ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES

BULLETIN

ASSOCIATION des CARTOTHEQUES et ARCHIVES CARTOGRAPHIQUES du CANADA

NUMBER 71 / JUNE 1989

NUMERO 71 / JUIN 1989

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES

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Past President	**Lou Sebert** 1119 Agincourt Rd. Ottawa, Ontario K2C 2H8	613/225-3126

A.C.M.L. MAILING ADDRESS

Association of Canadian Map Libraries and Archives
c/o Cartographic and Architectural Archives Division
National Archives of Canada
395 Wellington Street
Ottawa, Canada K1A 0N3
Tel: 613/995-1077; FAX: 613/995-4451

Views expressed in the *Bulletin* are those of the contributors and do not necessarily reflect the views of the Association.

The Association of Canadian Map Libraries and Archives gratefully acknowledges the financial support given by the Social Sciences and Humanities Research Council of Canada.

ASSOCIATION DES CARTOTHEQUES ET ARCHIVES CARTOGRAPHIQUES DU CANADA

Peuvent devenir MEMBRES de l'Association des cartothèques et archives cartographiques du Canada tout individu et toute institution qui s'intéressent aux cartes ainsi qu'aux objectifs de l'Association. La cotisation annuelle est la suivante.

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Secrétaire	**Cathy Moulder** Lloyd Reeds Map Library / UDC McMaster University Hamilton, Ontario L8S 4K1	416/525-9140 ext 4745
Trésorier	**Velma Parker** Division des archives cartographiques et architecturales Archives nationales du Canada 395 Wellington Street Ottawa, Canada K1A 0N3	613/996-7611
Président sortant	**Lou Sebert** 1119 Agincourt Rd. Ottawa, Ontario K2C 2H8	613/225-3126

A.C.C. ADRESSE D'AFFAIRES

Association des cartothèques et archives du Canada
a/s Division des archives cartographiques et architecturales
Archives nationales du Canada
395, rue Wellington
Ottawa, Canada K1A 0N3
Tel: 613/995-1077; FAX: 613/995-4451

Les opinions exprimées dans le *Bulletin* sont celles des collaborateurs et ne correspondent pas nécessairement à celles de l'Association.

L'Association des cartothèques et des archives cartographiques du Canada remercie le conseil de recherches en sciences humaines du Canada pour son apport financier.

ACML BULLETIN
NUMBER 71 / JUNE 1989

BULLETIN DE L'ACC
NUMERO 71 / JUIN 1989

Bulletin Staff / Collaborateurs

EDITOR

Lorraine Dubreuil, Map Curator
Dept. of Rare Books & Special Collections
McLennan Library
McGill University
3459 McTavish Street
Montreal, Quebec H3A 1Y1
Tel: 514 / 398-4707; FAX:514/398-7184

FEATURES

New Books and Atlases:

Maureen Wilson
Library - Map Division, University of B.C.
1956 Main Mall, University Campus
Vancouver, B.C. V6T 1Y3
Tel: 604 / 228-6191

Reviews:

Jeffrey Murray
Cartographic and Architectural
Archives Division
National Archives of Canada
395 Wellington Street
Ottawa, Ontario K1A 0N3
Tel: 613 / 996-7637

Regional News:

Margaret Hutchison
Maps & Architectural Drawings
Saskatchewan Archives Board
University of Regina
Regina, Saskatchewan S4S 0A2
Tel: 306 / 787-3867

CONTENTS/MATIERES

COVER: *British America.* [from Tallis's *Illustrated Atlas...*]. J. & F. Tallis [1851]. This map, the original of which is in the Joe C.W. Armstrong Canadiana Collection, has been reproduced as ACML Facsimile Map Series No.126 (ISSN 0827-8024).

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From the editor's desk...

During the preparation of this issue, the ACML Annual Conference took place in Regina, Saskatchewan. The September issue will have some papers from this conference. This is Maureen Wilson's last column, but **New Books and Atlases** will continue from St. Catharine's, Ontario with Coleen Beard. Please send any contributions which you have for this column to her. Jeffrey Murray will continue with **Reviews**, but we will need a replacement soon. Margaret Hutchison will continue with her column.

This issue includes our Membership List. If our records don't agree with yours, please send a note to Norma Mousaw, National Archives of Canada, so that we may correct our records.

I look forward to receiving your contributions for future issues. The deadline for the September issue will be September 1 st, and the deadline for the December issue will be December 1st.

Also, anyone who received a defective copy of Bulletin #70 (with pages 15 and 26 blank!) should return their copy as soon as possible to the Publications Officer at the National Archives of Canada, and a new copy will be mailed out.

Lorraine Dubreuil
Editor

THE CANADA CENTRE FOR REMOTE SENSING: ITS SERVICES AND PRODUCTS

(Paper presented at the 1988 Annual Conference)

Jean Game

INTRODUCTION

Canada was one of the first nations to realize the enormous potential of remote sensing. In 1972, the federal Department of Energy, Mines, and Resources established the Canada Centre for Remote Sensing (CCRS), which today is internationally regarded as a world-class research and development centre working in close cooperation with industry. CCRS receives remotely sensed data through its ground stations at Prince Albert, Saskatchewan, covering Western and Central Canada, and at a second station at Gatineau, Québec (near Ottawa), covering Eastern Canada. This data enables Canadians to help manage our resources and monitor environmental changes. The activities of the Centre can be divided into four categories:

Applications
New uses for remote sensing data are developed and demonstrated. Projects are undertaken in cooperation with users.

Satellite Operations
Satellite data are received, processed and distributed.

Research and Development
New data analysis methods, new sensors, and data acquisition systems are developed.

User Services
Facilities and technical information are made available to the user on a routine basis.

DATA SOURCES

CCRS has participated in the U.S. LANDSAT program since the launch of LANDSAT 1 in July 1972, and is currently receiving transmissions from LANDSAT 4 and 5.

The two sensor systems on board LANDSAT are:
1. A four channel Multispectral Scanner System - MSS.
2. The Thematic Mapper - TM - a second generation, improved Earth observing sensor.

A second source of remote sensing data began transmission in February, 1986, with the launch of SPOT-1 (Système Pour l'Observation de la Terre) by the French Space Agency.

The SPOT-1 spacecraft carries two nominally identical High Resolution Visible (HVR) imagers, which can be operated independently or in various coupled modes.

SENSOR CHARACTERISTICS AND APPLICATIONS

1. Landsat Multispectral Scanner

Each image covers an area on the ground of approximately 185 x 161 km. The resolution of the MSS is 80 metres.

MSS

Band 1 (.50 to .60 micrometers)
Discriminates quantitatively the depth and/or turbidity of standing bodies of water.

Band 2 (.60 to .70 micrometers)
Best for showing topographic and cultural features such as drainage patterns, roads and towns, and is useful for discriminating vegetation types.

Band 3 (.70 to .80 micrometers)
Shows tonal contrasts that reflect various land use practices.

Band 4 (.80 to 1.10 micrometers)
Best for land/water discrimination.

Two pseudo-colour composites are also available as imagery products.

Colour 1 (C-1) - produced by exposure of band 1 data with the colour blue, band 2 data with the colour green, and band 4 with the colour red. The typical result is a reddish image (analogous to false-colour infrared photography) where the intensity of the red can be related to vegetation growth.

Colour 2 (C-2) - produced by the exposure of band 2 data with the colour red, band 3 data with the colour green, band 4 data with the colour blue. The image is normally a blue colour, useful for water discrimination.

2. **Thematic Mapper**

The TM sensor has improved spatial resolution, spectral separation, geometric fidelity and radiometric accuracy. The resolution for TM sensor bands 1, 2, 3, 4, 5, 7 is 30 metres. The thermal band 6 has a resolution of 120 metres.

TM

Band 1 (.45 to .52 micrometers)
Useful for water penetration and for soil/ vegetation and deciduous/coniferous flora discrimination.

Band 2 (.52 to .60 micrometers)
Useful for the measurement of visible green relfectance peaks of vegetation for vigor assessment

Band 3 (.63 to .69 micrometers)
This is the chlorophyll absorption band which can be used for vegetation discrimination.

Band 4 (.76 to .90 micrometers)
Useful for determining biomass content and for the delineation of water bodies.

Band 5 (1.55 to 1.75 micrometers)
Useful for vegetation/soil moisture content and snow/cloud differentiation.

Band 6 (10.40 to 12.50 micrometers)
This is the thermal infrared band which is useful in vegetation stress analysis, soil moisture determination and thermal mapping.

Band 7 (2.08 to 2.35 micrometers)
This band was selected for its potential in discriminating between rock types and for hydrothermal mapping.

3. **SPOT HRV**

The HRV instrument is designed to operate in either of two modes, in the visible and infrared portions of the spectrum:
a panchromatic (black and white) mode with 10-metre ground resolution.
a multispectral (color) mode corresponding to observation in three narrower spectral bands:
green centered in the chlorophyll reflectance range
red corresponding to a high chlorophyll absorption and a **near infrared** known for its high atmospheric transmission qualitites. This mode has a ground resolution of 80 metres.
In addition the SPOT HRVs are pointable across the track direction allowing access to areas other than those directly below its path. The width of a SPOT image varies between 60 km for nadir viewing and 80 km for extreme off-nadir.

USER SERVICES

A. STANDARD PRODUCTS

DIGITAL data available as Computer Compatible Tapes (CCT) from a raw format through to a precision corrected geocoded format.
Film products - black and white or color 185 mm film positive transparencies.

B. HOW TO ORDER

All requests for data should be directed to:
ORDER DESK
Prince Albert Satellite Station
P.O. Box 1150
Prince Albert, Saskatchewan S6V 5S7
TEL. (306) 764-3602 TLX. 074-29242

COLOUR COMBINATIONS FOR THEMATIC MAPPER IMAGES

Combination	Displayed	Characteristic/Results Colour
TM 1 TM 2 TM 3	Blue Green	Approximately natural color. Useful for display purposes if the audience is unfamiliar with falsecolor presentations but has far less geological and forest information than the falsecolor presentations. This imagery format is not recommended for winter or midsummer. Fall or spring data may be usefully displayed by this combination.
TM 2 TM 3 TM 4	Blue Green Red (false-colour infrared)	This is the same color rendition as color infrared film and the familiar LANDSAT MSS combination of bands 1, 2 and 4. It is good for allround use by persons already familiar with color infrared. It shows forest cover variations, roads, outcrops, waterbodies and burns. It also penetrates haze.
TM 3 TM 4 TM 5	Blue Green Red	This combination, called RIS 1 for redinfraredSWIR 1, is still in the research stage. It is yielding encouraging results in forested Shield terrain. Sensitivity to forest type, stand density and soil moisture yields very useful imagery.
TM 3 TM 4 TM 7	Blue Green Red	This band combination is very useful for delineating field boundaries and for identifying vegetation patterns within fields and on rangeland.
TM 2 TM 4 TM 3	Blue Green Red	This uses the same bands as the colour infrared rendition, but changing the order results in green vegetation appearing green (rather than red) in the image. This combination is used by B.C. Ministry of Forests for inventory, planning and engineering applications.

Requests should include:
- Satellite and sensor, i.e., LANDSAT TM
- Date of coverage - From/To
- Location - Latitude/Longitude
- Maximum cloud cover
- Product required
- Brief application description

C. GENERAL INFORMATION AND APPLICATIONS ORIENTED ADVICE

The User Assistance Unit, CCRS, Ottawa, is the contact point for all requests for general information and applications-oriented advice.
TEL. (613) 952-2717 TLX. 053-3777

USING A MICROCOMPUTER IN A SPECIAL LIBRARY

(Paper presented at the 1988 Annual Conference)

Marte Misiek, University of Toronto

I. Introduction

I have been asked to speak about automation, not on a large scale such as you would find in CARTO-NET, but at the other end of the scale: the use of microcomputers in a special library. Today I would like to talk about some of the microcomputer work we have been doing at the FLIS Library over the last five years in order to show you some of the options available for a relatively small investment. Although FLIS is not a map library, I think that many of our experiences can be of use to you too. Then I plan to briefly cover what I see as some of the necessary work required to introduce a microcomputer into a library: planning, selection, preparation, installation, and introduction to staff.

II. FLIS - our approach

A. What we did then

Five years ago, the responsibility for selecting our first micro was mine. Was I ready? The answer is yes and no. I am luckier than most because reading journals on library automation is part of my job. I also oversaw the small in-house systems we were running on the University's mainframe. I had an idea of what micros could do and even of what I wanted them to do in our library. We did not have an overall formal plan for automation, although we do have periodic discussions about what we want. Our decision, five years ago, was that we would start small: word processing, spreadsheet, online searching, and a general database management package. We would allow the time to develop in-house expertise for computer development. We would also phase in the use of the computer and software. Everyone interested would learn the word processing package and try to incorporate it into their jobs. The use of the other software packages would be introduced slowly thereafter to those who could benefit from their use.

However, five years ago, I did not know exactly what hardware and software I wanted. The next two months were spent learning about and trying out different hardware and software. I finally decided on a package and nervously committed it to paper and the purchasing department. Apples were, in those days, the leading microcomputers in libraries, but I decided to take a chance on the newly released IBM PC/XT. Our software included Wordstar for word processing, Multiplan for spreadsheets, Crosstalk for communications, and dBASE II for database management. Most of these packages were leaders in the industry at that time. There was little library application software then and almost none for the IBM PC.

B. What we have now

Today, after five years, we have four micros; one micro has a CD-ROM player. Our software purchases for office use over the last five years have been few. We are still using the same software packages with the odd upgrade or two. We exchanged Crosstalk for the cheaper and more versatile PC-TALK after about 6 months of use.

You might think that the use of the same packages for 5 years indicates stagnation in our micro development. I think it indicates that taking care with your software choices can get you many years of use out of them, even after the industry has moved on to bigger and better things. Our priority is on developing working systems of use to our library and not on having the leading packages of that year. If the software still does what we need we don't shop around; we don't have the time. We were still using dBASE II for development up until 2 years ago even though dBASE III had been out for several years.

C. What we are doing

Let me try to outline our current microcomputer applications in terms of technical and public services uses; a few overlap the two areas.

1. Technical services

Many of our technical service applications involve dBASE II and III. One of our first applications for the micro was what we call the Ledger System

which replaces a file of 5x8 cards used to monitor all purchases from our book fund. With the card system we had no monthly or running total of how much we had spent and also had no access by invoice number or book title to payments we had already made from the book fund. Now each payment is recorded in the Ledger System as a record and we have access to each record by title, publisher/supplier and invoice number. We produce a monthly report of how much is spent in each of our 20 funds and a total for the month. This information is then fed into a Multiplan spreadsheet so we can tell what percentage of each fund and the total budget is spent to date. This is a wonderful planning tool to have at your finger tips. Toward the end of the budget year we may produce these reports more frequently to ensure that we spend pretty closely to what we have in the budget.

Another dBASE II system, the Order System, is used to produce all of the correspondence needed for our orders. This includes letters requesting price and publication date, order forms, slips for the card catalogue and paper order file, claim letters, and so on. A second database records the titles of books we have decided not to buy. A title ordered remains in the system until after it has been catalogued. We produce a monthly report of titles to be claimed and acquisitions list of titles received. A record can be searched by exact or partial author, title, publisher, series, or ISBN and exact order number. Boolean searches using 'and' and 'or' logic are possible, but slow, on the computer system. The order records are linked to an address file so that addresses only need to be entered once for a publisher. The records are also linked to the Ledger file records if a payment has been made for a title. Our latest dBASE system provides limited access to our Technical Reports collection. It's interesting to note that this system parallels an earlier system done in the late sixties on a mainframe computer and which was in some ways slower and more cumbersome to use. We do it all in-house now, on dBASE III with a slow PC/XT and 640K.

Our spreadsheet software is used for a number of different purposes besides the book fund expenditures - to balance our cheque book, to record supplies expenditures, photocopier payments and income, part-time student payments, etc.

Our cataloguing section uses a micro to connect online to the UTLAS CATSS System to derive or input catalogue records for Felix and the production of our catalogue cards. For the last two years we have been working on a Recon project in which we used our micro to input partial records including ISBN, LC Card Number, and partial title into the UTLAS Recon software so that they could be searched on the UTLAS system for hits and inclusion in our CATSS database.

2. Public Services

Many of our public services applications involve online searching. I have been told that online searching is not of great priority to map librarians, so I will not cover this area in detail. It is sufficient to say that we search a number of databases using PC-TALK and can download records from these databases to disk for later editing and inclusion in bibliographies. We also download a log entry for each database searched to keep track of the state of the online budget account. We connect to three electronic mail services, mainly for InterLibrary Loan purposes.

Library and Information Science Update (LISU for short), which is our monthly newsletter of journal article abstracts, is produced on our micro, as are various library brochures, pamphlets, manuals and our annual report. dBASE II and III are used to produce subscription invoices monthly and also mailing labels for the LISU issues themselves.
We have a database of the Reserve collection stored in dBASE II which is updated continuously and from which we produce lists of books on Reserve for each term, in title and call number order. Several other lists can also be produced on demand from the database.

A set of dBASE III programs has been written to produce labels for the items in our Xerox File collection. A by-product of this system is that we are slowly building up a database of these titles. When this database is complete we may load it into Inmagic to provide our students with some exposure to that software package which is popular in libraries today.

One of our micros is located in the public part of the

library and is called our Reference Workstation. The equipment for this workstation was donated to the school and is mainly used for searching CD-ROM packages. These packages include Dialog ERIC OnDisc, LISA from Silverplatter, the University of Guelph catalogue and several sample CD-ROM products like 3 years of Dissertation Abstracts International, six months of the Wilson databases, and one year of the Globe & Mail which are all available for public use. We also have Testmagic, the demo version of Inmagic. A modem for this micro is not yet hooked up because we have not found a suitable way to charge patrons for their online searching costs and we cannot afford to pay for unlimited access. This station has been in operation for one year and has been fairly heavily used both by our students for their course work and by outside librarians who want to try out some of the CD-ROM packages. So far we have experienced many fewer problems with the workstation than I had expected; this is especially surprising because we provided little preparation for the staff or patrons and expect that most people will teach themselves.

D. What we plan to do
As far as developments are concerned, we are in the process of moving our Serials system from a mainframe to our newest micro. Our mainframe system had about 3,000 serials records and 2,000 name authority records. It was used to produce a public serials list and claim, binding and suscription renewal lists. The records have all been downloaded from the mainframe system and work is currently being done on a conversion routine using a combination of Headform (a translation program) and dBASE III to load them into Inmagic. I might point out that we did not choose to terminate the old system ourselves at this time. The decision was forced on us when our Computer Centre decided to stop providing the mainframe services which this system utilized. This is one of the big minuses of using a computer controlled by another department. You are often not consulted in future planning decisions, even though they may drastically effect your library's operations. To them we are a very minor part of their operation. We were given only 6 months notice of termination and were very lucky that the Faculty was able to provide us with a replacement micro suitable to run the system. The original system took many years for development; we don't have that luxury this time around.

I have brought samples of some of the output we produce for you to look at but have not gone into great detail concerning any one of our uses of the micro. I would be pleased to try to answer any questions you may have about them later.

III. Introduction of a micro
I would now like to quickly outline some of the factors which you should consider in preparing for a micro in your library.

A. A situation
Consider a hypothetical situation: several months before the end of the budget year, the chief librarian informs you that some money has appeared unexpectedly. She thinks it would be a good time to buy a microcomputer. Of course, the money must be spent before the end of this budget year. Perhaps you think this an unlikely situation in these days of tight money? This is exactly the situation I was faced with at FLIS before we had our first microcomputer and at least twice since then. Judging by some of the people who come to the FLIS Library for help, this is not an uncommon situation in the library world. It's nice to think you would have the proper amount of time to prepare for a microcomputer, but you may very well not.

B. Planning
The first stage of preparation begins before your computer has been selected and hopefully long before the decision has been made to buy one. This is the planning stage.

It is never too soon to start thinking about what operations would benefit from automation, either in terms of freeing staff from routine, time-consuming work or in providing better services for your patrons. It is very difficult to do decent long-range planning for automation in the one or two months you may have to finalize your microcomputer hardware and software purchases.

Where do you start? There are several things you should consider when you are planning for automation.

1. Which operations in your library need

improvement and would they benefit from automation? (1) Operations which involve the use of the same information in different ways often benefit as do (2) tasks which require much editing or involve many repetitions of the same operation. That is why many libraries start with word processing when they acquire a microcomputer.

Automation often does not save time but it usually allows you to do more work in the same amount of time. For example, it takes us as long to produce our orders now as it did manually, but as a by-produce we get an acquisitions list much nicer than anything we had time to produce before.

2. If it is not possible to automate everything at once (and it never really is), what are your priorities for the things you want to automate? Do you start on a major project like an online catalogue/circulation system or CARTO-NET which is likely to be of most benefit to staff and patrons or do you start smaller with word processing applications?

3. What level of information do you want to carry in your automated system records? What kind of access do you want to the records? If, e.g., you want subject and title keyword access in your online catalogue, the information has to be stored in a particular way. Do you want to carry information that you have no immediate need for? Some libraries started with very brief records in their first circulation systems - i.e., 20-30 characters for titles, etc. Many libraries are now finding they need to carry fuller bibliographic information and have to re-enter this information. It may be cheapest and less work in the long run to enter everything the first time and in a standard format like MARC. In the 1970's, e.g., we had the serials system mentioned earlier on a mainframe computer. We chose a modified MARC format for storing the records even though at that time it was not in general use in automated systems outside of those producing catalogue cards. Because we used a standardized format for entering our records they can now be downloaded and easily translated into another format for use in another system without re-entering all of that information. A little extra planning before starting a major project can save a lot of time down the road.

You may be thinking if we only have a chance for a small micro, do I really have to think about all of the rest now. I think so; even a small micro is very powerful these days. Also, you never know when you might have to decide quickly on the rest. This micro and what you do with it should fit into the overall scheme so that it will not be necessary to redo major projects from scratch. The plan you produce is a picture of what you want for your library, tempered only slightly by what is possible or affordable. Once you have funding you can decide what part of the plan to implement.

C. Selection

The next stage is the selection of the hardware and software. Some people recommend that you select your software first and then get the hardware needed to run it. This is especially important if you are looking at larger computer systems like a Geac system which only runs on Geac equipment. I have tended to look at both together and narrow my choices in both areas as I go along.

In selecting hardware and software it is important to read reviews and find out what other libraries are doing. I have found it important to try out equipment and software, if possible, before buying it, especially if it is expensive. You may find that you don't like the keyboard, that the paper is too difficult to load in the printer, that the software can't handle large enough records. Try to find software that can handle as many of your current and future needs as possible. Word processing software may not be so expensive these days but it still requires a large investment of staff time to learn many of its special features. Software for library applications, like bibliographic production or indexing, may be easier to learn, but may store you data in a way that cannot be easily upgraded to a newer package later.

The final decision of what to purchase should not be made too far in advance of the actual purchase, since changes occur very rapidly in this field. When it is time to buy, specify in great detail exactly what equipment you want; include model numbers, any boards in the computer, etc. This is especially important if someone else is doing the actual purchasing and also so that you can check to make sure you have received everything you wanted. I have learned this the hard way. We just ordered a new micro. Originally I dealt with a dealer with

whom I had an understanding about parts of the equipment, so I did not go into great detail on the purchase order. Purchasing decided they could get a better deal elsewhere supposedly for exactly the same package. When the equipment arrived, I found substitutions had been made for some items and that is how money was saved. It took a month to straighten out the mess.

D. Preparation

Once the micro has been ordered, more preparation is required before it arrives.

I cannot stress too much the importance of including early on in the planning process all staff who will be involved with the computer. Certainly keep them informed about how plans are proceeding. Some staff are fearful of computers; they may be afraid to learn something new. Many worry about how it will affect their jobs and if it may mean a staff cut in future. Responsibility for different aspects of the computer should be spelled out.

Besides preparing the staff, it is necessary to prepare a location. How will its presence effect the people who work around it? We placed out first micro in a spare office. In retrospect, that was a good thing. We had a CRT with slave printer in the library workroom for many years so we tried to put our second micro there. We very quickly found that several people, including myself, found the constant hum of the hard disk fan very disturbing. The printer would have been impossible to work with. A different location for the equipment had to be found within weeks. One of the main complaints about our public workstation micro is its noise.

E. Installation

When the computer and software finally arrive, familiarize yourself with the manuals and test out all equipment and software before turning the rest of the staff loose on it. Make sure the software works properly with your printer, modem, monitor, etc.

In upgrading an existing system, this pre-use testing is even more important. I upgraded a computer from 256K to 640K but found that the computer now thought it had less memory than before. After consulting a number of people, we determined that the problem was in my not having upgraded my DOS at the same time the older version had problems with the increased memory. Soon after the purchase is the time to consult your dealter - while the sale is still fresh.

I might add that we have one person responsible for setting up computers, overseeing usage and monitoring problems. One person can develop a familiarity with the setup and can better judge the severity of any one problem. I have found that keeping a written log of problems and solutions helps when dealing with repair people or when a problem recurs.

F. Introduction to staff

Along with keeping your staff up-to-date on the status of the micro, you might also want a formal introductory training session for all who will be using it. With our first micro, we wanted to encourage everyone to use it, so I prepared handouts on turning on and off the equipment, held a session demonstrating the use of the equipment and explaining some rules for using the setup (i.e., no smoking or drinking, etc. around the equipment), and also suggested a plan to follow in learning the word processing package. I met with each person to discuss how they might individually use the computer in their work. Several people were initially quite hesitant, but using this approach we managed to get everyone on it quickly. Of course it is necessary to give staff time to practice a package. With each new piece of equipment, I try to give an introductory session and handout if most of the staff will be using it.

IV. Conclusion

I have tried to give you an overview of automation with a micro in a special library. If you don't know where to begin to plan about computers and our library, there are many books and journals on the subject now. There also are other libraries similar to yours in size or collection scope which may have more experience with micros than you do and may be willing to share their experience.

MAPS OF OTHER WORLDS

Philip Stooke

Our expanding knowledge of the world is preserved and illustrated in maps. From Mesopotamian city plans to mappaemundi, from Ortelius and Mercator to Cassini and Penck, the history of cartography is a graphic record of the history of science and exploration. It should come as no surprise that this is as true of other worlds as it is for the Earth, but maps of the Moon and planets are generally little known. Although many libraries have a small collection of extraterrestrial maps, few curators know much of their history or significance. In this brief article, I will summarize the history of lunar and planetary cartography and describe a rationale for collecting these maps.

A convenient framework for the study of extraterrestrial maps is a general exploratory sequence:
1. Maps based on earth-based (usually telescopic) observations.
2. Maps based on the first spacecraft visit to the planet.
3. Maps based on each successive spacecraft visit.
Each of these phases may have a complex history of its own. The earth-based maps evolve with improvements in telescope technology and observational methods. Each spacecraft flight results in a series of products: premission planning charts, preliminary maps to support data analysis during or immediately following the mission, and final products which incorporate the results of that analysis. The names of features evolve over time, and methods of cartographic representation have of course changed considerably. Lunar maps, for instance, display the full range of methods of relief portrayal associated with terrestrial maps; pictorial hill drawing, hachures, 'form lines,' spot heights, contours and shaded relief drawing, and in the most recent maps we see contours plotted on an orthophotomosaic base.

Within this general framework, each planet has a distinct cartographic history whose structure derives from its unique sequence of telescopic and spacecraft observations. Here we find enormous variation. The Moon and Mars have long and complex histories of telescopic cartography and placename evolution, and have been visited by many different spacecraft. The satellites of Jupiter are very difficult to chart from Earth, though a few such maps have been made. They have been studied in detail by the famous **Voyager** spacecraft, and in the last decade several series of maps have been published of these fascinating worlds. The satellites of Uranus can not be mapped from Earth, so our only maps are based on **Voyager** photographs. The planet Pluto and some asteroids and comet nuclei can be mapped using telescopes and ingenious analytical techniques (speckle interferometry, lightcurve modelling and so on), while no spacecraft visits to most of these bodies are anticipated. Maps of this sort tend to be buried in the technical journals of astronomy, while extensive series of sheet maps of the better-charted worlds are available from the U.S. Geological Survey, Sojuzkarta an other agencies.

A handful of examples, necessarily brief, will illustrate the complexity of planetary cartographic history. Much historical research remains to be done in this field.

The oldest known map of the Moon was drawn by William Gilbert, the personal physician to Queen Elizabeth I. This was in about 1600 A.D., ten years before Galileo's first use of a telescope to examine the Moon. I find it curious that, despite Plutarch's (150 A.D.) reference to lunar place names, no drawing or map of the Moon is known from antiquity. Careful examination of the historical and archeological records may yet turn up a surprise. Following Galileo, maps of the Moon proliferated, becoming more detailed as telescopes improved. Prominent among early lunar cartographers was J.D. Cassini, the astronomer who perfected the use

of astronomical observations to determine longitude and initiated the triangulation of France.

By the end of the nineteenth century, detailed multi-sheet maps of the Moon had been compiled by several cartographers. At the time they referred to themselves as 'selenographers' or 'moon-drawers,' but the term has been abandoned in recent decades. The development of photography permitted photogrammetric triangulation, resulting in maps which were more accurate, though no more detailed. Furthermore, these maps were restricted to the near side of the Moon and could never show any feature much smaller than a kilometer across.

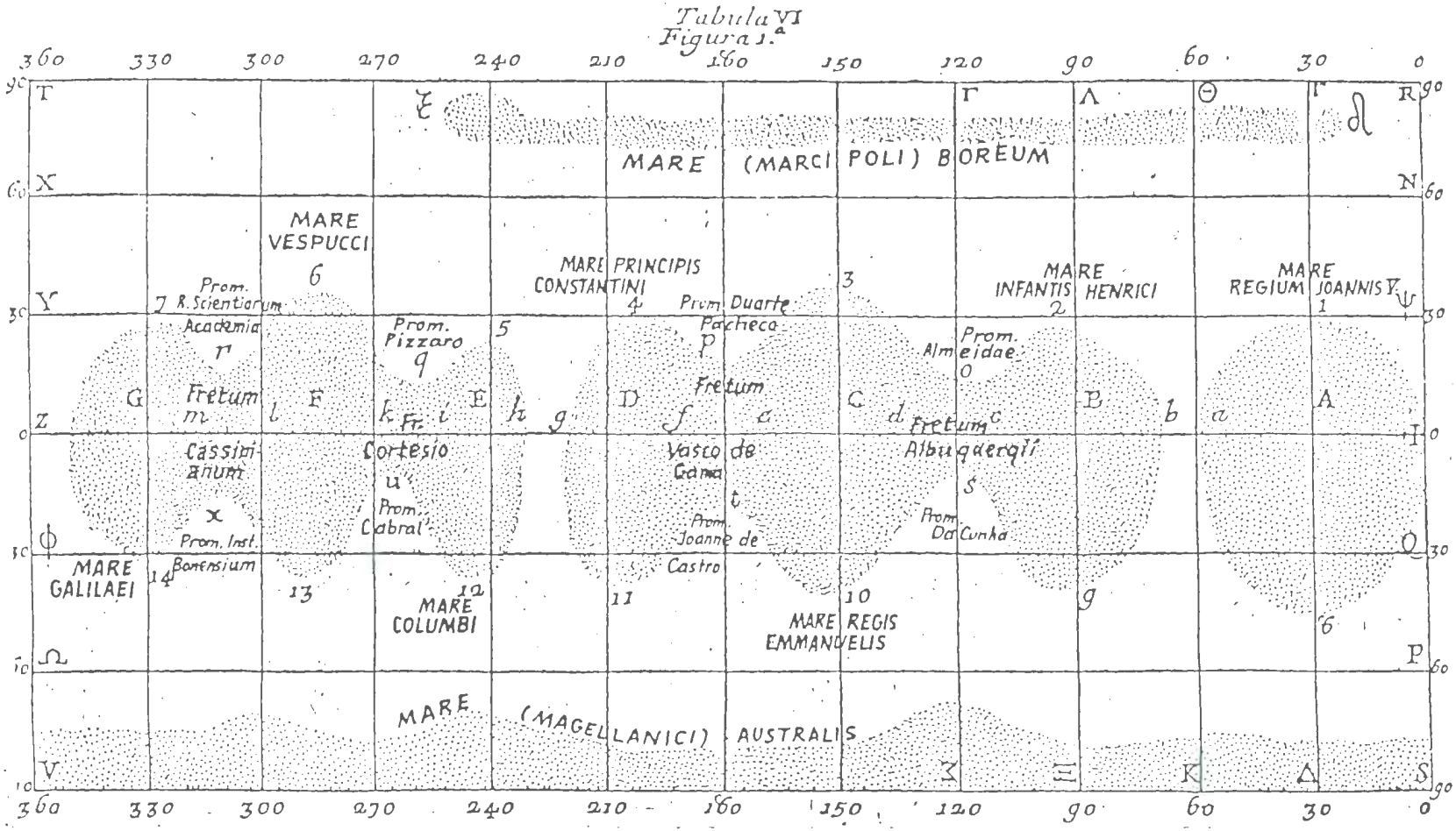
The advent of the 'space age' ushered in a new era of lunar cartography. First Soviet, then American, spacecraft photographed the far side for the first time. Extremely high resolution pictures became available for many regions. Maps of the whole Moon became possible for the first time, and detailed planning charts of proposed and actual landing sites were produced. Each mission made its contribution: Luna 3 with its first far-side pictures, the American Ranger and Surveyor spacecraft series, the globe-mapping Lunar Orbiters, and finally the Apollo flights which culminated in six landings on the lunar surface. Less publicized than the moon-walks were the large format mapping cameras carried on the last three Apollo flights. Their photography allowed precise photogrammetry for the first time, leading to very detailed contour maps and orthophoto-mosaics of about 10% of the lunar surface. Unfortunately, much of this Apollo-era cartography is now out of print, or was never widely distributed in the first place. No systematic series of maps at a scale larger than 1:5 000 000 were ever produced for the entire Moon.

Oddly, Mars is better mapped today than is the Moon. The planet was first charted in the mid-nineteenth century, and has been mapped telescopically ever since. Because the surface changes in appearance as dust blows around, new maps are still made every two years when Mars is close to Earth. At the turn of the century, the celebrated 'canals' of Mars were seen on many maps. These spidery lines were illusory, and were soon abandoned by most cartographers, but they reappeared on the earliest maps drawn for NASA in the early 1960s. Incidentally, these Mars charts and almost all NASA maps of the Moon were drawn by the U.S. Army and Air Force, but in the 1970s the U.S. Geological Survey took over the job of planetary cartography for NASA and has since charted many other worlds.

American spacecraft in 1965 and 1969 photographed small regions of Mars, discovering craters and other features impossible to see from Earth. New maps were produced following each mission. Then in 1971 the **Mariner 9** spacecraft photographed the entire planet. Global series of relief, contour and geological maps were produced in preparation for the **Viking** orbiter/lander missions of 1976. In turn, higher resolution data from **Viking** have permitted revised and extended mapping, which is still in progress. These new maps are being used to plan future exploration programs, which may involve vehicles controlled from Earth. Soviet data have also been used to produce maps of a small region in which a landing was attempted in 1974.

Faint markings on Mercury have been charted for a little over a century. Until 1965 the rotation period of the planet was mistakenly supposed to be equal to its orbital period, so that the same hemisphere always faced the sun. Thus all earlier maps were erroneous. Between 1965 and 1974 the correct rotation period was used to draw up accurate, though still very fuzzy, maps. Finally in 1974-5 the sole visitor to Mercury, the **Mariner 10** spacecraft, flew past the planet three times, taking hundreds of photographs which permitted nearly half of the planet to be charted. Preliminary and revised topographic maps have been produced, and geological maps are being prepared. No further missions are planned, but radar studies from Earth and the Hubble Space Telescope in Earth orbit may provide data to extend existing coverage.

The surface of Venus is hidden beneath dense clouds. The earliest people to map the planet misinterpreted faint markings in the clouds as topographic features. Only when radar echoes were obtained from the planet in the early 1960s did it



BIANCHINIS VENUSNOMENKLATUR

(F. Bianchini, Hesperi et Phosphori nova phaenomena, Rom 1728)

Figure 1: The first map of Venus, published by F. Bianchini in 1728. The dark areas were thought to be seas. In fact they are diffuse markings in a continuous cloud deck, and the map is meaningless.

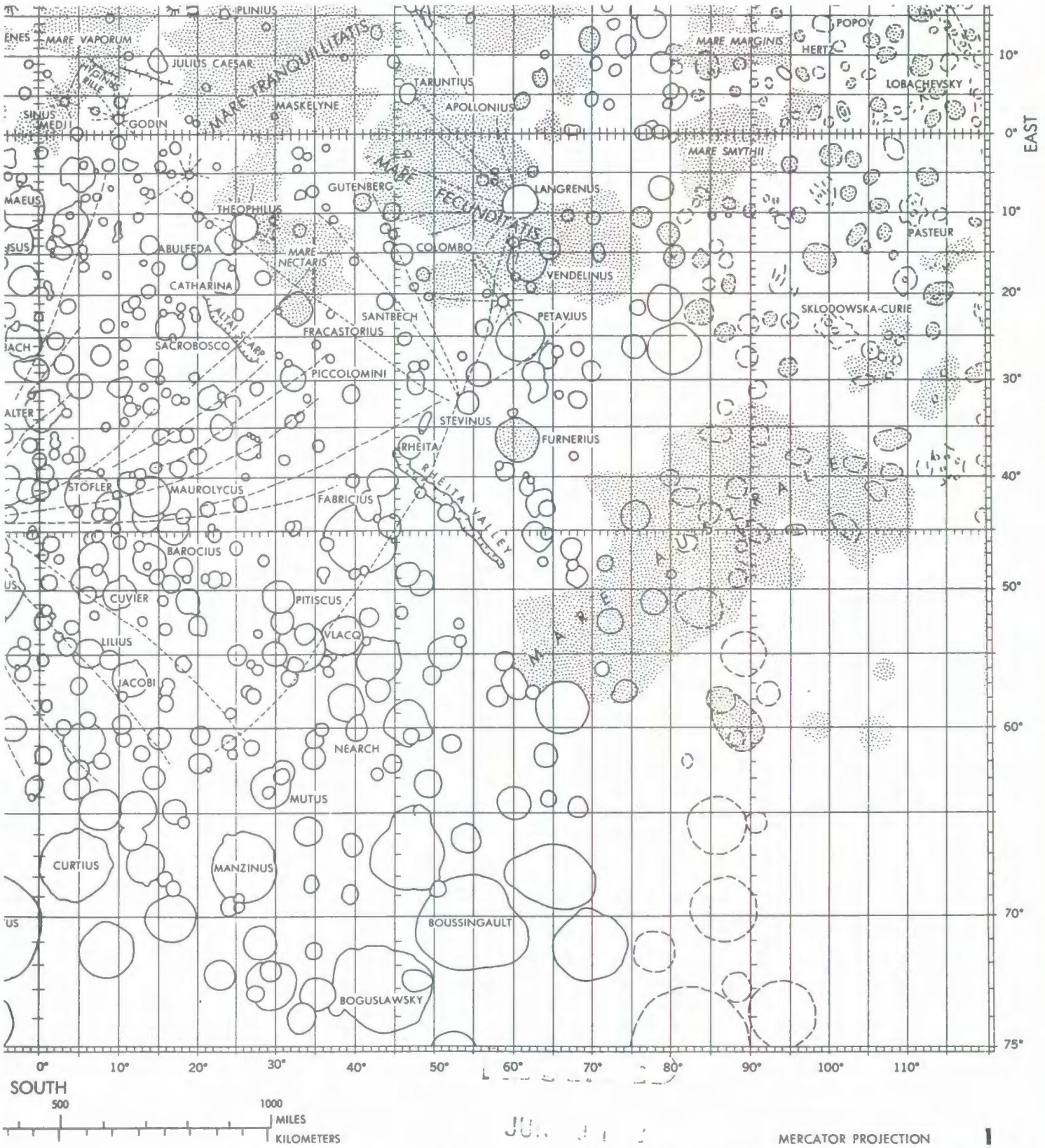


Figure 2: A detail from one of the first maps of the Moon prepared for NASA in 1962, the 'Project Apollo Lunar Planning Chart'. The Earth-facing side of the Moon is at left. The far side, at right, had only been observed at low resolution by a Soviet spacecraft when this map was drawn.

become possible to locate real features, though their nature was not known. Finally, in 1978, the American **Pioneer Venus** spacecraft carried an altimeter into orbit around the planet, and for the first time topographic maps became possible. Further improvements followed the flight to Venus of synthetic aperture radar instruments on two Soviet spacecraft in 1983. Today, the best maps of the planet are a series based on those Soviet radar images. They cover only a quarter of the planet and are somewhat limited in resolution, but represent the only case in which Soviet maps are clearly superior to any others. In May 1989 the American **Magellan** spacecraft was launched on the Space Shuttle, to extend and improve maps of Venus. Before the end of the century, over 1000 maps will have been produced from **Magellan**'s data alone.

Finally, in this very brief and incomplete survey, consider a world at the frontier of exploration, but which many people might overlook in any list of candidates for mapping. Halley's Comet is a vast cloud of dust and ionized gas, but at its heart is a little world called the nucleus, invisible from Earth. In 1986 three spacecraft flew past it, taking photographs which, despite very low resolution, can be used to create simple maps. The nucleus consists largely of ice, which is covered with black carbon-rich dust in many areas. Where the ice is exposed, it evaporates when warmed by the sun, blowing clouds of dust and gas into space to create the comet we see from Earth. Before the close-up photographs were obtained, American astronomers had attempted to identify the locations of exposed ice 'vents' from studies of dust jets seen in the comet. Several maps have been published in recent years, based on these indirect studies. More reliable maps are derived from the spacecraft photographs. My own work has involved the design of a new map projection for use with such irregularly-shaped worlds (the nucleus is 16 km long but only 8 km wide), the modelling of its shape and surface features, and the location of its vents. Because individual vents may be active at different times, a series of maps showing the changing state of the comet should eventually be possible.

If we consider all the bodies in our solar system with solid surfaces on which features have been observed, we find that maps of 34 worlds (excluding Earth) have been published to date. This number should exceed 40 before the end of the century. Of these, 19 have been mapped in single or multiple sheet formats published by the U.S. Geological Survey. The other 15 are small or remote bodies such as Phobos, a satellite of Mars, the planet Pluto and the nucleus of Halley's Comet. Maps of these bodies are scattered throughout the astronomical literature, where older maps of nearby worlds may also be seen. It is no easy task to keep up to date with new work in this field, while also searching for copies of older and more obscure maps. My own historical researches are directed towards a comprehensive cataloguing of maps of each world.

Given limited budgets and a rather small group of potential users of these maps, how may a useful collection be assembled? I would suggest three possible approaches to the planning of a collection of lunar and planetary maps.

If the intention is to provide the most concise summary of current scientific knowledge of the planets, this may be accomplished with a combination of topographic and geological maps. The U.S. Geological Survey can provide single sheet topographic maps of Mercury, Venus, Mars, four satellites of Jupiter, six satellites of Saturn and five of Uranus. A comparable map of the Moon is lacking, but charts of the far side and polar regions are available. The National Geographic Society and NASA (via the World Data Center "A" for Rockets and Satellites, Goddard Space Flight Center, Greenbelt, Maryland 20771) may be able to provide outdated maps. USGS sells global or regional geological maps of Mercury, the Moon, Mars and two satellites of Jupiter. Their value lies in their comprehensive text, which provides the geologic history of the body or region in detail and provides references to the technical literature for further research.

If the focus of the collection is to permit easy comparison between the planets (perhaps to support astronomy courses taught in a local institution), then collection of maps of a standard style and scale

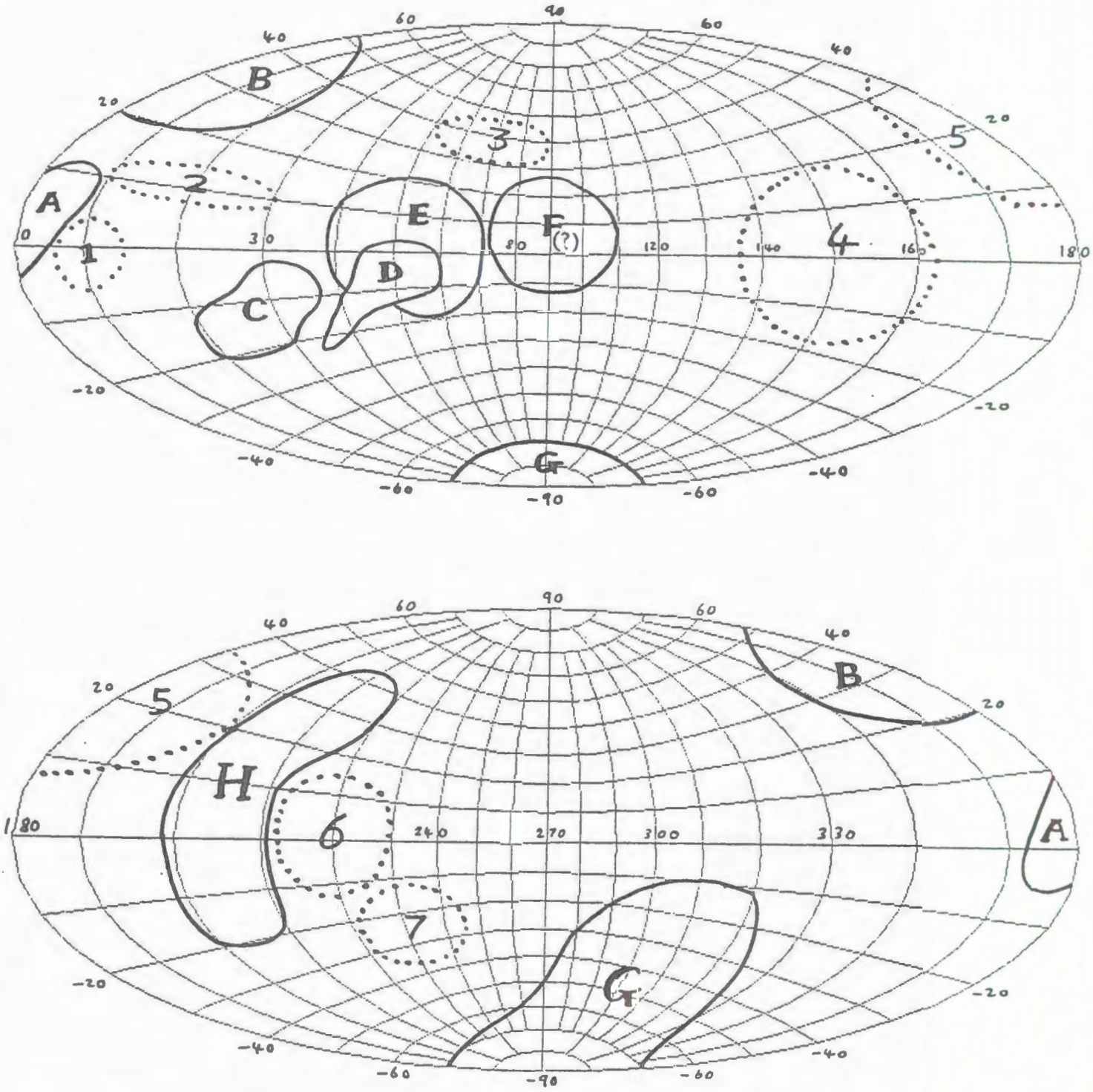


Figure 3: The author's preliminary map of the nucleus of Halley's Comet. The projection is an approximately equal-area azimuthal portrayal of a 16 x 8 x 8 km ellipsoid. Dotted lines surround prominent hills, solid lines denote hollows.

is desirable. The USGS provides shaded relief maps of many worlds at 1:5 000 000 scale. There are 9 sheets of such maps of Mercury, two of the Moon, 30 of Mars, 3 of Io, 2 of Europa, 15 of Ganymede (these last three bodies are satellites of Jupiter), and several single sheets of satellites of Saturn and Uranus. A map of Venus at the same scale is available from the Soviet Union via **Sojuzkarta**.

For those map libraries wishing to adopt a historical approach, only very general advice can be given. It is important to keep up to date with the publications of the U.S. Geological Survey. If we take the example of Venus, it is still possible to purchase a map of the planet based on the **Pioneer Venus** mission of 1978. A new map incorporating data from the Soviet **Venera** flights of the mid-1980s is in preparation, and during the next decade we may anticipate preliminary and revised maps from the **Magellan** spacecraft's data. Similar sequences may be compiled for other worlds, though Apollo-era maps of the Moon are becoming less easy to find. Other sources become very important here: the Lowell Observatory of Flagstaff, Arizona, sells maps of Mars based on telescopic observations; **Sky and Telescope** magazine sells telescopic maps of the Moon which were prepared at the University of Arizona. The National Geographic Society sells maps of the Moon and Mars with rather outdated placenames. Searching for other sources is time-consuming but rewarding. If older maps are required, a facsimile series of pre-twentieth-century works will probably become necessary. I estimate that approximately one hundred maps of the Moon, a smaller number of Mars, and a handful of maps of Mercury and Venus were prepared before 1900 A.D. and warrant inclusion in a comprehensive collection. A set of maps assembled along these lines would provide a superb record of the growth of our knowledge of our neighbouring worlds and of the exploration of space.

Philip Stooke is an Assistant Professor in the Department of Geography, The University of Western Ontario, teaching cartography. His research includes the mapping of very irregularly-shaped bodies in space, the history of lunar and planetary cartography, and the geologic mapping of planetary surfaces.

NEW BOOKS AND ATLASES

Maureen Wilson

Aerofilms book of Britain from the air. Bernard Stonehouse. 2nd. ed. London: Octopus Publishing Group PLC, 1989.
ISBN 0600562859. £18.95.

Antique map prices record (volume 7). Brookline, MA 02146. David C. Jolly Publishers, 1989. 319 pp. Hardcover.
ISBN 0911775064. $34.50 US.

Atlante Encilopedico Touring. Volume I Italia. Milano: Touring Club Italiano, 1986. 160 pp. Hardcover.
Distributed through GeoCenter. DM 60.00.

Atlas de la Cuidad de Mexico. Mexico: Departamento des Distrito Federal, 1987. 431 pp. Softcover.
ISBN 9681203712. $100.00 US. Available from Stephen Mullin, Oakland CA.

Atlas nacional de la Republica Panama. 3rd. ed. Panama City: Instituto Geografico Nacional "Tommy Guardia," 1988. $65.00 US.

Atlas of U.S. environmental issues. Robert J. Mann and Mark T. Mattson. Collier Macmillan, Canada, 1989 (forthcoming). $112.00 until 31 October, 1989, and $126.00 after that.

The counties of Britain: A Tudor Atlas by John Speed. Introduction by N. Nicholson and Text by A. Hawkyard. London: Pavilion Books in association with the British Library, 1988.
ISBN 1851451315.

Discovering coastal Queensland: the complete guide to the Queensland Coast: Great Barrier Reef, Stadbroke, Moreton and Fraser Islands. St. Lucia: Queensland University Press, 1988. 52 pp.
ISBN 0702221554. Pbk. $14.95 Aus.

France. Edited by Ian Robertson. 2nd. rev. ed. London: A & C Black, 1988. A Blue Guide.
ISBN 071362864. £14.95.

A genealogical gazetteer of Alsace-Lorraine. Ernest Thode. Indianapolis, IN (P.O. Box 39128 Indianapolis 46239): Heritage House, 1986. $15.00 US.

Le grand atlas des religions. S.1., Encyclopedia Universalis, 1988. Available from Livres Etranger and other French book dealers.

Hidden Mexico, adventurers guide to beaches and coasts. Berkeley, CA: Ulysses Press, 1987.
ISBN 0915233053. $12.95 US. Pbk.

An historical atlas of Suffolk. Ed. by Davis Dymond and Edward Martin. Ipswich: Suffolk County Council, 1988.
ISBN 086055158X.

The Home Planet. Conceived and edited by Kevin W. Kelley for the Association of Space Explorers. Don Mills, Ont.: Addison-Wesley Publishing Company, 1988. Hardcover.
ISBN 0201151979. $49.95.

Independencia de Mexico, atlas historico. Agua Scalientes: Instituto Nacional de Estadistica, Geografia and Information, 1988 (reprint of the 1985 ed.). 124 pp. Softcover.
ISBN 968-892007. $25.00 US. Available from Stephen Mullin, Oakland, CA.

Journey to the high Southwest: a travellers guide.

Robert L. Casey. 3rd. ed., rev. and enl. Chester, Conn.: Globe Pequet Press, 1988.
ISBN 0871066599. Pbk. $17.95 US.

Maps for America: cartographic products of the U.S. Geological Survey and others. M.M. Thompson. 3rd. ed. Reston: VA: U.S. Geological Survey, 1988. 265 p. $25.00 US.

Maps of America in periodicals before 1800. Brookline, MA 02146: David C. Jolly Publishers, 1988. 128 pp. Softcover.
ISBN 0911775301. $18.00 US.

Measurements for maps: principles and methods of cartometry. Derek H. Maling. Pergamon Press, 1989.
ISBN 008302904 Texted. $50.00 US. 0317607866 Pbk. $20.00 US.

Municipal Directory, 1989. Toronto: Ministry of Municipal Affairs. Softcover. $7.50.

National Atlas of Ethiopia. Addis Abeba (Menelik Ave., P.O. Box 597): National Mapping Authority, 1988.

1989 Collins road atlas, USA, Canada and Mexico. 1:2 000 000. Chicago: Rand McNally in Association with Collins, 1989.
ISBN 0004477456.

The Oregon estuary plan book. Salem, Oregon: Department of Land, Conservation and Development, 1987. Softcover. 126 pp.

Past worlds, the Times atlas of archeology. Maplewood, N.J.: Hammond Inc., 1988. Hardcover. 319 pp. or London: Times Books, 1988.
ISBN 0723002068. $125.00 US.

Rand McNally universal world atlas. Chicago: Rand McNally, 1988. 3rd. ed. 256 pp. Hardcover.
ISBN 0528831984. $19.95 US. Available in Canada from Barnes and Noble, 279 Humberline Drive, Rexdale, Ont. M9W 5T6.

Readers Digest drivers' atlas of the British Isles. Rep. ed. London: The Readers Digest Association, 1988. £16.95.

Scotland, a Times-Bartholomew guide. Ed. by Alexandria Tufts-Simon. London: John Bartholomew and Son Ltd. and Times Books Ltd., 1989.
ISBN 0723002932. £ 6.95.

Selected papers in the applied computer sciences. Ed. by D.A. Wiltshire (USGS Bulletin 1841). Reston, VA: U.S. Geological Survey, 1988. Contains a paper on digital image processing for map production. $3.25 US.

The Times family atlas of the world. Topsfield, MA: Salem House Publishers, 1988.
ISBN 0881623466. $24.95 US.

World atlas of warfare: military innovations that changed the course of history. New York: Viking, 1988.
ISBN 0670819670. $48.00 US.

REVIEWS

Jeffrey Murray

Map Appreciation. **Mark Monmonier, George A. Schnell. Englewood Cliffs, N.J.: Prentice-Hall, c1988. xv, 431 pp., ill., maps. ISBN 0-13-556052-7. $32.00 US.**

Map Appreciation covers the cartographic spectrum, dealing with many important classes or groups of maps. Following an introductory chapter on the basic elements of maps and their functions, the subsequent nine chapters deal with themes as diverse as photomapping, "old maps," and computer mapping, to name but a few. Those at all familiar with the study of maps will recognize that all of the above topics could easily be the subject of entire volumes at the very least. Thus, ***Map Appreciation*** does not provide an in-depth analysis of individual classes of maps but rather is a synopsis of the great variety of cartographic materials in existence.

It is a useful contribution to the literature in that it encompasses a broad range of material within the confines of a single affordable text. Its intended market would appear to be students enrolled in a university level cartography course. Those institutions fortunate enough to offer a bona fide "map appreciation" course will find the text aptly named.

In the preface, Monmonier and Schnell outline their rationale for producing a text of this type - "to promote an informed appreciation of maps and to make the reader a more effective consumer of geographic information." That maps are or should be an important component in the education of the liberal arts student is taken as a given by most if not all in the cartographic community. However, the authors point out that cartophobia (akin to math phobia) is prevalent in modern society, resulting in part from the lack of emphasis placed on the teaching of "graphicacy" in the educational system.

The text introduces the reader to a reasonable sampling of the wide spectrum of cartographic materials, from the photomap and remotely sensed imagery, with relatively little cartographic intervention in the final product, to the population cartogram, a highly abstracted view of data from the real world. Maps of the physical environment are first to be dealt with, although curiously no mention is made of geological maps, surely an important class of maps in themselves. Population maps follow, documenting the many different ways of showing cartographically the diversity of the human population. A chapter on maps of political themes includes a critique of the Peters projection with its "new" approach to world mapping.

Chapter eight is entitled "old maps," and here the authors attempt to give the reader some overview of the great range of map types found under this heading. Three sections within this chapter consider the major ways in which one may choose to deal with old maps: either as source material in the study of the history of cartography, through their collection, or as a resource in the study of local and regional history. An interesting chapter on the role of the map as manipulator looks at the uses of cartography in advertising, journalism, and propoganda. The concluding chapter deals with the burgeoning topic of computer maps, which in itself is a major component of the contemporary literature in cartography. The relationship between computers and traditional cartographic production as well as the future of the computer in cartography are given some consideration.

This text is, in the opinion of this reviewer, a useful summary of a wide range of available cartographic subjects and would be a valuable addition to the bookshelf of the map library, as well as that of the individual with either a professional or an amateur interest in maps. Among the few shortcomings of this text are the difficulties in reproducing many of the original colour maps in black and white. The

fire insurance plans on pp. 260-261 are one example of the loss of information which results. The use of colour would have greatly added to the impact of this text, but at substantially higher cost. Many of the map examples cited are from the authors' local environment in upstate New York, and while they serve to illustrate the particular map type being considered, this reviewer feels that the text would have benefitted from a selection of wider geographical range.

Monmonier and Schnell note in the preface that their own biases and experiences, their subjective assessment of what would be relevant to the reader, and the costs involved in textbook publishing impose limits on the range of possible examples.

The prime value of ***Map Appreciation*** is its ability to cover an extensive topic and provide the reader with further sources of information for materials of specific interest. An appendix at the end of the book lists sources for maps and cartographic information, giving addresses of organizations providing such information. A short glossary provides a reference to key words in cartography. The text is well indexed.

Gordon Shields
Department of Geography
University of Western Ontario
London, Ontario

Maps and Mapping of Africa. **Edited by Patricia M. Larby. London: SCOLMA in association with BRICMICS, 1987. i, 62 pp. ISBN 0 904090 05 1 (unbound)**
Available from: Standing Conference on Library Materials on Africa, c/o Institute of Commonwealth Studies, 27-28 Russell Square, London WC1B 5DS, U.K.

The papers published in this informative pamphlet were presented at a conference organized jointly by the Standing Committee on Library Materials on Africa (SCOLMA) and the British Committee on Map Information & Catalogue Systems (BRICMICS) on 11th April 1986 at the Institute of Commonwealth Studies, London. As outlined in the Introduction, the twin aims of the conference were, first, to describe the history of mapping and surveying in Africa, including modern technical developments. This was achieved through the articles on David Livingstone, the well-known explorer, and Sir Joseph Banks, President of the Royal Society and "presiding genius" over the scientific world in London in the 19th century; on hydrographic charting; and on topographic mapping of the Sudan. The second aim was to identify the major collections of cartographic materials in the United Kingdom. This was achieved through the articles on the Map Library and Manuscript Department of the British Library, the Public Record Office, the Foreign and Commonwealth Office Library, and the School of Oriental and African Studies. The article on the Royal Geographical Society is both a history and a description of records holdings on African cartography. The Society has been very closely concerned with the exploration and primary mapping of Africa—especially eastern Africa, from its founding in 1830; and its holdings on Africa were up to 10,000 by 1850 and over 100,000 by the turn of the century. A very select group of thirteen are listed in Appendix II of this pamphlet. While on the topic of appendices, Appendix I is a select list of 74 African maps that are available on slides from the British Library.

The 'keynote speaker' for the conference was Ieuan Griffiths, Chairman of Geography at the University of Sussex. He builds the situation of crisis in African affairs since the autumn of 1984 and the coincidental crisis in African studies in the United Kingdom, undoubtedly the result of the squeeze on British higher learning in general. It was clear through his survey of cartographic holdings that the cartographical record base for African studies is diminishing. Also, the survey indicated that there was no clear idea of the stock of maps on Africa in the U.K., many collections had no systematic purchasing policy, and the stocks were primarily Directorate of Overseas Surveys (DOS) maps dating from the time that DOS supplied their products free of charge to universities. This is a grave situation not entirely unlike what we face in North American map libraries.

All of the speakers at this conference gave well researched and thought-provoking papers, making this resulting pamphlet one that should be high on your reading priorities. In fact, I suspect that there is enough general interest in this pamphlet to upgrade it into a book, much like the ACMLA has done with ***Explorations in the History of Canadian Mapping: A Collection of Essays***. All that an imaginative editor needs are the illustrations.

Brian Hallett
Cartographic and Architectural Archives Division
National Archives of Canada
Ottawa, Ontario

The Maritime Provinces Atlas. **Robert J. McCalla; cartographers, Dawn Allen and Peggy McCalla. Scales differ. Halifax: Maritext, c1988. 1 atlas (96 pp.), ill. (some col.), col. maps. ISBN 0-921921-05-5. $20. Can.**
Available from: Maritext, 5359 Inglest St., Halifax, Nova Scotia, Canada B3H 1J3.

This is "the first comprehensive Maritime Provinces atlas." Its forty, full colour, double-page plates, each measuring 30 cm x 46 cm, use maps, a variety of graphs and diagrams, vertical and oblique air photographs, and satellite imagery to examine, thematically, aspects of the physical and human geography of Nova Scota, New Brunswick, and Prince Edward Island. Endmatter includes a gazeteer, glossary and list of sources for each plate. Intended for secondary school use, this atlas will be useful to university faculty and students, residents and expatriates of the region, civil servants, and anyone interested in the Maritimes.

Following an Introduction that points out how to read map scales and to differentiate between line, bar and circle graphs, two plates place the Martime region in its international context. They include political maps of the world, of Canada, and of the Maritime provinces, a map that describes the urban system, principal highways, and physiography of the region, and a bar chart that lists major historical events, from the "first archeologically determined evidence of human habitation" in the region (at 8600 BC) to the 1988 referendum in Prince Edward Island that favoured establishment of a fixed link with New Brunswick. Neither aesthetically pleasing nor innovative in their display of information, these are perhaps the most unappealing plates in the atlas.

In contrast, the following six plates devoted to physical geography deal clearly with the major landform regions of the Maritimes, the impact of the last ice retreat on the physical landscape, and geology, hydrology, climate and oceanography (including an inset of 5 maps of average ice coverage in the Gulf of St. Lawrence between December and May). One might ask whether a map of sewage treatment facilities in the Maritimes belongs in this section of the atlas (plate 8 "Environmental Issues"), and whether the inset maps on Plate 4 ("Geology"), that deal with fossil fuels in the Maritimes and coal mines and reserves in eastern Cape Breton, better fit on a later plate on mining. But these are quibbles; all of these plates use photographs (including a satellite image of a typical mid-latitude winter cyclonic storm), small-scale inset maps, and graphs effectively to highlight issues raised on the primary maps of the plates.

In "Natural Resources and Related Activities," ten plates treat agriculture, fishing, forestry, mining and electrical energy production. The combination of large-scale topographic maps and vertical and/or oblique air photographs on several of these plates (9 "Soils," 14 "Fish Processing," and 17 "Mining") makes them extremely useful as teaching tools for they clearly illustrate what cartographic symbols represent on the ground. Sketches which accompany other primary maps in this section perform essentially the same function (see plates 12 "Fish Stocks" and 15 "Forest Resources"). With graphs describing production and employment trends in these sectors since 1951 and a series of small-scale maps illustrating recent provincial exports by sector and destination, these plates deserve close scrutiny by all students of the Maritimes.

A further ten plates devoted to "Human Geography" deal with such matters as the changing age-sex structure of the population during the last three

decades, the 1986 population distribution, the level of urbanization in each of the region's 36 counties, and education levels, religious preferences, birth, death, suicide, and crime rates. Again, graphs on virtually every plate illustrate associated trends. A plate dedicated to urban geography effectively documents land use in six major cities of the region at a large scale (1:50,000); unfortunately, neither the plate (#21) nor the sources listed at the back provide a date for reference purposes. Given Maritimers' penchant for politics, plate 27, "Federal Elections," will probably be of great interest in the region. One map of federal election results since 1945 illustrates the proportion of M.P.'s returned by party for 14 general regions of the Maritimes. This is flanked by 14 small-scale choropleth maps which illustrate election results by riding for each election year between 1945 and 1984.

The last section of the atlas deals with "economic geography." Among its twelve plates are two of the most visually appealing in the atlas (plates 33, "Retail Trade," and 40, "International Trade"). These deliver their messages in a succinct, uncluttered manner, and comparison with some of the more crowded and less imaginative plates (such as #s 36-38 that deal with road, rail, water and air transportation) drives home their achievement. Other plates in this section examine employment by sector (plate 29), unemployment rates (plate 30), the work force by age and gender (plate 31), manufacturing (plate 32), recreation (plate 34), tourism (plate 35), and telecommunications (plate 39). Of these, plate 35 stands out from the rest for its innovative representation of the types of accomodation available to tourists in the Maritimes.

This is a useful atlas, both for its potential in the classroom and its clear and effective display of up-to-date information. The cartography is good, though not nearly as outstanding as that in the highly acclaimed ***Historical Atlas of Canada Vol. I***, edited by R.C. Harris, in ***Canada and the World: an Atlas Resource***, by G. J. Matthews and R. J. Morrow Jr. (with its similar secondary school orientation), or even in the ***Nova Scotia Resource Atlas*** produced by Nova Scotia's Department of Development. There are few apparent errors; except for the mistitling of Cape Breton and Richmond counties on plate 10, "Agricultural Production," the plates are free of typographical errors. Explanatory text, tables, or an appendix of relevant data might have been used to reduce the number of graphs which have a tendency to clutter some plates and detract from the overall purpose of the maps (see plates 31, 32, and 34), and standardized scales on those maps that deal with related topics would have improved their readability (especially plates 24 and 25, which deal with inter and intraprovincial migration and immigration). But these are not serious flaws. This long overdue atlas should serve the clientele of secondary schools, universities, and public libraries. Given the general underdevelopment of the discipline of geography in the Maritimes — where there are only two small geography departments (neither of which offers a graduate programme) among 15 universities and and equal number of other post-secondary institutions — ***The Maritime Provinces Atlas*** is a remarkable achievement. But that it is intended for a secondary school programme in Social Studies, and not Geography per se, is a reminder of how much remains to be done.

Robert MacKinnon
Department of Geography
The University of British Columbia

References

R. Cole Harris (editor) and Geoffrey J. Matthews (cartographer/designer). ***Historical Atlas of Canada Vol. I, From the Beginning to 1800***. Toronto: University of Toronto Press, 1987.

Geoffrey J. Matthews and Robert Morrow Jr. ***Canada and the World: An Atlas Resource***. Scarborough, Ontario: Prentice Hall Inc., 1985.

Nova Scotia Resource Atlas. Halifax: Department of Development, 1986.

Photographs and Maps Go to Court. **Edited by Larry Gillen. Falls Church, Va.: American Society for Photogrammetry and Remote Sensing, 1986. viii, 88 pp. ISBN 0-937294-78-0. $25 US.**

Photographs and Maps Go to Court is not at all what I thought it was going to be. From my own experience, I expected to read about items borrowed from a collection by an expert witness, submitted as exhibits and retained forever by the court, an experience of which I have come to be wary. Rather, this slim volume deals mainly with custom photos and maps or plans prepared for specific cases, although brief mention is made of stock products and how and when these may be used.

The book consists of a court reporter's transcripts of two papers and the introduction to a special session, as near as I can determine, of the spring 1986 meeting of ASPRS. The session was chaired by Larry Gillen who presented some of the work of Dr. Sanjib Ghosh of Laval University (who was not able to attend the meeting) regarding the use of stereophotogrammetry for forensic studies in Japan and Europe. He (Gillen) recalled some of his own company's experiences and compared Ghosh's findings with the situation in the United States and went on to speak about the tools and methods used in this work.

Theodore D. Ciccone's paper entitled "Seeing is believing" deals with the what, when, where, why and how of graphic presentations in court. "The expert goes to court," by A.O. Quinn, engineer, surveyor and photogrammetrist, is primarily concerned with a description of the court process and how the expert witness and his or her testimony fits into this process. He concludes with a list of suggestions for the "expert" witness. Most of what he describes, though not all, applies to Canadian as well as American courts, but his suggestions are entirely applicable since they incorporate the influence of the witness's behaviour on his or her credibility.

To the above have been added a paper by Paul D. McDermott entitled "Forensic cartography," given at the September 1985 meeting of ACSM-ASPRS, which sparked the session recorded here; and an invited special paper entitled "Recording accident data with a perspective grid," by Jack Whitnall and Kimberly Miller-Playter. In the former, the author has focussed on the preparation of maps to be used in criminal cases. The second seemed odd to me in that the subject mentioned in the title does not arise until we reach the conclusions. At this point we find a complete cookbook on the preparation and use of a grid to extract measurements from single photographs. I would not yet be so bold as the authors and others to call this photogrammetry.

The last section of the book is a panel discussion which followed the recorded session. It consists largely of recollections of instances where photographs and maps were used successfully in court cases.

Most of the graphics used in the book are of good quality and make their point clearly. However, one County map appears to be out of focus and in the Whitnall and Miller-Playter paper, I could not find two points referred to in step one of their instructions, and step four should have referred us back to Photo 2. Photos 7, 8, and 9 are on the facing page and the tendency to work with what is at hand and then to gradually work back causes some annoyance.

My major criticism is that, as with all court transcripts, even partially doctored ones such as this, we are reminded of our frequent tendency to speak in incomplete sentences and to occasionally skip steps in our logic. At the bottom of p. 62 there is even a missing line or more of the text.

The value to map collections may be to cartography students looking for entreprenurial opportunities after graduation. I don't know to what extent the techniques described in this volume are used in Alberta courts but I intend to find out and to see if some of our graduates can contribute to our system of justice. I see that as a major reason for the existence of this book and to that end it succeeds.

Ronald Whistance-Smith, Map Curator
William C. Wonders Map Collection
Department of Geography
University of Alberta

REGIONAL NEWS

Margaret Hutchison

ATLANTIC CHAPTER

The fourth meeting of ACMLA/Atlantic Chapter was held on April 25, 1989 at the Heather Hotel in New Glasgow. The meeting was called to order at 1 PM.

Members present:
Brenton MacLeod, Chairperson, LRIS Summerside
Peggy Campbell, Vice-chairperson, LRIS Amherst
Nan Larsson, Secretary, LRIS New Glasgow
Linda Langille, Dept. of Lands & Forests
Linda Rutherford, LRIS Sydney
Nancy Gayton, LRIS Amherst
Susan Greaves, Dalhousie University
Debbie Jessome, LRIS Edmundston
Janice Boudreau, LRIS Moncton

The minutes of the November meeting were read. There were no errors or omissions. Linda Langille moved acceptance. Seconded by Linda Rutherford.

SOURCE DIRECTORY:
Linda Langille presented a sample format which the committee proposes to use for the Source Directory. No date has been set for printing. Additional information will be provided at the next meeting in August.

MEMBERSHIP:
Several suggestions were made regarding public relations for ACMLC/Atlantic Chapter and the need to encourage new members.
1. Produce a seminar to be presented to industry entitled "How to use your map library".
2. Each member invite a guest from other map library situations.
3. Request members receiving minutes and agenda to reply by mail; whether they will attend scheduled meetings.
4. Representative to attend meetings such as CISM where ACMLA/AC members can meet many of the people who could utilize the services of the various libraries.

BULLETIN
Charles W. MacIntosh, Director of Land Titles and Legal Services, LRIS has agreed to prepare an article for the Bulletin. Hopefully for the Fall 1989 issue.
Susan Greaves, as Regional Editor for the ***Bulletin***, will accept articles and notices to be published.

MARITIME MAP
Nancy Gayton reported that the Maritime Provinces Map, Scale 1:633 600 has been reproduced by LRIS Amherst and is being distributed to outlets for sale.

ELECTIONS:
Brenton MacLeod announced that elections for the following offices will take place at the next meeting: Chairperson; Vice-Chairperson; Secretary. Members will give verbal vote at the meeting.

The next meeting will be hosted by LRIS Summerside on August 28, 1989. Agenda and location to be announced.

Susan Greaves moved adjournment of meeting. Seconded by Janice Boudreau.

ONTARIO

Vivien Cartmell is now at the Archives of Ontario, replacing John Fortier who recently retired.

Barbara Farrell is on Sabbatical Leave from Carleton University, January 1 - December 31, 1989. Allison Hall is replacing her during her leave.The new telephone number for the map librarian is 613/788-2515.

QUEBEC

McGill's Map and Air Photo Library, housing a collection of some 210 000 maps and aerial photos, will be merged this summer with material from the Meteorology and Oceanography Libraries. The new collection will reflect the notion of global change — the effects of air, oceans and land on each other. Carol Marley has left the Map Collection of the Department of Rare Books to head the new library. Construction will begin this summer and hopefully the Geosciences Library will be up and running in the Fall.

RENCONTRE DES CARTOTHECAIRES DU QUEBEC
LE 4 MAI 1989
Tenue à la salle du Conseil de 9h00 à 12h00
Faculté des lettres et sciences humaines
Université de Sherbrooke

Madame Diane Quirion-Turcotte accueille les invités et agit comme présidente d'assemblée en ouvrant la rencontre par un mot de bienvenue suivi de la présentation des participants.

Claude BOUDREAU Archives nationales du Québec (Québec)
Danielle CAMDEM Université de Sherbrooke
Christiane DESMARAIS INRS Urbanisation
Lorraine DUBREUIL Université McGill
Louise EMOND Hydro-Québec, Environnement
Cécile FUGULIN Université de Montréal
Jean-Marc GARANT Archives nationales du Québec (Montréal)
Robert GRANDMAITRE Archives nationales du Canada (Ottawa)
Françoise LANGE Université du Québec à Chicoutimi
Marie LEFEBVRE Université du Québec à Trois-Rivières
Pierre LEPINE Bibliothèque nationale du Québec
Jacques MARTINEZ Université Laval
Yves MICHAUD Université du Québec à Rimouski
Yves TESSIER Université Laval

Lecture de l'ordre du jour et acceptation selon les modifications suivantes:

1. Suivi du procès-verbal du 5 mai 1988.
2. ***Cahier de géographie du Québec***: Yves Tessier. Les tendances récentes dans la production d'atlas seront présentées dans une conférence tenue à 16h45 ce même jour.
3. ***Early Canadian topographic map series: The Geological Survey of Canada, 1842-1949***: Lorraine Dubreuil.
4. Congrès de l'Association des cartothèques et archives cartographiques du Canada, juin 1990: Pierre Lépine.
5. Echange d'informations entre cartothèques québécoises: Diane Quirion-Turcotte.
6. Mise à jour du système Boggs & Lewis: Yves Michaud.
7. Répertoire des cartothèques québécoises: numéro hors série de la revue Carto-Québec: Yves Michaud.
8. Varia: a) Demande de subvention pour photos aériennes: Diane Quirion-Turcotte.
   b) Nouvelles à propos de la cartothèque de l'UQAT, projet Québec-France: Marie Lefebvre.
   c) Production d'un guide d'archives: Claude Boudreau.
   d) Développement en informatique documentaire, un interface: Yves Tessier.

1. **Suivi du procès-verbal de la rencontre du 5 mai 1988**
   Les numéros des paragraphes se rapportent à ceux du procès-verbal du 5 mai 1988.

1.2 Projet MULTILIS: Diane Quirion-Turcotte (Université de Sherbrooke). Le projet MULTILIS est entré en fonction et quelques cinq cents (500) dossiers sont intégrés à la banque. Le rétrospectif n'est envisagé qu'à long terme. Cette banque de données n'est accessible que par les usagers internes à l'université. Une ouverture sur l'accessibilitié de cette banque pour des usagers extérieurs à la cartothèque de l'Université de Sherbrooke est à envisager (numéro téléphonique d'un port d'entrée,...).

1.3 BADADUQ à la cartothèque de l'UQTR: Marie

Lefebvre (UQTR).
L'intégration de documents cartographiques sur la banque BADADUQ touche principalement les nouveautés. Deux milles (2000) dossiers ont déjà été traités. Le rétrospectif n'est envisagé qu'à long terme.

1.4 Dossier spécial sur les photographies aériennes: Diane Quirion-Turcotte (de Sherbrooke); se reporter au varia a) de ce jour.

1.5 Changement de fréquence du congrès annuel de l'Association des cartothèques et archives cartographiques du Canada: Yves Tessier (Université Laval).
La proposition d'un changement de rythme des rencontres n'a pas été acceptée. Déjà beaucoup de cartothécaires ne s'y présentent que toutes les deux (2) rencontres. Si jamais les réunions sont cédulées tous les deux (2) ans, sachant qu'il est fort probable que les cartothécaires ne changent pas leurs habitudes, ces derniers ne se présenteront alors que tous les quatre (4) ans au congrès.
Pour ce qui a trait aux rencontres régionales, il est estimé qu'il existe déjà des réunions sur une base informelle dans chacune des Provinces.

1.6 INMAGIC: Pierre Lépine (Bibliothèque nationale du Québec).
Le logiciel INMAGIC a été utilisé pour l'entrée de six milles (6000) cartes en série soit les cartes topographiques du Canada (1:50 000, 1:250 000...). Un problème a surgi; celui de la lenteur du système; au-delà de quatre milles (4000) dossiers dans la banque. Il a fallu la subdiviser en sous-banques.
Exemple: une base géologique, une base d'utilisation du sol de Montréal (600 feuillets).

2. ***Cahiers de géographie du Québec*** **: Yves Tessier** (Univ. Laval)

2.1 Une nouvelle rubrique apparaît dans la revue; elle est ouverte à tous. Elle pourra être un article, un compte rendu, une présentation sur de nouvelles productions cartographiques, etc... L'invitation est lancée à tous les participants. Déjà deux (2) participants ont profité de cette nouvelle ouverture du journal.
1)Michaud, Yves (1989); La documentation cartographique dans l'enseignement de la géographie au Québec: un guide d'utilisation. ***Cahiers de géographie du Québec***, 33 (88) 89-90.
2)Tessier, Yves (1989); Tendances récentes dans la production des atlas. ***Cahiers de géographie du Québec***, 33 (88) 73-88.

2.2 Un encart est fait sur l'Atlas national du Canada, atlas électronique. Cette version est trop spécialisée pour les utilisateurs non géomathématiciens. Le Ministère compte en terminer l'édition en 1992. La demande d'une version plus accessible à l'utilisateur moyen a été formulée.

3. ***Early Canadian topographic map series: the geological survey of Canada, 1842-1949:*** **Lorraine Dubreuil** (Univ. McGill)

L'originalité du document présenté tient à ce qu'aucune collection ne possède toutes les cartes répertoriées. Son prix ($15.00) en fait un document de base à acquérir par tout organisme travaillant dans le domaine de la cartographie. Les participants à la rencontre félicitent, tout particulièrement, Lorraine Dubreuil pour l'excellence de son document.

4. **Congrès de l'Association des cartothèques et archives cartographiques du Canada en juin 1990: Pierre Lépine** (Bibliothèque Nationale du Québec)
Le congrès se tiendra en 1990, du 12 au 16 juin, à Montréal. Monsieur Pierre Lépine a accepté la présidence du comité organisateur; il est secondé par Cécile Fugulin (Université de Montréal), Christiane Desmarais (L'INRS), Lorraine Dubreuil (Université McGill), et Louise Emond (Hydro-Québec environnement).
Le comité présente son premier rapport sur l'organisation, les thèmes, les excursions possibles et ouvre le débat sur la langue officielle du congrès.
Il est proposé que le congrès se déroule sous les hospices du bilinguisme. Il existe d'ailleurs un programme national pour favoriser celui-ci, faisant appel à des traductions simultanées sur demande officielle des organismes. Il est décidé qu'une réunion des cartothécaires québécois durant cette rencontre ne serait pas à propos.

Tenir une telle activité un mois avant n'est pas réaliste car les budgets actuels ne laissent souvent que le choix entre deux activités.

Les participants sont en accord avec le comité qui propose un congrès subdivisé en trois: un premier jour consacré à la présentation de recherche québécoise; les second et troisième jours, ouverts à toute présentation entrant dans les thèmes et sujets proposés suivi de journées d'excursion ne devant pas entrer en conflit avec les journées de présentation.

Le Comité organisateur est ouvert à toutes suggestions.

Avis à tous.

5. **Echange d'informations entre cartothèques québécoises: Diane Quirion-Turcotte** (Université de Sherbrooke) pour Louis Cardinal.
Il est proposé de créer un bulletin informel circulant entre les cartothèques du Québec. Un outil existe actuellement et est accepté: Le ***Bulletin*** de l'Association des cartothèques et archives cartographiques du Canada dont les tombées sont les "premier" des mois de mars, juin, septembre et décembre. Les documents devront parvenir à Lorraine Dubreuil avant ces dates.

6. **Mise à jour du système Boggs & Lewis: Yves Michaud** (U.Q.A.R.)
Des mises à jour à la classification de Boggs & Lewis ont été apportées; elles touchent directement les nouvelles divisions politiques des pays. Seules, quatre (4) cartothèques sont concernées par ce système: UQAR, Univ. de Sherbrooke, UQAT et l'UQAC. Les participants sont en accord sur des ajouts à la classification plutôt que des modifications. A l'exception des quatre (4) cartothèques citées, toutes les autres se sont converties à la classification L.C.

7. **Répertoire des cartothèques québécoises: numéro hors-série de Carto-Québec: Yves Michaud** (U.Q.A.R.)
Un tel répertoire est nécessaire et ne demande qu'une mise à jour des données inclues par Lorraine Dubreuil dans le ***Répertoire des Collections Canadiennes de Cartes*** (1986). Une photographie des lieux et du personnel accompagnera les informations. Ces dernières seront recueillies par Yves Michaud; Yves Tessier écrira le texte d'introduction. Ce répertoire sera accompagné d'un glossaire et devra être édité pour le congrès de l'Association des cartothèques et archives cartographiques du Canada en juin 1990

8. **Varia**

a)Demande de subvention pour l'achat de photos aériennes. Diane Quirion-Turcotte (Univ. de Sherbrooke)
La demande n'a obtenu aucun résultat.

b)Nouvelles à propos de la cartothèque de l'UQAT; projet Québec-France: Marie Lefebvre (UQAT)
La cartothèque de l'UQAT déménage avant les mois de juin-juillet dans les locaux de la bibliothèque de l'UQTR.
Marie Lefebvre, suite à un programme d'échange entre le Québec et la France a obtenu sa participation à un stage de perfectionnement d'un (1) mois en France dans des centres de documentation cartographique (IGM, Michelin,...). Un article relatant ses expériences sera publié dans la revue Carto-Québec.

c)Production d'un guide cartographique d'archive: Claude Boudreau (Archives Nationales du Quebec)
La production d'un guide cartographique d'archive est en cours; sa parution se fera probablement durant les mois de septembre ou octobre. La description n'a aucune ressemblance avec la classification employée dans les cartothèques; elle se fait par "fond" ou découpage géographique: canton et seigneurie. Elle est basée sur le principe de structure des archives.

d)Développement en informatique documentaire, un interface: Yves Tessier (Université Laval)
Le développement d'une base de donnees sur micro-ordinateur grâce au logiciel EDIBASE a été à l'origine de la création d'un interface servant au transfert de notice des documents

entre MARC, EDIBASE et un système central.

9."Nouvelles" informelles émises durant la rencontre

Il existe un protocole d'entente entre l'Association des cartothèques et archives cartographiques du Canada et un cartothécaire faisant partie du groupe. L'Association pourra combler les frais entre ce que le participant peut recevoir de son institution et le prix total des frais à engager.

Les comptes rendus des réunions des cartothécaires du Québec seront publiés dans le ***Bulletin*** de l'Association des cartothèques et archives cartographiques du Canada.

Il est d'importance primordiale de conserver plusieurs exemplaires de copies de sauvegarde (back up) des banques de données en élaboration afin de pallier à des erreurs humaines et machines.

Envoi des cartes anciennes élaguées aux organismes du Quebec et/ou du Canada. Si ces derniers ne possèdent pas ces documents, il y aura complément et enrichissement de l'information.

Les Archives Nationales du Canada ont informatisé leur service de microfiches et l'accessibilité aux documents en est accrue.

Une suite au "catalogue des cartes sur microfiche 1821-1900" est en cours de conception.

La cartothèque de l'Université Laval a acquis 500 cartes anciennes sur microfiches ayant pour thème "Le St-Laurent."

Les Archives Nationales du Canada ont un bulletin interne informel publié deux fois par an.

La réunion se termine à 12h15 par une visite de la cartothèque de l'Université de Sherbrooke.

Françoise Lange
Cartothécaire
Université du Québec à Chicoutimi

REPORT ON THE MEETING OF THE CANADIAN COMMITTEE ON CATALOGUING HULL, QUEBEC, MARCH 10, 1980

The Committee managed to make its way through a three-page agenda with amazing dispatch. Only those items deemed to be of general and/or specific interest to the ACML membership are reported here.

Users of the Dewey Decimal Classification (DDC) please note that the National Library of Canada (NLC) will implement the 20th edition of DC with the first issue of Canadiana in 1990. Thus, the actual in-house use will begin in October 1989. They have also decided to continue the segmentation of numbers. The Library of Congress (LC) has already begun using DDC20. Like NLC, the British Library will begin using it for the first issue of their national bibliography in 1990.

A report outlining a proposed new committee to oversee the Joint Steering Committee for AACR2 (JSC) was examined. The mandate of, and the membership in this "Committee of Principals" has not yet been decided upon.

ASTED's representative reported that the translation of AACR2R (AACR2 revised) is almost completed with publication expected in August of this year.

One of the matters presented to the committee was a paper (3JSC/LABL/1) prepared by the British concerning the future priorities for the JSC. They are proposing a three-year moratorium during which "no further revisions would be initiated, in order to allow time for wider issues to be discussed and a firmer framework for rule revision to be established." The issues identified are: 1) the needs of the Anglo-American libraries versus the needs of other library communities; 2) the needs of automated catalogues as opposed to manual ones; 3) stability versus change; 4) the needs of international exchange of bibliographic data versus the needs of libraries whose interest does not extend beyond a local area; 5) the needs of special types of materials as against general collections (general collections are equated to monographs); 6) the relationship of AACR2 with the ISBDs and ISDS; and, 7) the need to maintain the financial stability of AACR2 as a publication versus the ideal requirements of a particular situation.

After some discussion, the consensus appeared to be that the CCC favoured a moratorium for certain types of changes and corrections; that is, those which are editorial and/or are of the nit-picking variety and which can be left to the next printing. However, there are certain revisions that should not be left for three years and in such cases there should be no moratorium.

The request for the moratorium may have been triggered by the rash of post-publication proposals for revision, twenty-three of which were on the agenda. Many of these were considered of minor importance and so, in light of the previous discussion, it was recommended that they be reserved for future consideration when a reprint becomes necessary. Other proposals were set aside as they will require more study.

One such request concerns eliminating the use of abbreviations of place names in headings (23.4B). Since this opens up the whole question of abbreviations elsewhere in the description, it was felt that the issue should be deferred until the wider scope can be examined.

The discrepancy between 1.4C3 and 1.4C6 was pointed out. The former calls for the addition of a place name in English and the latter in the language of the chief source of information. Although this is not of major importance, as it does not affect access points, a decision in favour of making the additions in English was reached, mainly because this is the most practical option for most cataloguers.

The lack of rules governing initial articles in place

names was considered. However, as rule 23.2A1 explicitly states that "gazetteers and other reference sources published in English-speaking countries" are to be used as sources of the form of the name" there is no need for special rules. According to 23.2A1 then, "The Pas, Manitoba" is filed under "T" and not "P" as this is the form in the official gazetteer. (LC however appears to file it in inverted form under "P").

The placement of the general material designation (GMD) for items lacking a collective title (1.1C2) does not accord with the ISBDs. It was agreed that the GMD be placed after the first title as in the ISBDs and not after all the titles as in AACR2R.

Another matter concerning items without a collective title is the lack of uniformity among the various chapters. Chapters 3, 6, 7, 9 and 11 do not have the equivalent of 1.1G1 (one work predominating). It was agreed that all chapters should include all of the options.

Multilevel description came under some discussion through a "problem" in chapter 3. The examples in 3.0J1 had all be revised for AACR2R. In the revision to the Ordnance Survey example, the place of publication was changed, at the request of the British, to "Chessington" from "Southampton" in the description of the series as a whole. However, for the description of a single sheet, a discrepancy has arisen between the description of the Banbury sheet in the example for separate and for multilevel description. For the "description of one map - separate description," the sheet belonging to the Ordnance Survey series has, quite correctly, "Southampton" as the place of publication. In the "description of one map-multilevel description," the place of publication for the sheet was deleted by the editor of AACR2R because, he says, there is no rule disallowing its inclusion, thus ignoring the fact that neither is there a rule allowing its inclusion. The end result is that the place of publication for the Banbury sheet in the multilevel description example is, by implication, Chessington, which is incorrect.

During the discussion it was pointed out that AACR2R 13.6 on multilevel description is extremely sketchy. Also, it incorrectly states that this technique is used to record information about the whole and its part(s) in a **single** records, whereas it should read "in **multiple** records." The suggestion was made that 13.6 be rigorously revised by someone who understands the concept.

Rules for uniform title qualifiers to serial titles proper, which had been left out inadvertently in the 1978 work, have been omitted yet again from AACR2R. It was agreed that in this case there should be no moratorium. The rules are needed and should be published as soon as possible.

The problem of multiple versions (items having identical content and appearing in different physical formats) is still unresolved. It is expected that LC and the Council of Library Resources will jointly sponsor a forum to: a) educate and inform the participants regarding the various issues; b) identify those issues that require common resolutions; and c) suggest methods to achieve these common resolutions.

The CCC also passed a motion which supports expanding its scope to include a representative from the archival community.

M. Dyskstra threw out a query for suggestions for a possible GMD for multimedia archival collections. Being unfamiliar with archival materials, members were rather hesitant to suggest anything. One brave soul offered "archival fonds, mixed archival fonds, or mixed fonds" as possibilities. Are there any other suggestions?

The next meeting will be on June 9, 1989.

Respectfully submitted by
Velma Parker

A.C.M.L. Membership List, 1989

Full Members

Yvette M. Arseneau
L.R.I.S.
159 Main Street
Suite 214
Bathurst, New Brunswick
E2A 1A6

Colleen Beard
115 Main Street
St. Catherines, Ontario
L2R 4V3

Patricia Bellamy
Map Library
Robarts Library
University of Toronto
130 St. George Street
Toronto, Ontario M5S 1J7

Claude Boudreau
881 Moncton #2
Québec, Québec G1S 2Y4

Terence Brennan
4523 King Edward Avenue
Montreal, Quebec H4B 2H6

Vivienne M. Bruce
101-1013 Vancouver St.
Victoria, B.C. V8V 3V9

Margaret E. Campbell
Librarian
MRMS - P.O. Box 310
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Louis Cardinal
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Vivien Cartmell
Archives of Ontario
Map Collection
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Toronto, Ontario M7A 2R9

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University Map & Design Library
University of Waterloo
Waterloo, Ontario N2L 3G1

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Calgary, Alberta T2N 0A2

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Sharon Daniel
608 Dawes Road, Apt. 404
Toronto, Ontario M4S 2G7

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Map Library, Morisset Library
University of Ottawa
Ottawa, Ontario K1N 9A5

Allen Doiron
Provincial Archives of New Brunswick
P.O. Box 6000
Fredericton, N.B. E3B 5H1

Lorraine Dubreuil
Dept. of Rare Books & Special Collections
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McGill University
3459 McTavish Street
Montreal, Quebec H3A 1Y1

C.M. Elliott
3125 Qu'Appelle Street
Victoria, B.C. V9A 1V5

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Carleton University
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Map Collection
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The Library
University of Guelph
Guelph, Ontairo N1G 2W1

Antoine Gagnon
1600 Chemin Ste. Foy
Québec, Québec G1S 2P4

Jean-Marc Garant
515 Provencher
Brossard, Québec J4W 1Y3

Nancy Gayton
Maritime Resource
Management Service
P.O. Box 310
Amherst, Nova Scotia
B4H 3Z5

Carol Goodger-Hill
253 Lincoln Road
Waterloo, Ontario N2J 2P6

Louise Goodwin
LRIS / Surveys & Mapping
120 Water Street
Summerside, P.E.I. C1N 1A9

Leonard J. Gottselig
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R. Halifax, Director of
Records & City Archives
City of Toronto Archives
City Hall
Toronto, Ontario M5H 2N2

Elizabeth Hamilton
478 Lady Dunn, U.N.B.
P.O. Box 4400
Fredericton, N.B. E3B 5A3

Kathy Harding
5 Rudd Avenue
R.R.1
Kingston, Ontario K7L 4V1

James M. Hayes
1102-175 rue Laurier
Hull, Québec J8X 4G3

Andrew Hubbertz
Government Publications
Maps and Microforms
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Library
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S4S 0W0

Margaret Hutchison
4045 Rae Street, Apt 513
Regina, Saskatchewan
S4S 6Y5

Ruth M. Jackson
669 Hampton Road
Quispamsis
Rothesay, New Brunswick
E2G 1E4

Vivian Janes
5278 Coolbrook Avenue
Montreal, Quebec H3X 2L1

Debbie Jessome
363A St. Francis Street
Edmundston, New Brunswick
E3V 1G5

Betty Kidd
Cartographic and
Architectural
Archives Division
National Archives of Canada
Ottawa, Ontario K1A 0N3

Karla Kuklis
Technical Services, 6th Floor
McGill University Libraries
3459 McTavish Street
Montreal, Quebec H3A 1Y1

Gilles Langelier
Division des archives
cartographiques et
architecturales
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Canada
Ottawa, Ontario K1A 0N3

Hugh C. Larimer
996 Kilkenny Drive
Winnipeg, Manitoba R3T 5A5

Loan Le
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Library
Scarborough College
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Pierre Lépine
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Brossard, Québec J4Z 1Y8

Karen Lochhead
100 Edgewood Road
Aylmer, Quebec J9H 5E1

William R. Mackinnon
784 Roxborough Avenue
Hamilton, Ontario L8H 1S9

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Summerside, P.E.I. C1N 1A9

Carol Marley
Geosciences Library
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Montreal, Quebec H3A 2K6

Rosaline Milks
1570 Reaume Road
Windsor, Ontario N9J 1C2

Heather Moore
2030 Thorne Avenue
Ottawa, Ontario K1H 5X5

Walter K. Morrison
Box 61, Lawrentown
Annapolis County
Nova Scotia B0S 1M0

Cathy Moulder
Lloyd Reeds Map Library/
UDC
McMaster University
Hamilton, Ontario L8S 4K1

Norma Mousaw
Cartographic and
Architectural
Archives Division
National Archives of Canada
Ottawa, Ontario K1A 0N3

Monica Mueller
12 Forest Street
Aylmer, Quebec J9H 4E4

Jeffrey Murray
P.O. Box 392
Chelsea, Quebec J0X 1N0

Thomas Nagy
Cartographic and
Architectural
Archives Division
National Archives of Canada
Ottawa, Ontario K1A 0N3

Ginette Noel
Archiviste de la Ville
Archives de la Ville de
Québec
350 rue Saint Joseph Est,
3E'ET
Québec (Québec) G1K 3B2

Kimberley O'Brien
LRIS
P.O. Box 2254
Halifax, N. S. B3J 3C8

Benoit Ouellette
Deptartment of Geography
St. Mary's University
Halifax, N. S. B3H 3C3

Olivier Paradis
Ecole Polytechnique,
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C.P. 6079, Station "A"
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Velma D. Parker
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Ottawa, Ontario K1H 8K9

Brian F. Phillips
438 East 18th Street
N. Vancouver, B.C. V7L 2Y2

Richard Hugh Pinnell
University Map and Design
Library
University of Waterloo
Waterloo, Ontario N2L 3G1

Beth Ray
Map Library
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Carleton University
Ottawa, Ontario K1S 5B6

Pamela Ross
Map Library
D299 Loeb Building
Carleton University
Ottawa, Ontario K1S 5B6

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Map Library
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601 Booth Street
Ottawa, Ontario K1A 0E8

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649 Riverwood Avenue
Winnipeg, Manitoba
R3T 1K3

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Toronto, Ontario
M4T 1E5

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Sydney, N. S. B1P 3M8

Serge Sauer
Map Library
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University of Western Ontario
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Pamela Schaus
Dept. of Geography
Wilfrid Laurier University
75 University Avenue West
Waterloo, Ontario N2L 3C5

Garry Shutlak
Public Archives of Nova
Scotia
6016 University Avenue
Halifax, N. S. B3H 1W4

Wendy Simpson Lewis
R.R. 4
Merrickville, Ontario
K0G 1N0

Heather Stevens
Cartographic and
Architectural Archives
Division
National Archives of Canada
Ottawa, Ontario K1A 0N3

Hugo Stibbe
Office of Standards
National Archives of Canada
Ottawa, Ontario K1A 0N3

Susan Stone
971 Dingley Dell, Apt. 306
Esquimalt, B.C. V9A 5R6

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Cartothèque
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Map Library,
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London, Ontario N6A 5C2

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Joyce Williams
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Kathleen Wyman
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Darla Young
Dept. of Geography
University of Lethbridge
Lethbridge, Alberta
T1K 3M4

Karen Young
3205 Victoria Street
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L6L 5X9

Barbara Znamirowski
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Tony Baron
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Map Librarian
Milner Library
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Normal, Illinois 61761

Margaret Flear
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John Fortier
3708 Corliss Crescent
Mississauga, Ontario
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Mary E. Fortney
1509 Hinman Avenue
Evanston , Illinois 60201

Mary Galneder
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Rennie MacLeod
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Stouffville, Ontario L4A 7Z7

Kimberly Turford
Prestige Publications
P.O. Box 4205
London, Ontario N5W 5H6

Isobel Veitch
Department of Geography
Social Science Building
University of Western Ontario
London, Ontario N6A 5C2

Larry Vos
5411 Plaza Lanes
Witchita, KS 67208

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Calgary, Alberta T2G 2M2

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Glenbow-Alberta Institute
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Libraries
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University of Winnipeg
515 Portage Avenue
Winnipeg, Manitoba
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Manitoba Archives Building
200 Vaughan Street
Winnipeg, Manitoba
R3C 0P8

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P.O. Box 7500
Fredericton, N.B. E3B 5H5

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Serials Librarian
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Mount Allison University
Sackville, New Brunswick
E0A 3C0

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Saint John, N.B. E2K 1E5

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St. John's, Newfoundland
A1C 3A3

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St. John's, Newfoundland
A1C 2C9

Nova Scotia

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Library, P.O. Box 1006
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610 East River Road
New Glasgow, N. S. B2H 3S2

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Carleton University
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Library
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Ottawa, Ontario K1S 5B6

Library
Geological Survey of Canada
601 Booth Street, Room 350
Ottawa, Ontario K1A 0E8

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Canada
615 Booth Street
Ottawa, Ontario K1A 0E8

Map Resource Centre
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Canada
615 Booth Street
Ottawa, Ontario K1A 0E9

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395 Wellington Street
Ottawa, Ontario K1A 0N3

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120 Metcalfe Street
Ottawa, Ontario K1P 5M2

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K9J 7B8

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St. Catharines Historical
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St. Catharines, Ontario
L2T 1K7

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Laurentian University
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Map Collection
Department of Geography
Lakehead University
Thunder Bay, Ontario
P7B 5E1

Archives of Ontario
Ministry of Citizenship and Culture
77 Grenville Street
Queen's Park
Toronto, Ontario M7A 2R9

Federal Publications Inc.,
301 King Street West
Toronto, Ontario M5V 1J5

Periodical Unit
Metropolitan Toronto Library Board
789 Yonge Street
Toronto, Ontario M4W 2G8

Learning Resources Centre
Ryerson Polytechnic Institute
350 Victoria Street
Room L551
Toronto, Ontario M5B 2K3

Diane Henderson
Library, Room 404
Faculty of Library and Information Science
University of Toronto
140 St. George Street
Toronto, Ontario M5S 1A5

University of Toronto Library
Serials Department
Toronto, Ontario M5S 1A5

Joseph Hohenadel
UTLAS International
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Toronto, Ontario M5S 2V1

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The Library
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Waterloo, Ontario N2L 3G1

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Waterloo, Ontario N2L 3C5

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Windsor, Ontario N9B 3P4

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Deptartment of Geography
University of Windsor
Windsor, Ontario N9B 3P4

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University Librarian
University of P.E.I.
Charlottetown, P.E.I.
C1A 4P3

Quebec

Dept. of Rare Books and Special Collections
McGill University Libraries
3459 McTavish Street
Montreal, Quebec H3A 1Y1

Physical Sciences and Engineering Library
McGill University
809 Sherbrooke Street West
Montreal, Quebec H3A 2K6

Louise Emond
Hydro-Quebec -
Direction Environnement
Cartothèque
800 boul. de Maisonneuve est
Montréal, Québec H2L 4M8

Map Librarian
Concordia University
Geography Department
2080 Mackay, Room X-105
Montreal, Quebec H3G 1W4

Christiane Desmarais
Cartothèque - INRS
3465 Durocher
Montréal, Québec H2X 2C6

Cécile Fugulin
Cartothèque de Geographie
Université de Montréal
C.P. 612 Succ. A.
Montréal, Québec H3C 3J7

Cartothèque
Departement de Géologie
Université de Montréal
C.P. 162, Suc. A
Montréal, Québec H3C 3J7

Bibliothèque
C.P. 8889 Service de Publication
Université du Québec à Montréal
Montréal, Québec H3C 3P3

Bibliothèque nationale du Québec
1700, rue St. Denis
Montréal, Québec H2X 3K6

Commission de Toponymie du Québec
220 Grande Allée Est
Québec (Québec) G1R 2J1

Université Laval
La Cartothèque
Bibliothéque Générale
Québec (Québec) G1K 7P4

Bibliothèque
Université du Québec à Rimouski

300, avenue des Ursulines
Rimouski, Québec G5L 3A1

Archives Nationales du
Québec
Bibliothèque
C.P. 10450
Sainte-Foy, Québec G1V4N1

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Sherbrooke, Québec J1K 2R1

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C.P. 500
Trois Rivières, Québec
G9A 5H7

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Rivières — Cartothèque
C.P. 500
Trois Rivières, Québec
G9A 5H7

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3500 de Courval
Trois-Rivières, Québec
G9A 5E6

Saskatchewan

University of Regina
Faculty of Arts
Map Library
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Regina, Sask. S4S 0A2

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Library
Saskatoon, Sask. S7N 0W0

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Australia

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Swanston Street
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Queensland, Australia

New Zealand

Librarian, National Archives
P.B. Box 6148, Te Aro
Wellington, New Zealand

Alexander Turnbull Library
(USSO 4652)
12 - 349 Wellington N.
Wellington, New Zealand

South Africa

State Library
Periodicals Section
P.O. Box 397
Pretoria 001
South Africa

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Institut Cartografica de
Catalunya
Balmes, 209
Barcelona, 08006
Spain

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ETH-Bibliothek
Ramistrasse 101
CH8092, Zurich
Switzerland

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Document Supply Centre
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England

Librarian (Serials)
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Keyworth, Nottingham
NG12 5GG
England

The British Library
Map Library
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London WC1 3DG
England

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(BLISS)
7 Ridgemount Street
London WC1E 7AE
England

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England

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Group
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Tolworth, Surbiton
Surrey KT6 7NB
England

National Library of Scotland
Book Purchase Unit
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Scotland

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Dyfed SY23 3AS Wales

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Princeton, New Jersey 08544

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Brooklyn, New York 11238

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New York, N.Y. 10017

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