject index complete the issue.