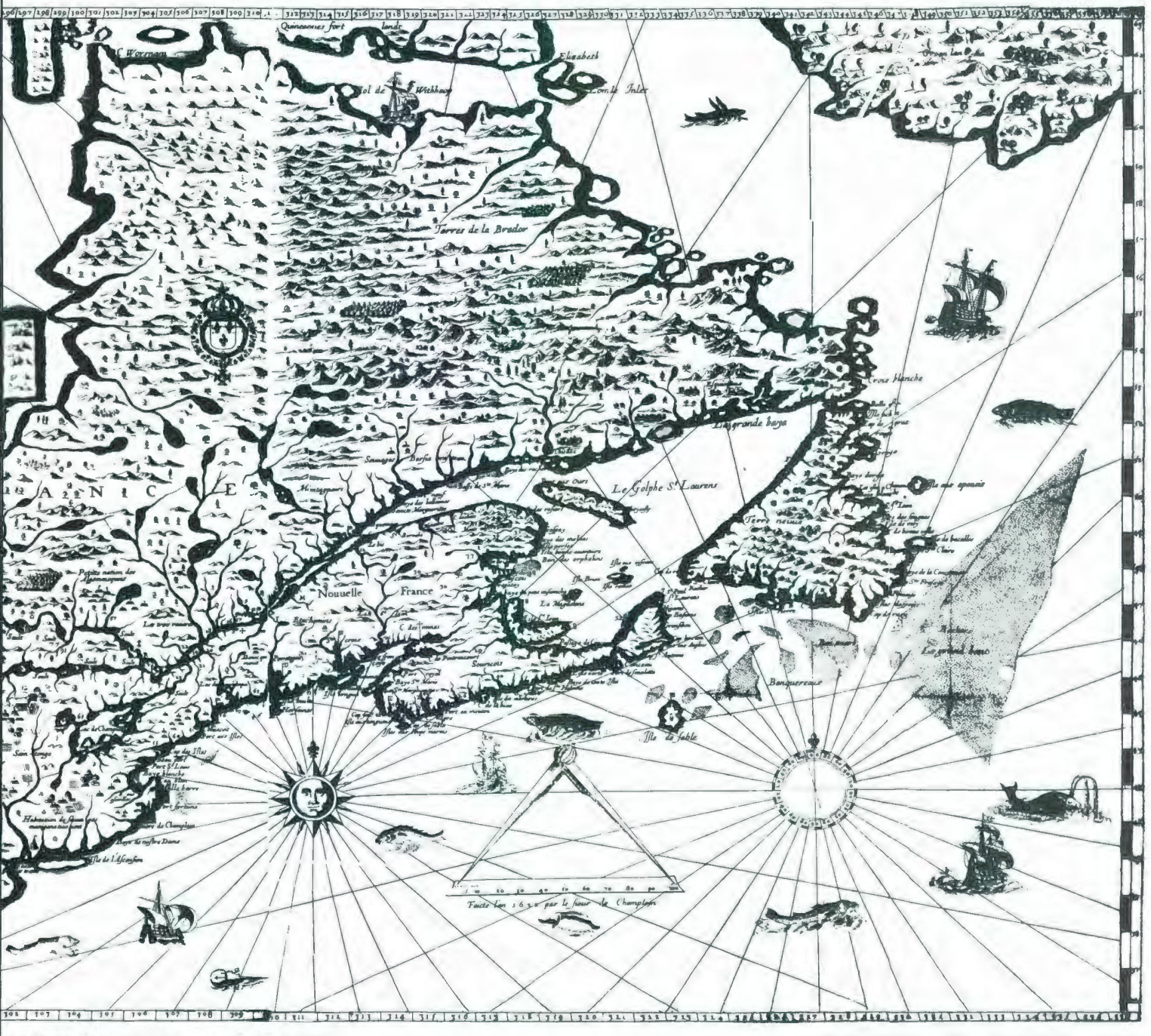
ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES

BULLETIN

ASSOCIATION DES CARTOTHEQUES et ARCHIVES CARTOGRAPHIQUES du CANADA



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ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES/
ASSOCIATION DES CARTOTHEQUES ET ARCHIVES CARTOGRAPHIQUES DU CANADA

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Members receive three times a year the *ACMLA Bulletin*, the official journal of the Association.

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

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President's Message

Bulletin - This is an area of major concern for all of us. In March, James Boxall, Second Vice-President responsible for publications activities, attended a meeting on our behalf to discuss whether cooperation on the production of a journal might be possible with a number of representatives of other map library associations. No definite plans were made and discussions continue. We need to have articles to go into the Bulletin, but we are getting very few from our members, and none recently. It cannot survive for long if this continues. Please consider reporting on something that you are working on or the way that you do something in your library or archive. Explore the possibilities of your imagination and apply it to the map library and archive world!

Copyright - As most of you are probably aware by now, bill C-32 on copyright, is now law. The Senate passed the Bill after the Government invoked closure. As Karen Adams, Executive Director of the Canadian Library Association, reported "Conservative Senator Kinsella did table three amendments - on the definition of commercially available, used textbooks, and a change in the time line for the proposed review from 5 years down to 3 - but they were defeated without using a recorded vote". According to Karen, CLA and ASTED have applied to Canadian Heritage for funding to have a lawyer prepare a guide for librarians on the new law. I will keep you posted on this. I wrote numerous letters on behalf of ACMLA and received some responses. When I was in Ottawa, I attended a Senate hearing on the bill at which several library association representatives spoke.

Natural Resources Canada - A number of our members have met with representatives of this agency regarding the proposed changes to the NTS maps, especially the 1:50 000 series. We are not sure if any of our comments will be listened to in this exercise. The results have not yet been announced. Recently, I received a letter from M. D. Everell, Assistant Deputy Minister, Earth Sciences Sector, asking that I review their 52 page strategic plan for geomatics for the "new millennium" which was enclosed. It will be available for loan, upon request.

Board Meetings - The ACMLA Board met by telephone conference calls on November 14, 1996 and March 7, 1997.

Other Meetings - Grace Welch and I met with the Acting Assistant National Archivist, Lee McDonald on April 17th to discuss our concerns about the effect of various reorganizations on our "defacto national map collection", their philosophy of "researcher autonomy", legal deposit of maps on a regular basis, inclusion of map records in AMICUS, and the need to consult with user groups such as ACMLA. We also met with Betty Kidd to be brought up to date on these matters and to discuss the 1999 meeting in conjunction with the International Cartographic Association in Ottawa.

Correspondence - Please request copies from me of any that you may wish to see.

November 15 - From Jean-Pierre Wallot, National Archivist - response to letter of 9/30
November 26 - Patrice Furlong, A/Director, Products & Client Services, Geomatics Canada, Centre for Topographic Information - indexes to the National Topographic System maps and those not yet printed

(continued on page 64)

GIS: Technology That Should Bring Government and Libraries Together

David A. Cobb

"As a cartographer of 32 years I can assure you that you have undertaken a task that is daunting. By your own admission, you are untrained. You have no experience, other than that of utilizing ARC View software. You are even contemplating going into business, yet have no idea as to how much your services are worth. Worse yet, you will probably want to give away data, due to guilt.

Please, please, please leave the map making industry alone. We have already spent needless amount of hours and money trying to undue the damage that you folk have inflicted upon our clients by confusing the issues of GPS, GIS, AM/FM, Photogrammetry, Business GIS and DeskTop Mapping. Additionally, you above anyone else, should be aware of copyright issues that you may or may not infringe upon."

The above quote was a response on Maps-L when someone asked for advice on the use of ArcView in a library setting. We have far to go in converting some "professionals" to the more recent research tools being used in libraries and, too often, the quote reflects the attitude of government officials regarding our use of GIS technology and data. It may be too soon for them to realize but as one colleague recently remarked: "This isn't the kind of library my mother used to work in." Indeed, the times are changing and geographic information systems are providing powerful graphical tools for libraries and allowing them to create partnerships that would not have been possible just a short time ago.

But, let us take a brief historical perspective before we become too enamored with this new technology. We need not go back to the days of papyrus or clay tablets but let us remember the almost forgotten 3" x 5" catalog card. Most libraries have closed their card catalog and many others have converted them to online catalogs and this is simply reformatting. The addition of bibliographic databases into these online catalogs, i.e. Academic Index, Geo-Ref, etc., is also simple reformatting.

The early electronic atlases, i.e. PC-Globe, US Atlas, were also simple reformatting non-interactive slide shows. The introduction of GIS brought together software and segmented databases. Initially, these covered very small, almost micro, geographic areas and were dominated by environmental studies. If your library happened to be in the area of coverage you might be interested but the technology remained cumbersome, problematic, and very non-user-friendly. The major change occurred, in the United States, with the TIGER line files and the advent of the 1990 census. Suddenly, we had a rich national database and it could be combined with similarly rich geographic datafile despite its flaws. Out of this has grown several datasets now known to libraries worldwide: ArcWorld, ArcUSA, Wessex ProFiler, MapInfo data, StatCan, and Macon USA to name but a few.

The next level - we're not there yet - will involve the use of numeric data. Some statistical libraries are using and downloading data from different sites but are not taking advantage of GIS technology to 'Map It!'. It is the 'Map It' option that will make map libraries in the near future a very popular place to be and the students will come - Just Build It!

Libraries, in general, passed on numeric data and technology as a whole in the 1950's and 1960's leading to the development of computer centers, social science quantification laboratories. Essentially, we were not prepared then to commit to the technology and yet a variety of analytical faculty required it and several centers were established. Today, however, is a different time. We now have powerful personal computers, powerful software, and many experienced librarians that will seize the opportunity at this time. I believe the use of numeric data will be a much larger change (dare I say revolution?) for libraries than they may themselves perceive because they have avoided it in the past and it may now infringe on current academic and government territory.

Why should we consider using numeric data? First, there is a small country to your south that provides significant amounts of government data

to its libraries and other constituents. Let us be aware that nothing is really free and cataloging and providing access to numeric data can sometime be more difficult. Secondly, information available via the Internet and the World Wide Web increases at a phenomenal rate. And, finally, we now have the equipment, the software, and the staff potential to use this data. I realize that not everyone is at this level but you may be surprised how close you are.

Given the opportunity to take advantage of the technology I then see that libraries have two very important options. The first is Access and, technically, this is our minimum library obligation. In the U.S. this is a government depository library obligation but it must go beyond. We must be prepared to Service this technology as our other obligation. Perhaps it is the reference librarian in me but do we not help users when they ask a question after we have handed them a book or a map? We cannot, not should not, segregate digital data away from library service.

There are significant library organizational implications to the above and, at a minimum, this initiative requires library administration support. This is certainly not shrink-wrap technology, at least not yet. There are training demands and these should be supported. One person CAN'T do acquisitions, administration, reference, cataloging, preservation, AND GIS! Or, if they can, they won't do it for long!

When it comes to equipment you need the biggest, the baddest, and the fastest machine that money can buy - it is as simple as that. Whatever you do, DO NOT purchase anything that matches the minimum requirements for anything because that configuration is probably already out of date. You must also plan to update equipment every three to four years and it remains difficult for administrators to understand why you must upgrade that 486 they got such a good deal for just last year.

Most data from local sources will be like maps - those paper things from the old days - free. Even though this may be true for most locales in the U.S., and only wishful thinking in most of Canada, I believe that you may be able to work with local commercial and government sources to establish alliances and partnerships. One successful example of this can become the shining example referred to and lead to many more. Governments must learn that cooperative partnerships are as much to their advantage, and maybe even more so, as it is to yours and that a wider audience is introduced to the technology, data, and its useful public action. At the same time you will have to look harder; few governments publish lists of available GIS datasets as the technology is changing so rapidly.

Similarly, libraries will have to compare federal 'free' data with similar 'cost' data from commercial vendors. It must be weighed for monetary value, ease of use, and number of users that can be serviced in a period of time (sorry to sound like the local Petro Canada but we too must move people through so to speak). Usually, the federal data, albeit free, always loses when compared to various value-added commercial software and data. Any federal census ages rapidly as does all other data. It is then that other local sources can be used to update and project population trends and these are almost always numeric data: birth rates, school enrollments, housing sales, income, etc.

There are time implications, as alluded to above, with this technology. This is very seldom your five minute reference interview. Our situation at Harvard deals mainly with social science data but is beginning to include more geocoding, personal data mapping, and a typical reference question may last an hour and some are longer. You won't always do mapping; if you have large datasets your users may wish to subset numeric data, copy to a floppy, and take it to their room or department to work with it.

Currently, I do not see smaller research libraries able to adopt this technology into their services strategy without technical expertise consulting. It is not that they cannot 'play with it a bit' and provide some **Access** to it, but I do not believe they can really provice **Service.** The initial time requirements for training and equipment set-up are usually stagering; it is related to any home improvement project - estimate the time and cost and then at least double it. Furthermore, technical support will always remain an issue. It will also attract users that you have never seen before i.e. Public Health, Biology, and maybe even History.

I also see four dark sides to GIS.

Privacy - increasingly databases are getting closer to our individual addresses and marketing may be able to "target" individuals and families;

Data Quality - data is hard to find; data is difficult to access; data is not always current; data is almost always undocumented; and data is often incomplete. This is an area where libraries and government could cooperate to each other's benefit.

Technology vs. Traditional Library Documentation - how are we going to balance costs, staff, and services related to technology with continuing print resources? I worry that some libraries are all too embrasive of the technology and that traditional collections are, or will be, slighted.

Archiving: Access vs. Ownership - Who is responsible for archiving? How often should an archive be made? Who is responsible for creating bridges from old technologies to new? What will be our relationship with our users when we don't own the material but simply pay a licensing fee to access the data somewhere else? How dependable is that source: today? Tomorrow? in the future? Old data is often of little use to those managing 'state of the art' systems, but often critical to libraries.

And what of GIS and the Internet? One national library has suggested that they may place one million images on the WWW; now that is just need. Since the Net continues to be much like the Wild Wild West let me suggest a cowboy-type idea: would it not perhaps be more profitable - I'm thinking of searching now - to have regional centers such as Dalhousie for the Maritimes and Harvard for New England. These centers would establish cartographic WEB collections for their area and then could be linked to various national collections.

The whole issue of standards: image size (in MB, not cm.), color targets, use of facsimiles vs. originals, types of scanners; these issues are not being discussed in the map community, but should be, with various technical advisors.

Let me suggest the use of the Internet as a reference source. Could it not be used to develop the capability of placing specific images on a website for a specific query or research project. For example, we currently have 3,000 fire insurance maps on CD's; they will probably never be totally available on the WEB but what if someone were studying early Boston and wanted to see a particular area in 1867, 1883, 1892, and 1906? I think it might be possible to develop a 'Reference Shelf' as part of our WEB page, place these images there for a week, let the researcher in Newfoundland download them, and they can then use them as needed. If they need to visit Harvard, that's fine, but they may not need to. My experience tells me, at this very early period, that we may be worrying ourselves too much over how we get a 100 MB image file over the WEB when few computers or networks can deliver it, AND when the student or scholar on the other end would be very pleased to receive a 4 MB black and white image. In other words, maps are more than pretty pictures, they convey information; let's not complicate it.

And finally, someone should have told me, and I will tell you: "Some Assembly May Be Required!"

David A. Cobb, Head
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ON THE COVER

The map shown on the cover appeared in Champlain's Les Voyages de la Nouvelle France, Paris, 1632 This map, the original of which is in the Visual Sound Archives Division National Archives of Canada has been reproduced as ACMLA Facsimile Map Series, Map No. 62 (ISSN 0827-8024).

Cette carte apparut dans Les Voyages de la Nouvelle France de Champlain, Paris 1632. Cette carte, cans la Division des archives cartgraphiques et audio-visuelles, Archives nationales du Canada, a été reproduite dans la Série de cartes fac-similés de l'ACC, carte no. 62 (ISSN 0827-8024).

An Introduction to the Data Liberation Initiative for Map Librarians

Alberta Auringer Wood

In 1992, discussions began among data librarians, data users, and data providers in the federal government to find ways to increase access to data, especially involving social statistics, at more affordable prices. There were several groups involved in the preliminary talks, including the Canadian Association of Public Data Users (CAPDU), the Canadian Association of Research Libraries (CARL), the Canadian Association of Small University Libraries (CASUL), the Humanities and Social Sciences Federation of Canada (HSSFC), and staff of Statistics Canada and other government departments. These discussions led to the development of a five year pilot project started in 1996 - the Data Liberation Initiative (DLI). DLI is a cooperative project of the above groups, with Statistics Canada as the administrative centre, and it involves over 50 large and small university and college libraries and/or computing centres. In order to assist with the project, an Advisory Committee was formed. It is chaired by Charles Beach, Queen's University, with Wendy Watkins of Carleton University as Vice Chair and Lynda Richardson of Statistics Canada as Secretary. Other members include John Berigan, Ernie Boyko, T. Trepanier and Michael Sivyer of Statistics Canada; Dr. R. Currie of University of Manitoba; G. Drolet of Laval University, Elizabeth Hamilton of University of New Brunswick, Chuck Humphrey of University of Alberta, Lorraine McQueen of Acadia University, Walter Piovesan of Simon Fraser University, and Barbara Znamirowski of Trent University.

The purpose of the DLI pilot project is to place statistical data in post-secondary Canadian institutions for research and instructional purposes. There is a participation fee of $12,000 (plus taxes) per year for larger instiutions, while smaller libraries are charged a lesser amount. Additionally, each institution must bear the cost for equipment and staff. However, although DLI is not free, there are several benefits related to the project. First of all, a set annual fee fixed over five years is useful for budgeting purposes. It also eliminates the need for ad-hoc consortia and grant-funded purchases. In the project, the data is purchased at the institutional level making it available to all students, faculty and staff for non-commercial purposes. It offers timely access to affordable data at the participating institutions. Hopefully, this will lead to better and more accurate research, as well as an increase in the overall amount of research done in Canada at these institutions. It provides a valuable return on the investment of public money in the collection of this data over the years.

In embarking on this project, Statistics Canada has voiced some concerns. There will be increased costs for them, and the possibility of "data leakage" through inappropriate use, such as commercial purposes. Also, the identification of individuals is a danger when working with statistics collected through a census (confidentiality). There may also be heavier demands on Statistics Canada regional offices due to questions about the data. Because of these reasons, Statistics Canada requires authorized users of the data be made aware of the conditions of acquisition and use through a "data use license", such as the one that follows for Memorial University of Newfoundland.

Data Liberation Initiative Data Use Licence
March 17, 1997

The Government of Canada is the owner, or the licensee, of the intellectual property rights (including copyright) in the data products offered under the Data Liberation Initiative, and this licence is only a licence to use these data products. No title or other rights are conveyed by this licence.

These data products are provided as is, and the owner makes no representations or warranties, either expressed or implied, as to the appropriateness and fitness for a particular purpose.

The data products are to be used only by educators, students, and other staff members of

Memorial University of Newfoundland (referred to herein as "authorized users") and only while they have such status with this educational institution.

These data products are provided for the exclusive purposes of teaching, academic research and publishing, and/or planning of educational services within this educational institution, and may not be used for any other purposes without explicit written approval, in advance, of Statistics Canada.

Authorized users are prohibited from using these data products in the pursuit of any commercial or income-generating venture either privately, or under the auspices of the education institution.

Authorized users shall not attempt to re-identify the records on the micro data files so as to relate the particulars to any individual person, business or organization.

Copies of the data products can be retained by authorized users for the period necessary to conduct the research or teaching, including their use as evidence of research methodologies and results, and subsequent research and analysis.

The distribution of any data obtained under this agreement outside this educational institution through sale, donation, transfer or exchange of any portion of these data in any way is strictly prohibited, with the exception of distribution to bona fide participants in the Data Liberation initiative. The DLI contact must agree to such distribution.

The publishing of data and analysis resulting from research using any of these data products is permitted in research communications such as scholarly papers, journals and the like. The authors of these communications are required to cite Statistics Canada as the source of the data, and to indicate that the results or views expressed are those of the author/authorized user.

Further information on the conditions of use can be obtained from the Memorial University of Newfoundland DLI Contact, Alberta Auringer Wood, Maps, Data and Media Division, QEII Library (737-8892; awood@morgan.ucs.mun.ca). Information on files available is on the MUN DLI home page beginning at http://www.mun.ca/library/media/dli.html

As noted already, the main purpose of the Data Liberation Initiative is to place statistical data in post-secondary Canadian institutions for research and instructional purposes. Some the benefits have been mentioned earlier. It is also intended to organize and control the access all Statistics Canada's publicly available databases and data sets. The data are available in several different formats, and there are a number of reasons why this is the case. One of the reasons is that these are numeric data files which are often very large. Another is that they are, in most cases, offered in both French and English. FTP (file transfer protocol) is the first choice for method of obtaining data, because of the ease of distribution. However, the files that are only available on CD-ROMs are distributed that way, and each institution is entitled to a cop. If the files are available in both forms, institutions can choose either or both. Some materials may be available only on diskette. FTP files can be disseminated to individuals as and when they need them. Some dependence on work schedules to set up the access is required. This is an access, not an ownership, arrangement which the project agreement makes clear. For participating institutions, this means that large storage capacity for the files is not required. About a dozen items are currently available in CD-ROM format, while more than seventy files area available through the FTP site. Libraries choose to acquire materials that will be useful to their users. For example, our library has acquired these materials on CD-ROM:

E-STAT 1995 and 1996

CANSIM (which we also access via the WWW under a pre-existing, at cost, arrangement with the University of Toronto)

CANSIM Directory Census PUMFs (Public Use Microdata Files) for 1991 for Families, Households & Housing, and Individuals

1986 and 1991 Census Area Profiles Health Indicators Database (in our Health Sciences Library, but actually a pre-DLI purchase)

SLID (Survey of Labour and Income Dynamics)

SABAL (Small Area Business and Labour)

TIERS (Trade) Database

The files available via FTP, as well as all those which may eventually be available, are listed on the Statistics Canada web site (http://www.statcan.ca/English/Dli/). In addition, some of the institutions involved in the project, such as my library at Memorial University of Newfoundland, have web sites listing files and other information (http://www.mun.ca/library/media/dli.html). Of the files that are currently available, nine are of a geographical nature:

Block-face Data File (BFDF)
Digital Boundary Files (DBF)
Digital Cartographic Files (DCF)
Geographic Attribute File (GAF)
Place Name Master File (PNMF)
Postal Code Conversion Files (PCCF)
Postal Code Federal Riding Files (PCFR)
Street Network Files (SNF)
Skeletal Street Network File (SSNF)

Having such geographic files creates considerable opportunities for map libraries to utilize this information with mapping software, such as ArcView or MapInfo, to display the geographic areas alone or in conjunction with the statistical data. In addition, E-STAT is equipped with software that allows the production of maps and graphs that are very useful additions to student papers and projects.

Each of the participating institutions has a contact person, such as myself, who will get the data files as authorized users need them. Libraries will handle the materials in a variety of ways. Ours has catalogued the materials received on CD-ROM, as well as the accompanying documentation. We will eventually catalogue all the materials available by FTP. Also, Statistics Canada is planning to provide catalogue records for files they provide. Along with the data files that are on the FTP site will be found the accompanying documentation, as well as command files to be used with some of the common statistical analysis software, such as SAS or SPSS. We have also prepared very brief, introductory guides for the three 1991 PUMFs and E-STAT, while a guide is in preparation for the 1991 Census Area Profiles. There are staff on hand to help with the CD's and the web site. We have also purchased access to the University of Western Ontario web site which allows our users to select data to be sent to their E-mail account via one computer in our Media and Data Centre. The statistical manipulations of the data are up to the individual though we try to be familiar with use of SPSS at this point to show people what they need to do after they have acquired the information to prepare it for use in SPSS.

As this is a relatively expensive project for the library, we have tried to advertise what is available through it. There have been a couple of articles in our university bi-weekly newspaper. I have given two talks in the library about it, as well as preparing the web pages. The web pages include links to other data related sites, such as the University of Western Ontario's Internet Data Library System. Upon request, I have prepared lists of data files by topic, such as this one:

Health Related Files from the
Data Liberation Initiative
February 13, 1997
Selected Online and Offline Products

1996 Health Indicators Database*
Public Use Microdata Files (PUMFs)
1991 Health and Activities Limitations Survey (HALS)*
1995 Survey on Smoking in Canada*
1994 Canada's Alcohol and Other Drugs Survey*
Health Institutions*
National Population Health Survey (longitudinal)*
Violence Against Women Survey*
Youth Smoking Survey*
1993 Absence From Work Survey
1992 Absence From Work Survey
1991 Absence From Work Survey
Survey on Ageing and Independence*
1990 Absence From Work Survey
Health Promotion Survey*
1989 Absence From Work Survey
1989 National Alcohol and Drug Survey*
1988 Absence From Work Survey
Health and Employment Survey
Survey on Drinking and Driving*
1987 Absence From Work Survey
Health and Activities Survey
Ontario Child Health Follow-up Survey
1986 Absence From Work Survey
Health Promotion Survey (Montreal)
Survey of Smoking Habits
1985 Absence From Work Survey
Health Promotion Survey*

Survey of Maternity Leave
1984 Absence From Work Survey
The Canadian Health and Disability Survey
1983 Absence From Work Survey
Canadian Health and Disability Survey
The Ontario Child Health Survey
Survey of Smoking Habits
1982 Absence From Work Survey
1981 Absence From Work Survey
Smoking Habits Survey
Survey of Child Care
1980 Absence From Work Survey
1979 Absence From Work Survey
Smoking Habits Survey
1978 Absence From Work Survey
1977 Absence From Work Survey
Canada's Health Survey*
Smoking Habits Survey
1976 Absence From Work/Annual Work Patterns
* On DLI FTP site now

Because many librarians who have assumed the responsibilities for data acquired under the Data Liberation Initiative had no experience with data previously, training programs have been instituted within the DLI. The first of these will be taking place just before the 1997 ACMLA meeting and also in Saskatoon, followed by others in Halifax, Montreal and Ottawa. This will provide a foundation for other, more specialized ones, to follow.

While this program is all very well for those who can participate, it still leaves others normally served by academic libraries, or those authorized users involved in "commercial" ventures to purchase data from Statistics Canada. We cannot allow our other users from the community outside the university to use this information under the terms of our participation agreement, nor can faculty, staff or students use the data for commercial purposes.

Maybe it will increase the use of Canadian data in our colleges and universities over that from the United States. However, it is still a "far cry" from the general access that is provided in that country.

Alberta Auringer Wood
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GUIDELINES FOR THE ACMLA HONOURS AWARD

1. The Honours Award shall consist of a framed certificate issued by ACMLA.

2. This award is to be made during the Annual Conference.

3 The Award will not necessarily be issued every year.

4. A call for nominations shall be made in two issues of the ACMLA Bulletin during each year.

5. Nominations may be made by any individual member, including members of the Awards committee itself.

6. The recipient shall be an individual who has made an outstanding contribution in the field of map librarianship or curatorship or archiveship.

7. The recipient's contribution may be either for a specific activity or for general services and contributions such as continued membership in the Association with active participation either as an executive offficer, committee chairperson, or committee member.

8. While membership in ACMLA shall normally be a prerequisite, that shall not preclude consideration of outstanding non-members.

9. An award shall preferably be awarded to a person while still active in the field, rather than at an early stage or post-retirement.

10. Probably attendance at the Annual Conference should be considered, but should not be the deciding factor.

11. To facilitate and encourage the recipient's attendance at the conference, he/she should be informed of the pending award.

12. The Awards Committee, having considered all nominations for an award, shall come to a unanimous agreement on the choice of a recipient.

13. The Awards Committee shall forward their decision to the Executive of the ACMLA for their approval one month prior to the Annual Conference.

The 1995 Indexes To The Maps of The National Topographic System of Canada

L.M.Sebert

A new edition of the Indexes of the National Topographic System (NTS) has just been published. They resemble previous editions but on closer examination it can be seen that some significant changes have been made. The three-sheet format has been maintained: Eastern Canada, Western Canada and Northern Canada. But this time only the two remaining NTS scales are shown. Gone are data on obsolete scales, general maps, atlas sheets, electoral maps, IMW 1:1 000 000 sheets, etc. In the space thus made free on the back of the indexes are three very useful tables. The first lists the more important of Canada's populated places together with the 1:50 000 sheet on which they may be found; the second does the same for physical features, and the third lists national parks and their appropriate sheets. These lists will certainly help the public find the map or maps being sought. Of course a person with any map experience will realize that a large feature will fall on more than one sheet. For example, 73H-3 is listed as the map for the South Saskatchewan River. This is certainly the map at the center of the river's run, but it takes some 25 maps to trace it completely. Nevertheless, these lists will do much to help the user "navigate" these rather overpowering index sheets.

The second important change is the showing of the sheets that are in the revision program. This has been done by placing a green dot in the appropriate quadrangle. Formerly this information was given on two status maps, MCR 104 and MCR 115, but these were available only to those who wrote in for them. Obviously the retirement of the two status maps will save considerable production time that can be put to better use, but the more important fact is that now the general public will be aware that new editions can be anticipated for the indicated sheets. It will alert map purchasers that if they order a "green dot" sheet they will be getting one that may be seriously out of date. Incidently, it would be helpful to have a note in the margin stating that sheets marked with the dot reprepresent a two-year (or perhaps maybe it is a three-year?) revision program. This would give the purchaser some idea of the approximate delay before the revised sheet is available.

The third change is one of debateable improvement. On previous indexes the publication date of each sheet was shown in the lower right corner of each quadrangle. This has been changed to a "validity date" which is defined as the date of field completion, or the year of photography or satellite imagery, whichever is the more recent. This is not a new idea. It was studied carefully in 1970 in an effort to give the map purchaser an idea of the currency of the information on the map. It was not adopted then because of the difficulty of arriving at a validity date that would suit all users. A very old publication date does, however, discourage the prospective map user from buying a map showing a long-ago publication, despite the fact that the map detail may be as up-to-date as the day it was printed.

The validity date, on the other hand, is a statement of opinion based, on mature judgement. Satellite imagery suitable for assessing a map currency was not available in 1970, so a system that failed 25 years ago may be quite successful today. But will the validity dates be rigorously advanced (annually, or periodically) for all sheets in the system? This would seem to be a very large task.

An examination of the validity dates on these new indexes raise some questions. Take for example the 1:50 000 sheets in the 33A quadrangle. On the 1991 index their publication dates are mostly 1973, but on the 1995 index they have been downgraded to a validity of

1955. Did the Topographic Mapping Service publish maps in 1973 knowing that they were seriously out of date?

The new indexes are available either flat or folded. Most users would prefer the handiness of the folded version but if ordered flat the three sheets may be joined to form a 1:3 500 000 wall map of Canada. As before, the polychrome sheets of the 1:50 000 Series are colored dark green while the monochrome are indicated in light green. Many of the sheets of the Hudson Bay Lowland are covered only by contoured photomaps which are indicated by a green triangle in the lower left corner of the appropriate quadrangle. The use of photomaps for this region is a wise decision. The area is covered by swamps and marshes, and the pattern of the terrain can only be captured by photography; no line map could possibly depict this intricate topography. The validity date is not given for the photomaps, but this presupposes that changes will not occur in this region. This may or may not be true, but for consistency the dates should be shown.

The important drainage features form the skeleton background for the NTS grid but only the larger lakes are named. There is, however, a good array of town symbols on both scales with cities and towns of over 50 000 population being shown by a dot in a circle, while places of a lesser population are indicated by the dot alone.

On these indexes no mention is made of the other maps and products of the Canada Map Office. The information is restricted to the two remaining scales of the National Topographic System. It might be appropriate here to outline briefly the history of the NTS. It was designed in the Department of the Interior in 1927, and at the time it was thought it would provide Canada, over time, with all its mapping needs in five basic scales. These were the 16-Mile, 8-Mile, 4-Mile, 2-Mile and the 1-Mile to the inch scales. A sheet-line grid was set out so that four sheets at any given scale would cover the same area as one sheet at the next smaller scale. Mr. F. H. Peters, surveyor general at the time, admired the topographic work being done by the military mapping agency (the Geographical Section of the General Staff) and designed the sheet lines of the new NTS to accommodate the 110 1-Mile and 8 2-Mile sheets already produced by the military. In 1950 a six-year program was started to convert all the NTS scales to their metric equivalents, i.e. 1:1 000 000, 1:500 000, 1:250 000, 1:125 000 and 1:50 000. In 1953 a sixth scale, 1:25 000, was added to the list. Metrication did not change the sheet-line grid. The 1950s were the glory years of the NTS, but in the 1970s the decline began. By about 1972 it became apparent that six scales could not be maintained if all were to be kept up-to-date. The first to go was the 1:125 000 which was an intermediate scale with no true following. An attempt had been made to convert it to a tourist map by adding shaded relief to the contouring but this did not increase its clientele. Work on the 1:125 000 Series was stopped in 1974. In 1977 a critical review of the 1:25 000 Series was made. This series was started during the cold war to help with the evacuation of cities and other actions that might be taken in the face of an atomic attack. But it was not a well thought-out series. Few streets in cities were named, one-way streets were not indicated, and few of a cities vital services (electricity, gas, water, etc.) were shown. The most important failing of the 1:25 000 Series was the difficulty in keeping it up-to-date. It was drawn in five colors and it covered the areas of fastest topographical change. Also, it was running into competition; many of the provinces were producing their own large-scale monochrome topographic maps. In the face of these facts, work on the NTS 1:25 000 Series stopped in 1978.

The two smallest NTS scales had, from the first, served as aeronautical charts as well as small-scale topographic maps. As the coverage by the 1:250 000 Series expanded, it was found that the 1:1 000 000 and 1:500 000 Series were being used almost exclusively as air charts, and in acknowledgement of this fact some design changes were made. But with the introduction of high-speed, long-range, aircraft in the 1960s, pilots became dissatisfied with the small NTS format. In the 1970s both scales were redesigned and printed on both sides of oversize paper. The number of charts required to cover Canada was greatly reduced, and apparently no one regretted the passing of the NTS format.

So, by 1980 the NTS was reduced to the two basic scales, 1:50 000 and 1:250 000. The 914 sheets of the smaller scale had all been in print since 1971. As shown on these indexes, the 1:50 000 Series now covers all provinces, the Yukon, and the mainland of the Northwest Territories. Over 50 percent of the Arctic Islands is covered, and for those sheets not yet drawn in this area, the surveying, photography and aerotriangulation has been done. This means that any sheet in the "white area" on the Index 3 can be put into work on a moments notice. There are now almost 12 000 1:50 000 sheets in the inventory of the Canada Map Office.

Our National Topographic System is a wonderful national achievement. Even expressed in the crude terms of hard work and intelligent planning, it compares favorably with other national efforts such as building the first transcontinental railway and the St. Lawrence Seaway. These indexes help bring this simple fact to the attention of Canadians who should know of this accomplishment but are probably not aware of it. *originally printed in *Geomatica*, Vol. 50, No. 2, 1996.

ACMLA 1997 CONFERENCE

MAY 26 - May 31 1997

Saskatoon Saskatchewan

Hosted by University of Saskatchewan Libraries

Primary conference location:
Room 12, Main Library/Murray Building,
University of Saskatchewan Libraries,
3 Campus Drive, Saskatchewan SK

Homepage

http://library.usask.ca/~hubbertz/acmla.html

Addendum - Cheryl Woods

As Lou Sebert has retired and did not have access to a collection he could physically check NTS sheets with against the indexes, we did so at the Serge. A. Sauer Map Library, University of Western Ontario. In particular, we checked Index 3 - Northern Canada against our depository holdings. We found that there were 110 1:50 000 maps (mostly on Victoria Island and some on southern Baffin Island), indicated on the index as published that we had not received. A claim was put into the automatic distribution section of the Canada Map Office and a response was received - "those sheets are not published".

Well, this does present a major problem. An explanation from Earle Price, Director, Domestic and International Business Relations, Natural Resources Canada, on CARTA (listserver) was that the index draftsperson had been given a production schedule of maps to be printed, but he/she was not informed of readjustments to this schedule due to cutbacks in funding for printing. Hence, an index was produced that indicated sheets published, but that were indeed not available.

Lou and I communicated back and forth about how best to resolve this problem. Lou met with Earle Price and Patrice Furlong, Products and Client Services, Centre for Topographic Information, in August, 1996. It was agreed by all that something must be sent out to map librarians and dealers, as soon as possible. My suggestion was that a thorough check of all three indexes be completed and a list of errors printed and distributed with the monthly "New and Revised Map List". Reprinting Index 3, might be an option? It is hoped that we will see something from this office sooner rather than later to rectify the confusion.

NDI DIGITAL OCEAN BSB-FORMAT RASTER CHARTS

In an effort to promote the use of electronic navigation charts on CD-ROM for educational and research applications, Nautical Data International (NDI) is pleased to offer a 50% reduction in price for member institutions of the Association of Canadian Map Libraries and Archives. This document outlines some aspects of the products; if further information is required please contact the Distribution Department of NDI at 1-800-563-0634, or by e-mail to: "info@ndi.nf.ca". Further information and a sample rater electronic navigation chart and viewer can also be found on their World Wide Web site at "http://ndi.nf.ca".

PRODUCTION DESCRIPTION

NDI Digital ocean raster electronic navigation charts are georeferenced, full-colour Canadian Hydrographic Service navigation chart images produced at a resolution of 254 dpi. Each CD-ROM also contains software which allows viewing of the charts, the determination of the latitude and longitude of chart features, and the measurement of range and bearing between any two points on the chart.

PRODUCT COST AND ORDERING

Digital ocean CD-ROM products are available to member institutions of the Association of Canadian Map Libraries and Archives for $137.50 each plus applicable taxes. As of March 1997, four Digital ocean CD-ROM products are available:

PRODUCT #	COVERAGE
F1_001_CD	Pacific - Queen Charlotte Strait; Johnstone Strait
F2_001_CD	Strait of Georgia; Strait of Juan de Fuca Pacific - Queen Charlotte Sound; Hecate Strait to Portland Canal
F3_001_CD	Pacific - Queen Charlotte Islands; West Coast, Vancouver Island
F4_002_CD	Great Lakes - Georgian Bay; Lake Huron; Trent-Severn Waterway

All Canadian waters, except the Arctic, will be available by about April 30, 1997.

To obtain the discount, ACMLA member institutions should send your requests to Louis Cardinal, Publications officer, Association of Canadian Map Libraries and Archives, c/o National Archives of Canada, Ottawa, Ont., Canada K1A 0N3 or via e-mail at lcardinal@archives.ca. He will verify membership status and forward the orders to NDI for processing. If you are unsure of your membership status, you may wish to contact Louis at 613-996-7619.

RESTRICTIONS ON USE OF THE PRODUCT

NDI Digital Ocean CD-ROM products should be maintained on secure premises and should not be loaned off the premises. Due diligence should be exercised to ensure that the products are not copied in whole or in part. For academic research purposes only, it will be permissible to copy or print a screen portion of a chart. Other requests for using larger parts of a chart in a paper or presentation must be cleared with NDI at 1-800-563-0634, or be e-mail to cease to exist, the products should be destroyed, and NDI should be notified of that fact.

March 8, 1997

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INTERNATIONAL CONFERENCE ON THE PRINCIPLES AND FUTURE DEVELOPMENT OF AACR

TORONTO, CANADA OCTOBER 23 & 24, 1997

The Joint Steering Committee for Revisions of AACR (JSCAACR), the body that controls the content of AACR, believes the underlying principles of AACR should be reviewed, taking into account present and future trends in information resources and information management. Arrangements have been made for an international conference to be held in Toronto, Canada on October 23-25, 1997. JSWCAAR expects conference participants to determine whether a fundamental revision of AACR is appropriate and feasible, and if so, to provide advice on the nature and direction of revisions.

Attendance at the conference is by invitation only. Frequently updated information about the conference can be found at URL:

http://www.nlc-bnc.ca/jsc/index.htm

As the nine papers being written for the conference are completed, they will be available at this URL, beginning probably in June. JSCAAR invites comments on, or critiques of, these papers. Rationales for other topics that you feel JSCAAR should address are also welcome.

In the following brief descriptions of the papers points have been artibrarily chosen to give a picture of their content. Obviously, the final papers will provide many more ideas than those presented here.

"The Principles of AACR", by Michael Gorman, Dean of Library Services, California State University, Fresno, and Pat Oddy, Head of Cataloguing, the British Library, address some fundamental questions. Are the present AACR principles still valid for all media? Do the rules need simplifying? Are the rules flexible and responsive to change? In what ways do rule interpretations undermine AACR principles?

The bibliographic universe contains, in addition to the library's traditional collection, other sources of information available to the public, such as publishers; catalogs, and bibliographies, discographies, and filmographies compiled according to other standards. "Biliographic Universe (Functional Requirements)" by Tom Delsey, Director General, Corporate Policy and Communications, National Library of Canada, will describe some models of the bibliographic universe developed by various individuals and groups, and evaluate them in terms of accuracy, flexibility, efficiency, user-friendliness, and compatibility.

In his paper "AACR2 and Catalogue Production Technology" Rahmatollah Fattahi of Iran, presently a Ph.D. candidate at the School of Information, Library, and Archive Studies, University of New South Wales, will examine to what extent the rules of AACR2 match or fail to match the capabilities of present systems and those of the near future for searching , retrieval, and presentation of bibliographic information.

"The Work" by Martha Yee, Cataloging Supervisor, UCLA Film and TV Archive, discusses the question "What is a work?" by reviewing AACR2 rules by which a decision is made about whether an item is, or is not, to be considered a new work. Much of the paper is devoted to the problems that result from the lack of general rules for works of mixed responsibility.

In her paper "Bibliographic Relationships" Sherry Velluci, Assistant Professor, Division of Library and Information Studies, St. John's University, discusses bibiliographic relationships in terms of various linkages; their importance to users of bibliographic records and users of authority records; in the MARC environment; and in a relational database environment.

Crystal Graham, Serials Librarian, University of California, San Diego, and Jean Hirons, Acting CONSER Coordinator, Serial Record Division, Library of Congress, detail "Issues Related to Seriality: Defining On-going Publications". They believe that the definition of "serial" in AACR2 is no longer adequate, that broader concept of "on-going work" is needed. They also argue that the book-based chapter 1 and the paper-based chap-

ter 12 do not accommodate the needs of on-going library materials. "Principal Access Points" by Ronald Hagler, Professor, School of Library, Archival, and Information Studies, University of British Columbia, deals with main entry and corporate body entry and their relationship to uniform titles and titles proper, the MARC format, and the and the need to restructure authority files to reflect the capabilities of computerization.

Rule 0.24, which mandates the cataloguing of the item in hand, is one of the cardinal principles of AARC. However, libraries that include electronic resources in their catalogues therefore no longer possess in physical form all the items listed in these catalogues. In her paper "Content vs Carrier" Lynne Howarth, Dean, Faculty of Informaton Studies, University of Toronto, queries whether this fundamental rule should be retained, tinkered with, or reconstruced. Practical consideration, present realities, and international consequences are discussed.

The final speaker, Mick Ridley, Senior Computer Officer, University of Bradford, presents "Beyond MARC". How effective is MARC? Is MARC simply an embodiment of AACR? Do we need a transfer standard standard for catalogue records? What is good structure/format for catalogue records? Is the same structure/format needed for transfer, database storage, and presentation to users?

JSC is interested in all points of view relating to AACR. Do not let this opportuinity to be part of the decision-making process pass by.

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The Joint Steering Committee for Revision of Anglo-American Cataloguing Rules (JSCAACR) is a committe of The American Library Association, The Australian Committee on Cataloguing, The British Library, The Canadian Committee on Cataloguing, The Library Association and The Library of Congress.

Website Atlas of Massachusetts

Cambridge. MA - Massachusetts now has an interactive website containing digital data and geography on its 351 cities and town. The site, called the Massachusets Electronic Atlas, may be viewed athttp://icg.haravard.edu/-maps/maaztias.htm The Atlas project represents a three year collaborative effort by the Harvard Map Collection, the Metropolitan Area Planning Council, and a professor at the University of Massachusetts at Boston.

According to David Cobb of the Harvard Map Collection, one of the principle atlas creators, the atlas is one way to help meet the needs of students who use the map collection for their research. It will also serve as an application for statistical data acquired by the collection from federal, state, local government and commercial sources.

It is the only detailed atlas available for Massachusetts at Boston, another co-developer of the atlas. Douglas Carnahan, of the Metropolitan Area Planning Council in Boston expects that potential uses for the atlas will be extensive. "Businesses, local and state governments, non profits, and the public can evaluate their needs with the site's broad range of information. For example, their searches could vary from property tax rates and home sale prices to health care and physical characteristics of the environment."

The technical specialist responsible for the look and feel of the site is Arlene Olivero of the Harvard Map Collection . She says that: "the atlas is a major step in moving GIS, a sophisticated computer mapping and database linked technology, from workstations into the PC environment of the non-specialist."

The atlas contains hundreds of non-decennial Census datasets as well as subjects from the 1990 Federal Census. Available subject areas include communication, economy, education, employment, environment regulation, health, income,physical features, population, race, real estate, transportation, and political boundaries for cities and towns. Existing datasets will be updated and new themes identified for inclusion in the atlas.

Valuable assistance and support for the atlas has been provided by the Environmental System Research Institute, the Harvard College Library, Mass\GIS, and the Massachusetts Association of Regional Planning Agencies.

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LETTER TO THE EDITOR

Rosaline Milks, M.S.L.S.
Editor
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Room 51, Chrysler Hall South
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Dear Rosaline Milks:

King Njoy's Maps

I stumbled upon the map discussed in my article ("The Scientific Mapping Of An African Sovereign: Njoya's Survey and Maps Reexamined") in Doulala, Cameroon while researching for my Doctorate of Philosophy Degree at the University of London, England in 1982. This was a maverick map because it had been the impression of most scholars of cartography that Africans, before the coming of the whites, could not draw maps. My colleagues in England, where I was based, at the time, were enthused with my finding, and they suggested that I should publish an article on it. I had little supporting material to begin the task of writing. I then set out to the capital or Bamum country, Fumban in the Cameroon (West Africa) in 1982, and again ten years later, to research the map's evolution. I also visited Paris in March 1984 where I met Professor C. Tardis, a Specialist in Bamum ethnography for more information. I observed from some old documents in the National Archives at Buea, Anglophone Cameroon, that King Njoya (the map-maker) had given an earlier copy to the King of England in 1914. I then headed for the Royal Depository at Windsor to be informed that there was nothing matching my description. I finally saw a musty incomplete copy at Kew Depository, London similar to the one seen in the Douala Municipal Archives.

Most of the anthropologists and historians interested in King Njoya (1867-1933), the cartographer, and his achievements had ignored his cartographic contributions or thought it was not part of their disciplines. I personally found this to be fundamental as a landmark in the history of cartography in Africa south of the Sahara. It was crucial as, hitherto, we do not know of any indigenous maps from Africa south of the Sahara comparable to maps as we know in the West as in other communities. Upon closer examinations, I realized that King Njoya's mapping was unique, original and had no foreign influence apart from subsequent interpolations by his students. It is deemed that this article will put the record right on the issue that Africans south of the Sahara, before the coming of the Europeans, could not survey or draw maps.

Yours very sincerely,

Viban Ngo,
Geographer/Cartographer
Ottawa, Ontario

THE SCIENTIFIC MAPPING OF AN AFRICAN SOVEREIGN: NJOYA'S SURVEY AND MAPS REEXAMINED.

VIBAN NGO, PH.D. (LSE), FRGS

INTRODUCTION

Before the evolution of the scientific map making of the 18th Century, maps (1a) that were not produced by Europeans were generically called primitive maps. Primitive here stands for the pre-Renaissance European cartography that was unsophisticated. The ideal appellation should have been preliterate mapping or primordial cartography of other communities outside Europe. Even in the 19th and early 21st Centuries, after the spread of European civilization to other parts of the world, mapping by communities that were not associated with the Western cartographic schools, was still chauvinistically described as primitive (Bagrow: 1964). The fact that these maps were primitive did not signify that they were unsophisticated. The reading of the Marshall Islanders' preliterate charts discussed below, required some training and interaction with the waves of the ocean before any sense was made out of them. The labyrinthine stick structures became animated when they were actually used by the skippers schooled in the art of reading them. They were simplistic to a Western orientated map reader, who was not revealed the skill of its interpretation in association with the ocean waves and heavenly bodies. Such hasty perception of cartographic evolution, was due to the fact that Europeans attempted to redefine their history or appearance to fit their aesthetic of appreciation. Therefore, biased interpretation stepped in. This was further strengthened by the mundane universal belief that pertinent scientific innovations could only emanate from Aryan communities. Whereas, what spurred the evolution of scientific mapping as we know today in Western Europe, were the prevailing economic, social, political, geographical, historical and the demographic factors. Total operation of these components, in turn, affected Europeans' ingenuities toward innovations including the art and science of map making and their evolution.

Scientific cartography as known in the Western schools did not exist in communities outside Europe until after the influence of Europeans. With topographic and cadastral mapping, there was some element of truth as can be observed in the following remark by Chapman (1896: 571) that *"...where European colonialists settle, they bring with them their national customs and wants; a civilized government has to be established, with its requirements; farms taken up to be surveyed and registered; roads and railways are made and in short, innumerable occasions arise which render reliable topographical maps indispensable to a civilized people".*

In which case, other communities outside Europe that had a different notion of land ownership, demographic pressures and governments, had no need for sophisticated maps. If they did, they were not of the quality and standards that the Europeans perceived maps to be. This was due to the different ways they were compiled and used. They were generally mental maps, vague sketches or models, occasionally punctuated with near perfect maps as known in the West. From the perspective of European scholars, they were too simplistic, non-descript or lacking sophistication. The preliterate Marshall Islanders' stick charts (Lanman: 1989, 90-95; Thrower: 1996, 1-12) could not even be compared with some of the early (1814) British Hydrographic Office of the Admiralty charts designed with meticulous care from accurate data captured by using good scientific instruments or Italian portolan charts of the 16th Century. By employing this comparison, we are not advancing any hypothesis asserting that by using sophisticated equipment, production of primitive or imprecise maps could be avoided. We could employ the latest Geographic Information System (GIS), AutoCAD, Vector, Raster and other spatial data bases or digital technology for information management at our disposal today (Keates: 1996, 190) and we would still produce dubious quality or primitive maps (Lee: 1995, 34).

OBJECTIVES

This paper sets out to review the hypothesis that scientific maps and mapping could not have emanated from communities outside Europe before the 19th and early 20th Centuries with little or any European influence. The statement that such maps

were "primitive" (Bagrow: ibid.; Thrower: 1972; 1996), and could only evolve outside Europe is examined drawing underpinning examples from the maverick surveys and mapping of King Njoya of Bamum (1867-1933) in the Cameroon in the early 20st Century (Ndam-Njoya: 1977). Bamum country in the West African state of the Cameroon is larger than the Grand Duchy of Luxemburg in Europe (4.827 square kilometers). Equally highlighted, is the allegation that the lack of mapping was not in any way indicative of the backwardness of the societies (1) outside European spheres of influence. Parallels can be found when compared with the early survey and mapping in Europe. In addition, no strong indications exist as in the invented script of King Njoya alluded to below that he copied verbatim European mapping. To start with, it could not have been sensational over its discovery by the first Europeans who took the pristine copy to Europe for further analysis (Struck: 1908).

NO PARALLELS

Njoya's maps had no scales, orientation as we know in the West, graticule, but had keys or special symbolism that we know in the Western topographic or thematic maps, no quantitative statement of the width of linear features, rivers; no projection for reasons we have given; and like any other early cartography, mountains are depicted in frontal perspective; lettering was uniform and the features as in any modern map are planimetric. Streams are depicted by zigzagged lines. We did not see any date but it was drawn in the reign of the 16th sovereign of Bamum in around 1912 and 1922. There could not have been any need for any astronomical observations an aspect introduced in cartography by Claudius Ptolemy, father of cartography as the Kingdom was small. Also, he was not interested in its location outside the neighbouring countries. All the same, the crescent moon and the shooting star shown on the map tell us that the people of Bamum were interested in astronomy. We do not have any oral or documented evidence that the celestial features were connected in geographical location or orientation. Njoya could not have thought of *septentrio, meridio, occidens,* and *oriens* as all was focused on the capital Fumban. This was particularly important to all the citizens of war-torn country with unpredicted kindred invasions from the Fulbes, Bani, Nsoq, Bamilekes, etc., to bear Fumban as a war haven in mind. It was the only settlement entirely surrounded by protective deep war trenches that could provided shelter in case of an attack.

The king attempted to record all features noted in the field records on his map as were seen. It would have been a humongous task in conventional cartography. If not for the fact that the country (a) was sparsely populated and (b) that not all the byways and highways were surveyed, having to delineate all that he had gathered from his survey would have been impossible. In other words, neither generalization nor symbolization was taken into their design. If the river were sinuous, attempts were made to depict it as such or the lines standing for streams were zigzagged. Any features that were not found along the survey routes were ignored and beyond that was left blank as terra incognita. Occasionally, pecked lines were used to depict the general direction of flow of some rivers and boundaries. Rivers flew for some length and disappeared in thin air, a phenomenon that we would associate only with desertic or karst conditions. Attempts were made to show headway erosion or major river sources pictorially. Braided river patterns will not be mistaken by a Western map reader as there are similarities as one would have in any hydrographic chart. What may be confusing are the symbols crosses, coloured rectangles, plane triangles and crescents that stand for various settlements. This was an effort by the cartographers to bring in settlement pattern hierarchically. This is a demonstration that Njoya never saw any western map at all of the region produced by Max Moisel, else he would have had the concentric dot method of settlement depiction. Attempts were made in later editions to provide a key in French (see illustration). What we may be familiar with is the round red dots that stand for immigrants' settlement. The notion of scale was absent. Further examinations suggest attempts by the King's cartographers to bring in pictorial symbols and two-dimensional parameters into one map. One thing does surface that interest was paid to those areas that were settled, terra cognita. Also, we know that there are principally four types of surveying measurements: (a) vertical angles measured in vertical planes, (b) vertical lengths, or differences in height or elevation, (c) horizontal distances or lengths, (d) and horizontal angles measured in horizontal planes. Njoya's surveyors did not make any use of these. Therefore, if he had copied anything from the early Europeans, it would have been the idea only and that is why we would have

the King facing problems of representation. Therefore, the script he invented played a major role in his cartography without which he would not have had difficulties with his cartography or he would have produced real primitive maps.

Other Africans had also evolved their own scripts. Among these were the Mende in Sierra Leone, Vai in Liberia, Nsibidi in Nigeria, Bambara in Niger, the pictographic writing of the Doson of Niger called totongonyou (Zahan: 1950); the Toma we have seen above, and the ancient Egyptian. Although some of these inventors of writings had fine artists amongst them, they did not come out with the sort of cartographic invention as King Njoya. Thus, it might not necessarily be justifiable to state that the invention of writing is a fillip for mapping invention skills as none of the group of people ever drew maps as the ones of King Njoya. The conditions described below that called for mapping of Bamum were not there.

Further, little evidence exists to support the point that the king copied Western mapping skill verbatim. To begin with, the symbolism of Njoya are incommensurable with the German techniques at the time, hill shading and form lines. Copyright infringement as that seen in the Japanese, Russian and Chinese industrial development were replicas if machines, models etc. were copied and where men did come to Europe to study for the purposes of technological transfer, is not evident. What we are examining is the fact that the King pledged later mapping ideas from the Europeans possibly, Dr. Max Moisel in 1907, but the mapping was idiosyncratically his. His first sketch (fig. 1) to his new farm that was sensationally discovered in 1906, that is, before his meeting with Moisel still makes us believe that he was an independent thinker, a genius as Crawford (2) and Rudin (1938) underlined.

Prior to the influence of other cultures, maps as known in the West, could not be produced for one reason, there were no need for them as the economics and lifestyles of the peoples outside Europe were diametrically different. Capitalism (3), was less developed or did not exist to spur the ownership of lands, property etc. that required the production of maps as we know. What the Africans knew was a lackadaisical communalism or primitive socialism. In this system, means of production and distribution of commodities were owned collectively and political powers were exercised by the whole community with chiefs or other leaders at the head. Cadastral surveys would not be thought of then in such a society. In Bamum and Nsoq, for example, all lands belonged figuratively to the King and his subjects could never have any ownership over the land or the permanent crops on them. Consequently, if one planted a cola-nut or palm tree, a visible cash crop of the time and wanted to cut it down, he had to seek the sanction of the King. In an ideal condition, it would be a miracle for a person in a landlocked country with a communalized economic system to invent a map or think of cartography that led emphasis on private ownership or real distribution of wealth. The conditions were not there. Similarly, one in a landlocked country, who had never seen a sea was not expected to design a worthy ocean liner. Would there be any motivation for one in the hot tropics to design and produce fur coats for sub-zero temperatures' climatic domains? A fortiori, we would not have seen the invention of maps and mapping activities developed in most African milieus before the introduction of capitalism with the exception of ancient Egypt where there was land shortage. Therefore, what motivated King Njoya to map?

DOCUMENTATION

King Ibrahim Njoya of Bamum (1860-1933), the 16th sovereign to have reigned in the Kingdom is particularly famous for the invention of what is generally known as the Bamum scripts, *a ka u ku mfe mfe* in 1907. The original ideographic alphabet gradually evolved to phonetic and syllabic value by 1918. This invention passed through all the known echelons that most scripts pass through in history (Crawford: 1935, 438). The history of its origin is still obscure. However, King Njoya is said to have had a dream in which the symbols of more than four hundred and nineteen characters were revealed to him for educating his people (Njoya: 1952; Crawford: 1935, 437). *"Il raconte qu'il eut une vision dont le symbolisme lui parut clair et fut à l'origine de ses travaux:une voix lui demandait de dessiner une main sur une planchette, de jeter ensuite de l'eau sur ce planchette, de jeter ensuite de l'eau sur ce dessin et de la boire* (Ndam-Njoya: 1977,47). Crawford (1950: 437) interpreted that *"he was performing a magic rite well known to the Musulmans and one which he believed would assist his investigations."* The truth is that Njoya wanted to give to his people an original power and an ideal system of government that was to have a positive lasting effect on the neighbouring countries. The invention of writing (also known as *shuumom)* was to be the only sure means of carrying out his

objective (Ndam-Njoya 1977, 50). As a thinker, he had wondered why it was not possible for the Bamum language used for historical narration and transmission of other ideas to be reproduced in a written sign. We will be inclined to conclude as (Joffre: 1945) after examining the Toma inhabitants' script, (who are found in the border region between Liberia and Guinea Republic), that Njoya was motivated by other writings, Roman and Arabic scripts that were already in his kingdom. Now we will ask why he could not have had the influence of European cartographers that passed in his territory as in his writing? A scrutiny of the scripts show no similarities with the known foreign scripts in his Kingdom. Therefore, the foreign scripts as the foreign cartographers gave him the idea. We are interested in the evolution of the characters, *a ka u ku mfe mfe* as the scripts were later employed in the accompanying literature of the map of the kingdom of Bamum. The King himself drew the first editions of 1907, 1912, and supervised subsequent maps by his students, Nji Mama and Ibrahim Njoya. It is also thought that the evolution of the scripts similarly influenced the development of the King's cartography, the focus of our review. With few symbols known to him for what we may consider today as vague delineation, it was not conceivable how he could have come out with a sensible map without any writing for annotation. The initial map, known as *lewa ngu* (literally translated as the book of the country) measuring 89cm x 1 metre 12cm, will in the present definition of a scientific map be described as a relatively advanced work of art and map. The only known two copies found in Kew Archives and Duala Municipal Archives differ in sizes as they are all manuscript maps. The problem stemmed from copy and counter copying an aspect that characterized early cartography in the 16th century (Hooker: 1993). As stated, they have no scales or projections as we know in the Western maps. Distances were measured in the number of days it took one to march from one settlement to another. Orientation did not exist, but the capital town of Fumban was the centre of their world, Bamum as Jerusalem was to the West in the antiquities.

Njoya spearheaded the invention of the printing press, writing, mapping, and the modernization of the traditional religion of the Bamum. Why was it the King who had to come out with all these inventions? It is said that the king had a very stoic, rugged, and uncheerful childhood. Psychologists believe that these are ground works for famous persons as once stated by Sir Winston S. Churchill (4). As a child of four or nine [there are conflicting reports], King Njoya saw the decapitation of his father, and the infighting in his country where princes were killing one another in an attempt to gain the sovereignty (Ndam-Njoya: 1977; Dugast et al.: 1950). He witnessed internecine civil war and invasions. All these prepared his mind for defense and motivation of ideas that could defend and cause peace for his country. It was no doubt that maps as a defensive tool could have come from such a person with his sort of experience.

COMPILATION

The "book of the country" is an amalgam of itineraries survey compiled by the king and his servitors. These were for demarcating his kingdom's borders, indication of landed properties, depiction of cash crops and the various landlords that were in charge of them and the number of people they controlled. Therefore, we would be inclined to call this an early *topocadastral* map since cadastral data was recorded on medium scale (approximately 1: 500 000) map and not a primitive map as the first German analyst stated (Struck: 1908, 206) referred to his early sketch. There are subsequent proofs that this was more advanced cartography than the preliterate charts and maps of the Marshall Islanders, the First Nation Peoples of North America, and the Aztecs in Central America. To start with, use was made in 1910-1911 surveys and compilation of the scripts of the King in vade mecums filled out by royal surveyors. (Copies of some vade mecums in 22 pages can be seen at the French Musee de l'Homme, Paris call mark number 34.171.1377). The itineraries followed the main existing rural tracks throughout the country. This was the same techniques that the German colonial troops, *Schutztruppen* had pursued while traversing in the kingdom and the surrounding countries. In other words, this is a sketched road map with additional cadastral information but with a difference in that it covered the entire kingdom. Therefore, it has unique properties. The royal surveyors took note of all the land use, the names of the lords and dignitaries on the roads and those of the villages that were often the names of the village heads they traversed. The map had those characteristics attributed to the Roman road map, *Tabula Peutingeriana* (Skelton: 1964, 19) and European cadastral maps of the 16th century (Baigent: 1990). It was therefore the first spacial Domesday Book of the people of the region.

COMPARISON

From the technique of collecting information, one sees some similarities with the German colonial maps of Dr. Max Moisel, editor-in-chief of all the German colonial maps and his assistance, Dr. Paul Sprigate. Both were working for the official German colonial mapping firm, Dietrich Rheimer in Unterden Linden, Berlin in the late 19th and the early 20th Centuries. Armed with this general purpose map, computing the entire population of the Bamum by multiplying the estimated number of people supposed to be under the various dignitaries, [*nji , nkom, and nkom shuushut*], was possible, by the number of settlements. The *nji* was a traditional religious priest who acted at the same time as the representative of the king in a village, hamlet, or the clan where he resided. In the northern sister Kingdom of Nsoq, these individuals are known respectively as the *fai* and the *shey*. Clans were remnants of once existing erstwhile tribes conquered and incorporated in the Bamum Kingdom or other sub-tribes that had voluntarily come to settle among the Bamum elements (Tardit: 1980). Most of these were the Bamilekes whose original identifications have been assimilated. In which case, it was an embryonic general purpose map, the only one of its kind that ever emerged from Africa South of the Sahara by an African leader with little or no European influence (5). Crawford (1935: 440) does not in anyway, while praising the King as genius for his invention, reject the fact that there could have been any exogenous influence in his script so was his mapping but he stated that the development of the idea was independently his as there are no parallels elsewhere (6).

Njoya's map highlights one vital aspect of a hard copy map as a store of real information. It was therefore not surprising, that the German *Schutztrüppen* that compiled data for the mapping of the German colony of the Cameroon extracted some information from the Map of King Njoya for the compilation of 1913 topographical map (1: 300.000) of the region.

EXTERNAL IDEAS

The first reference to Njoya's mapping ability was in 1908 by Bernhard Struck, a German geographer who reported that Reverend Martin Goehring (7), a missionary in Fumban had stumbled on a very unusual cadastral map of Njoya on July 29, 1906. The map was the early product of an itinerary traverse of the King himself. This was the route from the town of Fumban to his farm, the geometric sketch of his farm incorporating the new alphabet (Struck 1908; Ngo: 1987, 326). The outcome was a linear map depicting the palace, the war trenches that surrounded the town, the names of the various tributaries of the river Mfi (Noun), the villages traversed en route to the farm and eventually the farm (fig. 1). Although this map had no scale, the approximated scale given by Struck was 1:44 000 and when compared with a German sketch of the very area, there were striking similarities. The similarities with the German sketch tell us that Njoya's initiative cannot have been dismissed as some primitive trash but worthy of some attention. We are not certain if this were a spontaneous sketch or if he had any influence from the route traverses of Captain von Ramsay and Lieutenant Sandrock. These were the first German surveyors that arrived in Fumban on July 6, 1902 and sojourned for five days as discussed by Dugast and Jeffreys. : 1950, 15) citing the records of Hauptmann Ramsay' journey in the Cameroons (8) in the *Deutches Kolonialblatt* of 1902 (9). Another visitor who arrived from the direction of Bamenda fifty miles to the northwest was Lieutenant Hirtler on April 13, 1903 He sojourned in the capital, Fumban for nine days. He took note of the orderly organization of the society, urban development in the capital, commerce where cowries were used as money and reported of his rendezvous with the king and his entourage (10); (Dugast and Jeffreys 1950, 16).

Could the King's mapping ability have been from the influence of the Basel Missionaries Pastors Ernst and Leimbacher who had settled in Bali in 1903 and paid regular visits to Fumban? Leimbacher eventually settled in Fumban in 1906 with Pastor Goehring. Alternatively, could it have been the influence of another settler Habisch or the influence of Max Moisel the chief colonial cartographer who visited the territory in 1907? We are told by Struck that Konig Ndshoya von Bamum actually engaged Herr Kartograph Max Moisel in conversation when he came to Fumban on the *Methode der Routenaufnahme und die kartographische..* As Moisel was concerned with topographical mapping on a medium scale, 1: 300 000, Njoya told him that it was not going to solve several land disputes that he was having in his kingdom. It appears that Kings have been influential in the development of cartography. Karl IX of Sweden in 1603 similarly ordered cadastral mapping of Sweden to replace all the existing maps produced by foreigners that were

inadequate and inaccurate for their need (Baigent: 1990, 62). To the east of his country there were the Fulani invaders from Banyo, in the north were the most feared cousins from the Kingdom of Nsoq with whom they had fought a war in 1886 and King Njoya's father Sangu's head was decapitated and taken away as a war trophy. From the West were the incursions of the Bamilekes whose land was small and could not handle their population. Bamum Kingdom offered the best alternative settlement for the surplus populations neighbouring kingdoms. Famine from internal and international wars meant a need for reform in the Kingdom and topocadastral mapping was to provide a solution. Besides, the fact that he approached the first whites that came to his kingdom, Captain Ramsay, chairman of the Gesselschaft Nordwest-Kamerun (NWGK) and Sandrock July 6, 1902 and inquired through an interpreter in bush English what he was doing with his party. These two Germans had passed via King Seembum II of Nsoq to the north of Bamum who had fought off and defeated the attack of Njoya's father Nsangu in 1884-1885. Our conjecture is that he might have gleaned what they were doing and imitated what was happening. Moreover, the meeting with the chief German cartographer Herr Max Moisel in 1907 gave him an idea on techniques of traversing and cartographic techniques as were executed in the metropolis (Struct: 1908, 206); (11). All the same, one crucial impediment was still on the way, that of language. We understand that Moisel had interpreters from the littoral who spoke bush English for ease of communication. We are not certain that scientific discussion could have taken place for the better comprehension of the King. Additionally, sign language could have been used coupled with pidginized English, then the coastal lingua franca and what Moisel had intended to transmit could not have been effective. In those days, it was customary for visitors to be accompanied by local porters who acted as an interpreters (see Rev. Emonts: 1927; Chilver: 1966). Max Moisel stayed briefly in Victoria were set out on his hinterland march and he could not have mastered West African creole (pidginized English) the German officials initially employed for their administration. It will be recalled that the Germanophone community was still relatively small by 1907 (Derrick: 1980). English as introduced by the missionaries like Joseph Merrick, Alfred Saker (1876) from Peckham, South London and the returning ex-slaves was still widely spoken in the Cameroon than German. The Germans found this more convenient until later on (1908) that German was taught in schools. The Germans had made a grievous mistake of not teaching German to the locals. Their rationale was that it was only a language fit for the whites. It was after they realized that English learning was still being carried on by British and American missionaries and traders at their detriment that they started in earnest to set up German government schools (Rudin: 1938). The first Cameroonians to learn German were those who attended private Pallotin Fathers' Catholic schools established as early as in 1889 (Santerre et al.: 1982).

In spite of these early meetings with the whites, no documented evidence exists that Njoya had direct foreign influence regarding cartography (12). He was a self-taught cartographer with a subsequent German influence. The first map of the road to his farm from his palace was like a test of what he could do for his territory that he eventually did in 1912. Unfortunately, this German Pastor Goehring then in Fumban did not find this map exciting. The King after returning from his farm convoked Goehring to his palace on July 29, 1906 to show him his sketch. It was never seen and we suspect that he was responsible for taking it to Europe for further examination. Although as a copied sketch can be seen in the *Globus* (1908), and what is mentioned in the *Mitteilungen aus. den deutschen Schutzgebieten* of 1907, he did get hold of it or a copy. If the sketch of the road to his estate was not sensational and strange, it could not have been given a place in a respectable German scientific journal like the *Globus* of October 1, 1908. It was reconstructed by the Cartographic Institutes von Dietrich Reimer the official colonial mapper of the German imperial Government of Berlin. If the interest were not in the cartographic techniques of Njoya, could it have been the Bamum alphabet or both? It will be remarked that the ethnographers and other scientists came to the colonies and studied any scientific developments that could enhance their administration or their activities in the colonies. It was therefore not surprising that an intelligent man like King Njoya was a focus of scientific investigations. The German and the British colonialists in this part of the world accepted Africans for what they were. The French on the other hand wanted to change them to be French before they could be accepted. Africans were found inferior, a fortiori, any contribution from them was bound to be immaterial. Whereas the former embraced, the latter dismissed them.

The original copy of his cartographic contribution, map of Bamum, our main concern, is first mentioned in the King's correspondence to the Great King of

England. What accompanied this document were the said map of his Kingdom, one of his carved thrones and several tusks. Apparently, this gesture had an ulterior motive. The map was employed as a political propaganda instrument. By offering the map to the great King of England, he was surrendering himself and his kingdom to the British. He had one apprehension in mind as Major General Dobell rightly put it, that he needed protection in case the Germans were to return to the Cameroons. The British were the right people who could have given him this protection. However, in the past he had proved that he could do business with anyone if his culture and people were left intact (Ngo: 1987, 270); (13). This could be viewed with his other handiworks, portraits of his predecessors above all that of his decapitated father Nsangu and the old palace before the construction of the modern palace in 1910. He was a hardworking man who could overcome anything. While on his first visit to the capital of the then German Cameroons in 1908, he copied the architectural style of the Buea Schloss of the German Governor of Cameroons at the time, Jesko von Putkamer. The castle was like that of the notables in Hamburg (Plate...). It was no surprise that he had to emulate the building styles in Hamburg as most of the Germans operating in the Concession of Gesellschaft Nordwest-Kamerun and those of the Westafrikanische Pflanzungsgsellschaft in Victoria were principally from the area of Hamburg. They had "factories"(14) that were located in Fumban, the capital of Bamum. It is still from one of these stores that he obtained his drawing materials.

POLYGLOT EDITION

The first manuscript map of the King was sent to the King George V of Great Britain and Ireland in 1914. The was monolingual. The subsequent copy with information from the complete surveys that ended in 1920 is bilingual. It has French and Mum languages. This is referred to as the adulterated copy. Adulteration here implies that the copy in the municipal Archives in Duala had a second language other than Mum in a *ka u ku mfe mfe* the original language and scripts of the King. The second language, French is in Roman scripts. This is what had led us to term this polyglot manuscript copy adulterated. We are certain that the additional literature was not the handiwork of King Njoya himself for he dreaded the French who had curtailed his powers and attempted to assimilate him. The French out of jealousy ended up incarcerating him in Yaounde prison for his lack of cooperation in 1931, where he eventually died in 1933 (conversation with Professor C. Tardits, Sorbonne Paris, 1984). We suspect that the French language added was perhaps an attempt by the IFAN's French workers then in Duala to unravel the content of the map and sought the assistance of Nji Mama was then still alive. The imprisonment of the King in 1931 could equally have been attributed to his anglophile tendencies as explained in the letter below (1914). It would certainly be concluded that the French language was not in his own writing, but that of Nji Mama. With this overt animosity, we could not conclude that Njoya had no good rapprochement with the French as with the Germans or the British who with the indirect rule policy copied from Lord Frederick Lugard, Governor-General of Northern Nigeria then deemed it fitting to increase the powers of the local rulers whom they used for their own benefits in local governance. Briefly, under this system, traditional rulers had total jurisdiction over their territories according to their local systems with advice from British colonial officials. Reading the letter he wrote to the King of England, we have the impression that he was glad to have seen the departure of the Germans from his territory. Therefore, with his flexible character, we are not certain if what he said was due to pressure or propagandistic to gain favours from the British. The French in the Cameroon considered strong local leaders as impediments to their administration and it was not to their best interest to keep them.

Still on *cartolinguistcs*, the king had very little time to master French to writing fluently as to translate his original map for the French colonial government officials. We therefore tend to conclude that it was the addition from one of his senior pupils, Nji Mama who was the captain during and after the royal survey expedition of 1910-1911. His signature on the map also confirms that the king was not the direct author of the copy in the Duala Municipal Archives. It would have been a travesty of freedom if the king under duress drew the map in prison. It would have been impossible as the colonial French officials wanted to stamp out any power that was to clash with their government. By allowing Njoya to continue drawing his land would have been another acceptance by the French that he was a powerful figure to reckon with. Imprisoning Njoya whom they had learned was very powerful at the epoch of the Germans was a psychological subjugation and a demonstration that no person in the region was above the French colonial regime. The apprehension of the French authority was therefore made

in strong terms to the locals whom the French had to subjugate as a lower class of people. Njoya in the times of the Germans was a demigod with his uniformed private army that very much resembled the colonial German troops. Njoya even had from Kaiser Wilhelm II a crowned resplendent crowned prince uniform. That could have been frightening to the French who considered the Germans as enemies. Kings who were not in alignment with their policy of assimilation were dethroned.

Could the inclusion of the French text have been when he was in French plenipotentiary? As stated above, there was no time for him to learn French to put on the additional information we see in French. To begin with, Cameroon was jointly administered by the French and British as a condominium from 1916 when the Germans were defeated. It was not until 1919 when the country was partitioned between the French and the British. Until 1919 or the creation of the League of Nations, Bamum was under the British jurisdiction. According to this official correspondence and the King had wished to remain with the British as stated by Major-General C. M. Dobell, Commander of the Allied Forces in the Cameroons (15). We conjecture that the King might have been punished by the French for what he might have said in the letter that did not favour the French rule over his Kingdom. As above alluded to, it was therefore not possible for the King or his servitor Nji Mama to have mastered French between the transitional period of 1919 to 1922 for annotation in the map. We do not have any documented evidence that French schools were allowed to be established in Fumban until when Bamum was finally given to the French by the British (1922). However, there is evidence that their district officer Clopot was there. The original copy mentioned in another correspondence of Captain C. M. Dobell dated 1916 presently in the Kew Archives, London is only authentic Njoya's map in the Bamum Script (16). This copy is therefore an incomplete edition as surveys were only complete in 1920.

When I set out to research this topic in 1982, my prime objective was to lay hands on the original copy of the map. Since it was sent to the King of England at the time, King George V at the time, I wrote Sir Robin Macworth-Young, the head of the Royal Archives in Windsor Castle, Berkshire on May 26, 1982. Macworth-Young could not locate it in Royal Collection (17). The manuscript map ended in the Public Record Office, Kew. What was and is still remarkable about it is the letter that the King wrote that accompanied the map. Regarding the king, he was surrendering his country to the British and the offer of the map signified the offer of his country. The King attached more importance in the map than we can imagine. It was more than tokenistic to him. The paper was the entire in microcosm and that is why he called the map the "book of the country". One needs to turn to the letter to see its significance. The letter below, written in Bamum scripts before being translated by perhaps the resident British District Officer is another indication that the British had attempted to learn the Bamum alphabet.

Letter from Njoya the King of Bamum to the Great All-Powerful, King of all the English.

I, Njoya, 16th King of Bamum send my humble salutations to the Great King of the English who puts the evil men to flight and the troublesome to prison.

I thank the Great King for sending his soldiers to free my country. I have seen the English and I know that they are good and strong people and that all black men follow them. They have delivered me from the hands of the German who are men of darkness, who have no belongings, who are liars, who trouble the people continuously.

I have collected all my people and they all wish to belong to the King of the British, and to his sons and the sons of his sons. May he take them into his hands as a father takes his children, may he show them wisdom and help and teach them to be strong even as the English themselves.

I wish to follow the King of England and to be his servant together with my country that my land may be freshened with dew and that the Germans all unclean things may be driven out. All my people, my old men and my girls, the weak and the strong, desire this.

May the God of the English help them in the fight, may the Great King remain strong in his town, may his life be long and his descendants numerous.

The Germans have troubled us and made our hearts cold and foolish. If the evil that they have done could be weighed it would be more than one thousand kilos. I and all my people beg that we may be delivered from their hands.

There is a very small thing in my hand which I wish to offer humbly to the English King. It is the Chair in which I and my fathers have always sat and which is my strength and power. Also, the two large elephant tusks which are on each side of it. There is no other such tusks in the country. The chair and tusks are nothing to the Great King, but they are all I have.

I, Njoya, and all my headmen and all my people agree to the English flag which hangs in my town and I give greetings three times and give my land and all that I have to the English.

Njoya, 16th King of Bamum.

MOTIVES

It was seen that it was out of curiosity which did not only end in cartography and traversing which we know that Njoya might have had the idea from Max Moisel in 1907. Njoya was an avaricious shrewd learner. He had invented his alphabet, documented the country's medical practices, medicinal plants, chemicals, the history of Bamum, planned to build a printing press, copied the German military uniforms, the Islamic apparel, and set up a sowing industry in Fumban (Geary 1996). Such a man was feared by the colonialists (French) who they saw his writing as another secret code that could be used to topple the colonial regime with (Conversation with Professor Claude Tardit, Paris: 1983). He planned to teach the surrounding kings and chiefs so that they could communicate with one another and many more. However, the one thing that motivated him was the land litigations and the family feud. It was to settle lots of land questions with his neighbours and with his own citizens. This function of the map had been echoed in the past by geographers as Leo Bagrow/ (Skelton: 1964, 20); (18).

LANDOWNERSHIP

The concept of landownership was an innovation in Africa as to other parts of the world where Europeans had not settled. In Africa land was borrowed from its Creator, God and the present borrower was not to adulterate it as it was expected to be passed to the next generation. Similarly, the question of demarcating land would not have evolved from people who had not thought of landownership. There was one reason why Africa would have been the last place where sophisticated maps would have evolved. African populations had been depleted by famine, vice, emigration, and wars. One person was entitled to acres and acres of land. Building was scattered so that one person should have ample land for himself and his progenitors. Where it was owned, it was for the purposes of cultivating ephemeral crops and therefore there was no need of striving to have permanent land. Also, shifting cultivation did not favour permanent landownership that could have triggered cadastral surveys and mapping as in Europe. Even where perennial crops were grown, the land upon which they stood did not belong to the owner of the crops. It was therefore not necessary to demarcate land or to claim ownership. Additionally, certain African religions believed that members would die and the land they lived on would cease to be theirs and there was no reason to claim ownership of any particular land. Having said so, it did not mean that in societies that had no European influence there were no concepts of maps. In an inaugural speech made by the Hon. Secretary of State for the Colonies, Hon. Amery at the launching of the *Empire Conference of Survey Officers* in 1928 he stated there were map and map concepts in those societies [Africa] (19). However, the situation changed in the 20th Century with the abolition of slavery and colonialism. Internecine intertribal wars relatively ended, European medicine increased life expectancy and there was a substantial growth in African population. Man in Africa, instead of wandering as a gatherer resolved to sedentary agricultural life. For the first time there was shortage of land for hunting, for gathering, fishing grounds and so on. The solutions to these were further wars as the one that King Njoya's father Nsangu fought with the Nsoq Kingdom in 1884-1885. In these wars, the fittest gained the greatest territory. When Njoya's father was decapitated in the Nsoq War of 1886, Njoya who born in 1867 was too young to rule. His mother Njapndunke and Titamfon Gbetnkom acted as the king's regents till at the age of ten (1877) when he was crowned. He inherited external boundary and internal land disputes from his father as explained below. Most of the problems stemmed from undefined land disputes, fishing grounds and hunting parks to the north, east and west of Bamum. Moreover, his father was not a direct descendant of the royal family. When his grandfather King Mbowbwo [Mbuambua] died, there were in fights among his sons leading to several casualties as who was to succeed [Tardit: 1996, 143-144], (20).

MAPPING FOR INTELLIGENCE

Certain events in Njoya's life prepared his mind to map. To start with, Nsangu, Njoya's father who was a son of a princess was finally chosen as the 15th King of Bamum. He set out with an ambitious plan to revenge the past vendettas. There was more tumult in the kingdom. He had no means of killing all his enemies within the kingdom. He started

war with his powerful neighbours of Nsoq over the ownership of border region of Mbokiwven and Mbokam where there was the Bamum settlement of Fukkam to the northeast on the assumption that during fighting his enemy brothers would be killed. An occasion arose when the royal wives of Seem II, the King of Nsoq, sent emissaries to Nsangu to return the wives of Taamanjo of Bamum origin who has escaped after the death of Tamanjo, his father. Nsangu killed the emissaries and in retaliation, Seem attacked and dispersed the settlement of Fukkam. Nsangu's saw this as an occasion to wage war on Nsoq. It also became an opportunity for him to eliminate his half brothers Milliom and Ndam so as to secure the succession to the throne by his own son, Njoya. In a battle (1886) in which he Nsangu and his half brothers led 3000 Bamum soldiers to Nsoq, he was instead decapitated and his head taken to the reigning King of Nsoq, Seembum II (Mdzeka: 1990, 82). When Njoya grew up, he swore to revenge and did receive the assistance of the German specialist in bush warfare, Hauptmann Hans Glauning in 1906 (Fanso et al.1996: 100-114). It is not clear whether the Germans attacked Nsoq Kingdom because they wanted to exercise their power or to assist Njoya to recuperate the head of Nsangu, King Njoya's father. The first Germans, von Pavel with eight other Germans, several askaris and porters were warmly welcomed by King Seem II at Kumbo the capital of Nsoq Kingdom in 1902. According to Lt. Col. von Pavel on *"January 15, 1902... The expedition passed through Bansso country, camping at* Kumbo. *The chief (King Seem II) of this well-built settlement gave it a friendly reception and was prepared to fulfill demands punctually." (Deutches Kolonialblatt,* V. 13, p.238) There was no incident until on June 7th , 1902 that Lt. Houben secretly arrived at the capital of Seem II with forty askaris and burnt down the palace because one of the soldiers was assaulted for carrying water from the King's spring. We are not certain that the incident necessitated a war of subjugation. That is why we are inclined to conclude that Njoya had convinced Glauning to assist him in the retrieval of his father's skull. An attack on two fronts was launched on Nsoq on April 27, 1906.

When the joint German-Bamum expeditionary forces defeated the Nsoq in 1906, the head of King Nsangu that the Nsoq had taken along as trophy after his defeat was returned. The Nsoq punitive expedition (April 27th-June 5th, 1906) in which King Njoya with his 200 auxiliaries accompanied the German troops (two regiments of the Schutruppen were engaged; the 1st with 5 Germans, 90 Africans and the second with 6 Europeans and 100 Africans). In course of fighting itinerary surveys as were carried out in Nsoq as Max Moisel in his 1912 publication of *Karte von Kamerun* 1:300 000 series cited Captain Glauning as one source of information. Glauning, the German captain of the expedition to Nsoq, Lt. von Wenckstern, Dr Eckhard, and Sergeant Koeller whites mentioned in Glauning report (Glauning: 1906) collected topographic information and that could have had an impact on the knowledge of itinerary surveys on Njoya. It will be recalled that the German colonial soldier could have promotion based on the amount of survey information he furnished to Berlin (Ngo: 1987). We guess that some smattering knowledge of topographical survey could have been passed to him when he was briefed by Max Moisel in 1907 as he toured the northwest of the colony coupled with his experience in the Nsoq battle.

Additionally, by the way information was collected by the King, it was possible for him to know who was who in the country. In case of any antagonism, he was to know who to turn to from the past history. These factors necessitated mapping for administrative and security purposes. Further, incursions from the west of his territory was owing to a rapid increase in the population of the Bamilekes as their land had become so small as to accommodate them (Heizen: 1984). Njoya saw their infiltration into his territory as a threat. His forefathers had received other waves of foreigners and he was unable to accommodate the next wave of the Bamilekes as the eleventh sovereign King Mbwobwo. This King had enlarged the territory to almost twentyfold (Tardit, 1996: 143). This increase of the territory by forceful repatriation or assimilation meant that the rightful owners were to attempt to regain their territories in the future. (It is strange that the skirmishes between the Bamilekes and the Bamums continue to this day. Most of Bamum is on the plain with very fertile volcanic soils that support all sorts of tropical and temperate crops. Whereas, the Bamileke land is hilly, rugged, with skeletal soils in most places and cannot sustain the growing population. The Bamileke lands were good havens for hiding in the days of Fulani and Bani slave raids (as it was very difficult for horseback invaders). Even within his own people, there were land litigations coming to his palace for solutions. He thought that the map with the names of people holding the land and the property if well documented could act as a refer-

ence bank in case there were fighting over the lands. It was therefore not surprising that upon being briefed on what Max Moisel was doing, he immediately thought of having a map with the names of landlords, linage heads, and the boundaries of their wards that would assist in the settlements of land disputes. The concept of landownership was therefore in certain African societies prior to the advent of the Europeans. As in Medieval Europe surveys and maps first came to settle land disputes as observed by Dr. Skelton (1972: 7) that *"medieval land surveying was a regular process in the settlement of customary rights and dues and in determining the economic relationship between landlords and tenants."* Equally, there are similarities with what went on in Europe in what motivated King Njoya to map his country in 1912 as highlighted in the motivating factors of Skelton below. *As far back as in the 16th Century governments had started showing increasing awareness in the relevance of maps. In the political field, maps served for the demarcation of frontiers, in the economic, for property assessment and taxation, and as an inventory of natural resources, in administration, for communication, in the military affairs, for both strategic and tactical planning, offensive and defensive* (Skelton 1972: 16). However mapping was enforced with the introduction of permanent cash crops, the building of durable structures with rocks and bricks (Brunt: 1959). The land problem was exacerbated with the introduction of cattle Fulani from Northern Nigeria by the British administrators in 1935 into the Adamawa where green grass was plentiful. Similarly, the Mbororos (Fulbes) who had settled in the east of the country needed land and huge tributes (women, palm oil, tusks, goats, and cola-nuts). These increased land demand. Their hummed back cattle they brought along needed lots of exercising and hence adequate roaming grazing space. They triggered the farmers-grazers interminable litigations that are hitherto a very big administrative problem. The traditional "dwarf" cattle were more adapted to the land and caused little damage to both the farmers and settlers. These were phased out and replaced by the energetic Fulani cattle. Apart from inability to control them, their roaming tendency and avaricious feeding damaged the flora and triggered massive gully erosions creating irreparable badlands.

MODERN AND UNSOPHISTICATED

Were Njoya's maps modern or primitive? The first people who commented on the sketches of King Njoya attempted to liken them to the early preliterate maps of the First Nations People of North America, those of Marshall Islanders (Thrower, Lanman: 1989, 90-95), and the Eskimos (Struck: 1908). Actually what they saw was the initial road map Pastor Martin Goehring of the Basel Mission took to Europe in 1907 which we can compare with John Ogilby's 1675 road map, "Map of the Road from Crewkerne to Exeter and Plymouth" [see Moreland et al.: 1986, 28] or John Owen and Emmanuel Bowen's Road Map of High Barnet to Biggleworth [See Britannia Depicta or Ogilby Improved, published in May Edition from 1720 to about 1764] (Moreland et al.: 1986, 29). Upon closer examination, there are remarkable differences in the type of charts/maps of the first group of primitive cartographers vis a vis those of King Njoya. We cannot categorically classify Njoya's maps as embryonic, as strictly speaking, we see an advanced isolated cartography with little or no European or Arabic influence. If there were European influences, the presentation would not have been a strange curiosity to the Europeans. When the Germans came, several Bamum elements had accepted Mohammedanism from the constantly invading Fulanis who had settled in the region of Banyo, Adamawa to the east which was then the southernmost extent of the Islam from Lake Chad (Crawford: 1935). Njoya had made peace with them and one term of treaty was that his people would be converted into Islam. Apart from the official meeting with the Germans in 1902, 1905 and white settlers, Basel Missionaries, and traders of the NW Concession, the first known record of German occupation of Bamum is in 1899. We are also told that he had in his possession a copy of the Koran (Ndam-Njoya: 1977). It is conjectured that these had some influence on his development of the map as well his alphabet, *a ka u ku mfe mfe*. In which case, he had a modern but indirect base, assertion. However, he explained that he had a dream in which was revealed to him a complicated figure representing the letter *pouen* which stood for the hand. He got up and wrote the letter on a slate as was practiced by the Muslim literates. He then washed the surface and drank the ink. The act of drinking was said to have assisted him in his findings. With the assistance of his entourage, he invented some signs and the first to report this was again Pastor Martin Goehring of the Basel Mission. In 1907, there were 419 symbols reduced by 1915 when the British arrived at the territory to 204 symbols. He had used his alphabet extensively with his dignitaries, *Njí*. We can only speak on conjectures as no one knew what he could have accomplished had the jealousy of the French spared him unjustified imprisonment

where he died in 1933. It is disheartening that a man admired by the locals, the Germans, British (Crawford: 1935,436) (21), later by French scholars (Tardits: 1980; 1996), and even the American scholars (Rudin: 1938) for his talents could only be considered fit for imprisonment by the French colonial regime (Ndam-Njoya: 1977).

Additionally, the *Lewa Ngu* as the map is known in Mum language, literally translated as the country's book employed Bamum scriptural writing *a ka u ku mfe mfe* invented by the King himself. He invented this alphabet as an ideographic script in 1900 specifically for the Bamum language. By 1910 he had converted it to an alphabetic one in which he used in the writing of country's code of law, a medical book, history of the Kingdom and used in the annotation of his map our main concern. The other primitive maps mentioned in literature (Thrower: 1972; Spink and Moodie: 1972; International Cartographic Association: 1984; Bagrow: 1964) do not have any scriptorial writing as Njoya's sketches. They were sketched or constructed from memory without the field check as what happened to Njoya's map. Anthropologists have reported that in the course of their discussions of spacial aspects with their African dignitaries (*afai*) in the Kingdom of Nsoq (1950s), they would with the sharp edge of their spears draw spontaneous maps on sand and dirts for illustrations (E.M. Chilver: 1986, personal communication). In other words, the maps of the other preliterate societies were essentially mental maps. It was obvious as in most societies, that maps are required by strangers. There was no need for them as the societies were generally homogenous, unilingual, and settlements, though generally less planned, were not complex. As preliterate societies, that is not book-learned, it was normal to ask for directions. There are several agglomerations in Africa today without street names and people require landmarks for communication instead of maps. Street names were/are not needed as in most agglomerations in the Western communities. Had door to door postal services been established in the land and strict process of population enumeration, then there would be need for planning and maps. This is true today in most big cities in Africa. After the departure of European colonialists in the 1960s only the business district areas and where European towns were located does one find street names. It was often found out that it is visitors that carry along street plans. Locals need no maps except when they go out of their familiar areas.

There was an attempt by Njoya to collect material for his maps as he had seen the Germans doing. However on the writings of King Njoya, Crawford (ibid.) commented that the administrative headquarters responsible for Fumban the seat of King Njoya was at Bamenda some 50 miles away and could not have influenced Njoya's independent thinking, let alone the surveys and drawing of his maps. Other direct contact could have been only in 1910 when an agricultural post was established at Nkutie to the southwest of Fumban. This was manned by a European. Also, the transfer of Captain Adamest then the District Officer for Bamenda to the settlement of Matunke close to Nkutie.

SURVEYS

Having been instructed by the king himself, the expedition under the leadership of Nji Mama and 18 servitors set out to map the entire country in April of 1912. The royal surveyors were equipped with field note books and pencils as would any Western surveyor in the 19th or 20th Century. It is estimated that there were 60 (22) participants in all (Crawford: 1935). Each note book measured 20 x 5 x 16cm and is 22 pages. The expedition set out towards the east in the region of Tikari. The pages and path cutters prepared the tracks and the rest houses for the king. The king closely followed the topographers. The going was very slow as they slept over night in villages (Dugast and Jeffreys, M. D. W.: 1950). According to Nji Mama the chief servitor who was interviewed by Dugast and Jeffreys in 1950, the king occasionally took a vantage position which was like an observatory. It was from here that he would make a reconnaissance survey of the land. It was from the vantage position that he noted the points of reference. Note was taken of market places, oil palms, raphia palms important in the production of palm wine for entertainment, forest galleries, marshes, village borders, or village concessions, perfect structures and even those that were dilapidated. With the assistance of watches, the team was not supposed to omit the time it took them to accomplish their task from one stage to the next (Dugast et al: 1950, 69). Upon their return to the Palace, Njoya personally verified the work of everyone.

How was it done? In each of the villages, the village head or a Nji was approached who appointed someone who knew the terrain well. This individual would give them the territorial limits of village and the names of the human and physical features.

He would then accompany the expedition to the village border of the next village. At the border, the representative from the next village would confirm the limit of his own village. If there were any discrepancies as to the exact location of the villages, the matter was then drawn to the attention of the King who would there and then resolve the matter with the help of a rope he used in measuring the disputed land at the border of the two villages. He followed this procedure when the palaver was brought to his tribunal. He would then mark with red ink on his map personally the borders he had decided after listening attentively to the litigations of the two villages' representatives. In case where the villagers settled the matter themselves, he did not interfere in their dispute.

The surveying continued in a similar manner and here is an excerpt of what actually took place on the ground: Going back to our expedition to Mantum; From here it directed itself towards the south and halting in ten stages, it reached Massangam located at the Mbam-Nun confluent. The expedition stopped here and sent a small group to explore the environs of the confluent. From their last stop, it took them three days' march to reach the confluent. From this location, they climbed along the Nun valley, took a south-westerly direction to the Nkogam and Mbapit Massifs. These were traversed before reaching the Mbam mountain range that extends to almost half the length of the territory. From this range halted at 13 other stages before stopping in the compound of Pa-Nguren, in the village of Monget. It was then the beginning of the rainy season in the month of March and the King decided that the expedition should return to the capital. Before reaching at Fumban, the expedition stopped at two other stages on the Kupa-Matapit trail. Upon reaching at Fumban in March of 1912, the expedition had gone through 30 stages and surveyed 2/3 of the kingdom in 52 days. Based upon the report of Nji Mama, the royal chief surveyor,the expedition set out on Sunday January 12, 1912 in the dry season and ended on March 4, 1912 when the first rains started falling.

There was still much to be done and there were plans to continue in the dry season of 1912, November or December unfortunately, the Queen Mother Njapndunke, the mother of the King was gravely ill and the King did not want to leave her bedside. She died on June 13, 1913. The funeral celebrations lasted for almost one year thus disrupting the resumption of the surveys. The grieving period was disrupted by the First World War in 1914. In 1915, the British troops arrived in Fumban. The following year, 1916 they received a map of the country from Njoya for the Great King of the English people. If that is the case, then the map that was sent to the King of England now in Kew Depository, London, the U.K. was unaccomplished. According to the French Lieutenant Clapot then acting French administrator in Fumban, Njoya could have resumed his surveys in 1918 but was stopped by an out break of consumption epidemic in the country. However, in around 1919 the topographers resumed their surveying tasks principally in the town of Fumban within the war trenches surrounding the town taking note of family parcels of land. The trenches as the castellated walls of the medieval maps in Europe, were given exaggerated emphasis. They are depicted with hachures and rounded pebble-like circles and the seven fordable crossing points are indicated by bigger circles. Main roads indicated by double-barreled lines in red and secondary paths or tracts are shown by single lines. Although, the width varies from place to place owing to the artists free-hand sketching, those tracts without a key will automatically be understood by any western map reader. Much detail is given to the features-human/physical at the vicinity of the palace (fig. 5).

The King who was still shattered by the death of his mother gave the reins of the surveys to his chief servitor, Nji Mama and his brother who did an excellent job (Tabouret: 1935, 121-126). It was not until 1920 that King Njoya terminated the surveys of 1/3 of the country that was still remaining This was mostly the area of today's Mantum and Monyet where he had terminated on the fall in the rainy season of 1912. This time the expedition followed the trail from the north to Mbam Massif then descending the River Nvi valley. It then left the Nvi plain and headed for the River Mbam having to finally terminate on the 13th stop. The king was satisfied that the surveys had been accomplished and the task remaining was to compile all the information in the vade cumens in a map form.

COMPILATION

The huge task of compilation and draftsmanship was entrusted in the hands of Nji Mama and his brother Ibrahim Njoya, the latter a royal servitor was also one of the field surveyors. The outcome was the map of 96cm x 78 cm. This greatly differed from the 112cm x 89cm dimensions of the manuscript

map inspected by the author in the Duala Municipal Archives in March, 1983 titled La Carte du pays Bamum par le roi Njoya and signed by Nji Mama the head cartographer of the King(23). The rationale being the fact that all the maps were all painstakingly hand drawn by the King's self taught chief cartographer Nji Mama whose signature in French appeared on the map at the Duala Municipal Archives.

SYMBOLISM

The symbolism here is completely different from what a western cartographer will employ. As a work of art, it may be different from the European aesthetic appreciation. A river symbolized by yellow is as rare as a flowing river in the centre of the Sahara. They character employed are that of the King himself, *a ka u ku mfe mfe*. In the case of punctiform designation, the alignment of the letters are to a western trained cartographer the same as Greek. The fact that the characters are somewhat ideographic presents a confusing picture to a foreign reader as there is a less developed key or scale. The tendency is for the reader with no knowledge of the *a ka u ku mfe mfe* to mistake them for pictorial symbols. Tracks are drawn with china ink as well as annotations; the rivers and streams or tributaries take green; and some of the rivers are yellow; village borders are indicated by red hachures. The western cartographer has in mind since the beginning of the 18th Century due to the influence of German cartographers' notion that the higher one ascends, the darker the colours for depicting the topography. It has been the norm that green stands for low lying generally flat area. Red and yellow for roads and black for linear features or boundaries. Light blue for rivers and canals, and navy or marine blue for deep waters, and seas. In the case of Njoya's maps, rivers are yellow, and some of the rivers are green, village boundaries are indicated by red hachures and the flat terrain is indicated by an arrow; the zenith of hill by two arrows. It was an unusual development in that colours were added to by the cartographers of the King at the same time that they were drawing their maps. In the early Western maps fair drawing or printing was in black and white and colours were subsequently inserted by cartographers, pictorial artist-painters, illuminators or miniaturists as they were variously known at their leisure (Barker et al.:1991,9). Mechanically coloured maps appeared in Britain in 1889 (Barker et al. Ibid).

The colouring employed by Nji Mama and his colleagues would have puzzled a school pupil in the west as red and green colours are used to depict water. We can understand why rivers could be green as the rivers on the area passing over black volcanic basalt tend to project a dark green colour upon the reflection of the vegetation on the banks. What is still waiting psychological studies is the fact that red is used for the depiction of rivers in certain parts of the map. The author had observed a similar phenomenon in 1992 in the art work being exhibited in the Harare National Gallery, by Mr Takawira a self-taught African fine artist and soap stone sculptor. He had painted a landscape and used red for rivers and lakes. With my background knowledge of blue for water as started by the German cartographers, what comes to my mind was that he was depicting bush fire. Fire was reinforced in the author's appreciation because he tried to redefine African art to tally with the Western-schooled aesthetic of appreciation. The author came with foreknowledge that blue was for water or sky. There was that temptation lots of Westerners fall into when they meet other cultures that differ from theirs that it was wrong and primitive. It was upon further questioning that he explained that red was for water features. It will not be concluded that this was a primitive art work based on what we have been taught in school, so will the temptation be to catagorize Njoya' cartography. Takawira with his little influence from Western Artists had the privilege of exhibiting his work at the Barbican, London, U.K. in 1988 and among the visitors was the Prince of Wales, Prince Charles who compared his work with the work of the First Nations Peoples(25). Profound differences could have emerged in the maps of the African King and that which we are taught in school because we are told that the techniques and designs employed are ideal sometimes with no or some scientific backing. This becomes the norm and as stated above any digression from it looks askew. If we are not taught the proper colour to use we may come out with something better or more admirable than what we think that is the convention. For instance, green is used in desertic areas where the terrain is brown, barren, and undulating. This must be a misnomer. Equally, white is used to depict the very highest elevation. The origin of this is from the commonly snow-capped mountains in Europe where there is always snow. This technique of presentation of elevated relief is now used to depict very high landscape in those areas where there is no snow. The

experience during the Second World War from khaki uniformed American soldiers have made young Japanese growing up today to even avoid the use of green in their cartography or if they do it is done rarely and sparingly (personal communication with Japanese students at LSE, 1986). So are some African communities uncomfortable when using snow white colour as to them, this signifies death. It is for this, and sundry reasons that we may have hidden meaning in Njoya's symbolism. This requires careful study if at all we have to read his maps between the lines.

DISCUSSION

After this examination, we cannot categorically describe Njoya mapping or maps as primitive. However, if our examination had only ended with the first map of the road to the farm his late father gave him and the farm as described by Struct (1908), we could be justified. His maps are just unique and out of our school-inculcated paradigm. This is challenge to students of history of cartography and psychologists to study how a newly literate people can present their spacial information. Njoya's maps are inspirational, far advanced from the stigmatization and generalization of the German cartographer, Leo Bagrow (ibid.) that primitive people [Africans and non-Europeans] cannot draw maps as Westerners. When he describes the conditions that would bring maps within a people he classified primitive people including Africans as not having that quality (Bagrow: 1964, 25). His reasoning is that a man who lives close to nature does not require maps and therefore will not draw them. After a good examination of Njoya's maps, we will need to think twice before supporting Bagrow's statement. Njoya did not make arm-chair maps as was common with the early European cartographers. We saw that he actually went to the field with a team of surveyors to collect information. As he was interested in the documentation of cadastral variables, coupled with having no concept of generalization we have today, he collected appropriate attributes for his maps unlike the ancient cartographers Struct (ibid.) attempted to compare his early sketch to. In which case his maps are more authentic for the task designed to be performed. Njoya lived close to nature and drew sophisticated maps. Bagrows' allegation that not all races can draw maps is far fetched when he stated that *"Another prerequisite for map-making-an aptitude for drawing-is not present in all races, and where such a gift exists it does not necessarily include the ability to draw maps. It has been observed that, in general, races given to stylization of animal or human figures and to ornamentation of their utensils draw either no maps or very bad ones. Talent for drawing, not dependent on a certain stage of development or degree of intelligence, can be gauged by the way in which object engaging his attention is placed in the foreground, large and unconnected to other objects around it. Neither child not savage immediately observes perspective. There is no uniform method of representing objects; some are in plan, some in elevation"* (Bagrow: 1964: 25). If there are differences in perception or ability to do certain things better than others, it is because of the environment we grow in as highlighted by Bronowski (1973: 50) and our biological adaptation. According to him, *"...biological adaptation in Homo sapiens are not large; we are rather homogenous species because we spread so fast from a single centre. Nevertheless, biological differences do exist between groups of men, as we all know. We call them racial differences, by which we mean exactly that they cannot be changed by a change of habit or habitat."*Therefore the question of primitive or lacking in certain abilities does not exist if people were to grown up in the same geographical locality exposed to the same human or natural environments. On this point, it would be presumed that Bagrow and his followers had not seen the contribution of Njoya in the science and art of cartography as most of us will be seeing it in the West for the first time. We are certain that most scholars will have to rewrite their text books above all critical analysts of the world history of cartography and ethnographers that influenced some of our perception of the so-called primitive communities. Among all the primitive maps that are there, his would be considered a super primitive map. We may point out certain parameters that are not senso stricto phenomena of maps in the Western definition of a map. It would be because we have been schooled that what is right has to be the way we have been taught. We are all confined in a paradigm but it is he who digresses or a new comer in the field that injects in it innovations. Cartography like the Script of Njoya is an evolving science. The aesthetics of map compilation is changing now with artificial intelligence (GIS) coming into the discipline (Lee: 1995, 34). The symbolism of such maps will definitely be different from the petroglyphs, pictures with possible map elements found in the centre of Sahara, or our early 19th century cartography and King Njoya's maps. There is not doubt that King Njoya's map would have independently evolved with time as did his

writing from ideographic to scriptural in less than a decade. How did he know that it was necessary to have a key? He provided one and where a key was not possible he annotated it as legibly as some of the early maps we know. He had a relative advantage over maps of those preliterate communities in that he could use his script. What we see in his map was the embryo as further alluded to by Brown (1977: 12) that *"Cartography was not born full-fledged as a science or an art; it evolved slowly and painfully from obscure origins."*

Njoya's map is that innovation that we see in other scientific disciplines that leads to inventions. The conventional cartographer, by which we mean a Westerner looking at the discipline with the western spectacles will in a decade's time may not see the goodness in Njoya's map. There are irregularities as orientation. The present territory that measures some 200 by 70 kilometers in dimension approximately would not require a sophisticated compass. General Dobell in 1916 gave the land mass to be 3000 square miles(24). However, the locals had learned of a way to navigate by taking note of key physical features like the Mbam, Nkongam, the rivers Mvi, Nun and so on. The open territory and ever clear visibility of sometimes 60 kilometer from vantage points in the country did not necessitate the use of a compass for the Bamum world where a venture outside the designated territory would have meant death or being captured and sold into slavery. Therefore there was no need for fixed cardinal points as known in the west where vast territories or global perspective was necessary for economic survival. In fact, the capital was the center of every thing in the country and orientation was in the term of the capital. The capital was the reference point of any representation of space to the people of Bamum. For example agglomeration of villages would have their prefix as ma, such as Massanga, Marumbo, etc..Ma stands for below in reference to Fumban, the capital. In terms of London in the UK, Southampton that is lower in sea-level than London would be called MaSouthampton. Those nomenclatures commencing with Nku stands for above the capital Fumban, such is the settlement of Nkutupi; Mfo stands for the same uncalculated datum with Fumban, etc. If one were from a place of high altitude, he would refer to a place that was below with the prefix lower. In which case Marandum became Nkorandum. For instance if one were in Reading in England that is higher in elevation than Bristol, Britol became Lower Bristol and if one came from a location lower than Bristol, his geographical point of perception would become Upper Bristol. If the Bamum elements are describing their country, they always speak as if they were in Fumban. In the world of the Bamum, locations are always up or down vis a vis the capital of the Kingdom. The Germans who first came to this Kingdom did not know their concept of toponymy and mixed up the above phenomena. The locals did not understand what the Germans maps (1: 300 000) that were still the only reliable sources of topographical information in the 1960s were all about. It was because the local system of toponymy was not followed. This was further complicated because the Germans used the fulanis who were non locals to give them information. This injects a complete different orientation to in the eyes of a Westerner.

Settlements away from the city determine it appellation besides the use of the Nji' names that ended on their death. When the Germans were the colonial masters, names of late Njis were maintained. The French administrator who came after the Germans insisted that only the names of the reigning Njis be recorded as those of the settlements. If one was missing in the locality, all one needed to know was to ask for the name of the settlement and that gave him a clue as to his location relative to the capital. Here we have a very fertile territory where people were self-sufficient and could live off the land. Without any pressure of population explosion, cadastral problems as those that triggered the production of cadastral maps in the 16th Century (25a), and foreign influence maps would not have been necessary. Would a map be necessary in a settlement that has no street or place names?

African traditional art in general, before the coming of Europeans was and still is essentially volumetric (Dempter: 1962; Allison: 1962). It does not mean that they cannot portray their modern life two dimensionally. In fact, the San people (26) have demonstrated that they can be good rock artists (Vaughan: 1962). The Egyptians had demonstrated that they could carve and draw at the same time. They relied upon the materials that were available, papyrus reeds and rocks. Africans and Indians of the forested regions used wood. Therefore the medium of presentation depended on the materials that were present in abundance. It is true that the pre-European arts were child-like to a western schooled artist because they are two dimensional. Similarly, those of Njoya depicting his fore fathers, the old burnt palace built by his father Nsangu (8th Sovereign) and his grand father Mbombwo (the

seventh sovereign) before the new brick palace are aesthetically pleasing, but two dimensional. Personally, Njoya's drawings are sophisticated and one tends to see little or no difference between his work and those of other European artist cartographers that existed before Leonardo da Vinci (1452-1519). However, one thing thus images that shows great similarities between the work of an indigenous African cartographer like King Njoya and European in that they all operated as artists-cartographers or as artists at one stage in their profession (Thrower: 1972; Bagrow: 1964).

CONCLUSION

Njoya's map show some characteristics that are essentially African and if Njoya were to remain without being imprisoned he could have revised his mapping skills and come out as he had done with his writing to be worthy of being emulated. Today, not a single musty copy of his maps can be found in his former kingdom and the Bamum elites are not even interested. What is salvaged from the vanishing culture of one great leader are the works of European anthropologists (Tardits: ibid; Dugast et al.: ibid.; Chilver: 1981). What the locals told the author is that Bamum script is still studied in intermittent summer schools. It is like learning Latin today in the West. Apparently, the imprisonment of King Njoya buried with him the grandeur that was his kingdom. If it were possible for the indirect rule that allowed African traditional leaders to stay with their power as in the British sphere, Njoya's cartographic contribution could have been phenomenal. We never can tell what his maps and his mapping skills could have done for the other tribes of Africa. He had demonstrated that with his writing he could document the history of his country. It was no longer oral tradition that characterized the other kingdoms that surrounded him. For instance, names of former Kings had for the first time been written correctly so was the medicinal plants that were used for the cure of his patients. These could be seen in his publication (Njoya: 1952). If the Shonas of Zimbabwe (Dzimbabwe) had a remotely similar publication, maps, etc. the early white settlers and scholars could not have been denying that their Kings were responsible for the building of the great Zimbabwe ruins. Some Europeans were convinced that such advanced architecture could not have come from Africans and that it could have been the work of some Portuguese settlers or Arabs. Similarly, there are scholars who will disagree with the allegation that "all industries came from Egypt and all sciences first shone forth there" [cf. Pirenne, ii, 505] Diop: 1974, 218). Ever since this statement was made scholars like Martin Bernal (1989 and 1991) have poured out hypotheses and archaeological evidence to prove that Africans who inhabited the Nile valley were responsible for most of the early scientific discoveries. Greek scholars learned these for eventual dissemination in Europe and the Asia Minor. According to Dr Bernal, Classical Civilization has deep root in Afroasiatic cultures. He went on that these have been "systematically ignored, denied or suppressed since the eighteenth century-chiefly for racist reasons" (Bernal: 1989, 1). David Bjerklie on looking at the spread of primitive art was considering that "perhaps the original Homo sapiens population in Africa invented art and carried it to other regions" (27). If they had written books or drawn near accurate maps as King Njoya, we have been reviewing, there would not have been any scientific bickering over archaeological or oral evidence. If other traditional African leaders were like Njoya and if Njoya's achievements [textile and tailoring, working with iron and brass, the riding of horses, modern architecture with the use of fired clay bricks, the building of a printing press, compendium of traditional medical diagnoses and herbal cures, formation of a religion for his people that was to encompass traditional Bamum, Christianity and Islam, collation of Bamum fables, legends, and philosophies, etc.] were not plucked at their buds by the French colonial regime, if other Africans had emulated him, if the present generation of Sultans after Njoya had carried on with his endeavours, Africa would not have been backward in scientific advancements as it is today. The French forced him to abandon his projects, the casting of his script for the printing press he designed in brass. What have Africans done to promulgate the achievements of king Njoya? Europeans visited several kingdoms in Africa. How many of their kings were so enthused in the ways of the Europeans as Njoya and how many will be by the turn of the century? Njoya carved his name in the early African map and his maps immortalized his Kingdom to the extent that today local governments respect Bamum territory as was preserved by the early colonialists. Perhaps the best way to conclude is to recapitulate what a remarkable American historian, Harry R. Rudin said of King Njoya. "...he lived in a huge and somewhat labyrintine palace, a king whose friendship the Germans valued and guarded. People like Njoya are rare in the Cameroons, and in the whole world, for that matter, but he stands as a remainder of the great native intelligence found in African Negroes and

makes one realize that Africans are not people so backward in culture and so lacking in intelligence...(Rudin, 1938: 113). It is anticipated that this review will stimulate the locals to carry out further studies into King Njoya' cartography.

FOOT NOTES

(1a) Topographical map as defined in the *Multilingual Dictionary of Technical Terms in Cartography*, 1973 as "A map whose principal purpose is to portray and identify features of the Earth's surface as faithfully as possible within the limitations imposed by scale". [charts, terrestrial or celestial representations]

(1) Racial inferiority: psychologists have demonstrated that there is no IQ differences due to genetic differences between races, but environmental factors (see Jonathan L. Freedman. *Introductory Psychology.* 2nd Edition, Don Mills: Additson-Wesley, 1982 pp. 403-404).

(2) ibid.

(3) defined as *"an economic system characterised by a free competitive market with private and corporate ownership of production and distribution means, and directed to the accumulation and reinvestment of profits"* Readers' Digest Universal Dictionary. London: The Reader's Digest Association Ltd. 1987, p. 244.

(4) Brody: 1953, 73)

"It is said that famous men are usually the product of unhappy childhood. The stern compression of circumstances, the twinges of adversity, the spur of slights and taunts in early years, are needed to evoke that ruthless fixity of purpose and tenacious mother-wit without which great actions are seldom accomplished. "(Marlborough, His Life and Times, by Winston S. Churchill, Scribners.)

(5) [Crawford: 1935, 436]

"To begin with it may be said that the occupation of Foumban by the Germans in 1899 could have had nothing to do with the Sultan's invention of signs (and mapping capability, my italics) that should have been incomprehensible to Europeans as well as to the natives knowing Arabic writing. The Bamoun were then already Musulmans; many could read the Koran, and use Arabic in business correspondence with the merchants recently arrived from the north. But we must define out terms, when we speak of the German' occupation'. The German could hardly have caused any inconvenience even to the inhabitants of Foumban, for their administrative station was situated at Bamenda, more than 50 miles distant, across a range of mountains. The Sultan was represented there by clerks who translated his reports to the Resident. It was not until 1910 that an agricultural station was created at Nkutie; then in 1913 the district of Bamenda was transferred by Captain Adamest to Matunke near Nkutie. In actual fact the Germans were never in the immediate neighbourhood of Njoya and did not attempt to molest the Sultan."

(6) "For here we do seem to have got an idea that of writing in abstract (and mapping my italics)-which was immediately adapted to the local conditions. Njoya did not take over any ready-made system of writing (cartography-my italics); he evolved his own system. No doubt he knew of and had often seen examples of writing; we are told that an Arabic script was actually in use in his kingdom *[introduced by the Fulbes from Banyo, my italics]*; and doubtless European books and newspapers were not entirely unknown. Nevertheless, these systems had little if any direct influence" (Crawford: 1935, 440).

(7) See Pastor Martin Göhring in " Der König on Bamum und seine Schrift", *Der evangelische Heidenbote (Basel)*, Vol. LXX, Nr. 6.

(8)*"C'est le 6 juillet 1902 que le Capitaine Ramsay et le Lieutenant Sandrock penetrerent pacifiquement dans Foumban. Ils vinrent, dit un vieux texte ecrit dans l'alphbet dont nous nous occupons ici, avec une troupe de cent-dix-sept personnes (leur porteurs, domestiques et tirailleurs). Dans ce texte, leurs noms sont naturellement fort estropies, celui de Ramsay n'est même pas reconnaissable: il y est question de Umalotna (Oberleutnant) Sandalot, et du Kamaendap masa Anuas (Commandant master ?). Sans nul doute s'agit-il de nos deux officiers. Ils étaient arrivés du Sud-Est. Ramsay venait de Banyo et, passant par Ngaoundere, Tibati, il descendit chez les Tikar de Ngambe. Là il rencontra Sandrock,, marcha avec lui sur Ditam et, continuant vers le sud, leur expedition traversa le Mbam, en direction de l'ouest, à la hauteur de la tribu des Bakwandjim, près d'un village appelé alors "Mugging, à l'endroit où l'expedition von Schimmelpfennig avait-elle même franchi le Mbam". Marchant ensuite vers le Nord-Nord-Ouest, ils atteignirent Fouban (1). Ils dressèrent leurs tentes à l'interieur des ramparts, sur un terrain que les Bamun*

leur indiquèrent, à 1 km. Environ au N.-E. Du palais de Njoya. C'était au lieudit Ma'lom, à proximite d'un bois où l'ont jetait les charognes et les cadavres qui devaient rester sans sepultures. Ce bois, actuellement disparu, montait jusqu'a l'actuel emplacement de la Mission catholique." (See footnote 9 infra).

(9) See *Deutches Kolonialblatt*, 1902, Nr. 24, p607: Hauptmann Ramsay über seine neueste Reise im Gebiet der Nordwestkamerun-Gesselschaft.

(10)*"Bamum (c'est ainsi qu'il denomme Foumban) fut atteint le 13 Avril. De toutes les tribus connues jusqu'à maintenant, Bamum est de loin la plus importante en grandeur d'abord et dans son organisation bien ordonnée et uniforme. Bamum est à ume attitutde de 1.220m., presqu'à la même altitiude que la rivière (le noun a bgam). La descente vers l'Est commence loin derrière la ville. Ce terme de ville est bien merité, de par la grandeur et le bon ordre des rues, l'ordonnance reguliére des maisons et la proprieté qui règne partout. Bamum est fortifiée, deux fossés la protègent , de 6m. de profondeur et de 4 m. de largeur, ainsi qu'un fort rempart percé de plusieurs portes. De nombreux hameaux et fermes se rattachent à la ville même, parmi lesquels it faut placer une grande colonie haoussa qui occupe son propre quartier. Le chef NJOYA, pour qui le titre de lamido est deja employé, est un homme qui, à tous egards, en a accompli toutes les espérances (attachées à ce titre). Njoya est un grand ami de tout ce qui est allemand et a renouvelé l'assurance de son devouement. L'autorité personnelle de cet homme, la situation relativement grande qu'il occupe et sa manière de concevoir les choses le placent très loin au-dessus des autres chefs de la region. Ses qualités propres, dont la preuve reside dans les ressources qu'il tire d'un pays étendu et peuplé, le front apparître comme ayant les quatlités necessaires à la fois à la propagation de la civilisation et au developpment du commerce.*

"La reception et les soins que je reçus de lui furent grandioses. Ce que j'ai vu me fit une impression de bon ordre, qui est le meilleur temoignage de l'autorité dans bornes dont jouit NJOYA. Tràs sympathetique apparait son attitute attentionnée à la fois de lamido et sa sujetion vis à vis de sa mère. Celle-ci qui porte le nom de Na (Na is not a proper name femine nobility title), jouit d'un grand air. C'est une femme intelligente et habile qui, comme son fils, par toute la discretion de son maintien, de pose comme une personnalité parfaite.

"La frequentation du marché est importante. Lorsque je l'ai visité, il devait y être reuni environ 4.000 personnes....Le mode de paiement prefère condidte en cauris; je n'ai pas vu d'argent...

"L'arrêt à Bamum fut l'occasion d'échange de visites de politesse reciproques, au cours desquelles le chef amenait avec lui une de plusieurs centaines d'hommes, et quand je le visitai, une assemblée de 1.500 a 2.000 personnes s'etait reunie autour de lui."

(11) *"Er selbst hat der Sache weiter keine Bedeutung beigelegt; und als Herr Kartograph Moisel Ende des vorigen Jahres in Bamum war, leiss sich Ndshoya von ihm eingehend die Methode der Routenaufnahme und die kartographische Arbeit Arbeit in der Heimat erklaren, so dass es auch als ausgeschlossen gelten kann, dass Ndschoya schon vorher diese Dinge, etwa bei Ramsay, kennen gelernt hatte. Wie in den meisten seiner merkwurdigen, interessaten Erfindungen, ist Ndschoya auch als Topograph Autodidakt."*

(12) *Deutsche Kolonialzeitung* 15, 1908, p. 271.

(13) [ANCB Qf/a/1917/1 (No. C/25/17) Major General C. M. Dobell then commanding the Allied Forces at Duala to the Rt. Hon. Bonar Law, Secretary of State for the Colonies]This map can be seen in Kew Garden Depository.] Apart from this priceless copy, the only other adulterated copy is to be found in the Duala Municipal Archives in Duala, Cameroon.

(14) Factories were business depots for collecting and distributing goods. They also served as rest houses for caravans (porters and their leaders).

(15) *"In embracing the Bamum area, I would point out that this district is perhaps the most important and influential of the whole of Cameroons. The King of Bamum is a chief of great dignity and importance and during our occupancy of this district when Mr Stobbart the District Officer was administering the area. Previous to our handing over to the French, it was the chief who said without any hypocrisy "that the Bamum people are a small people, but they will work like sixmen for the English and pay six men's taxes to the English King." The political influence of Njoya, King of Bamum is very considerable and the departure of the English filled these people with dismay. ....(I enclose copies of a letter from the King of Bamum and a covering letter from Major-General Dobell forwarding the original letter to the Secretary of State).* [Despatch Buea Archives No. C/25/17 page 5].

(16) *Government House,*
Duala.
2nd February, 1916.
African Expeditionary Force,
No. 231/1916.

Sir,

I have the honour to forward herewith a letter with translation, addressed to his majesty the king by Njoya, the chief of the Bamum tribe, conveying his gratitude for deliverance from the Germans and a petition for British protection.

2. *Njoya's territory, of which Fumban is the chief town, is some 3000 square miles in extent, and he rules over a population of 85,000 somewhat primitive pagans, whom he so successfully organized and consolidated that, after his accession to the chieftainship, when a mere boy, they were able always to hold on their own against all attacks from Fulani forces from Adamawa.*

3. *The character in which the letter is written is are those invented some years ago by Njoya himself for the purpose of reducing the Bamum language into written Roman or Arabic characters being then, and I believe still unknown to him.*

4. *Since the occupation of the Bamum districts, by the Nigerian and Indian troops in December last a British garrison and Political Officer have been stationed at Fumban and Njoya has, I am informed, been of the greatest assistance in many ways to them. The offer of his hereditary chain and tusks is not I think, intended to be taken quite literally, but is meant to indicate that he is anxious to devote himself and the power of which the chain and tusks are a symbol to his loyal service to His Majesty.*

5. *The sketch which accompanies the letter is, like the letter, the handiwork of Njoya himself, and is meant to represent his territory with its rivers and towns.*

6. *I would add that this letter is spontaneous, the idea of it and its phraseology are his own, and he must be well aware of the results which would follow, should the Germans ever return to Fumban on their discovery that such a letter had been written by him.*
I have etc.

(Sgd.) C. M. Dobell
Major-General
Commanding the Allied Forces.
The Right Honourable A. Bonar Law, M.P.,
Secretary of State for the Colonies,
Colonial Office,
London, S. W.

(17) My search for the authentic manuscript map of King Ibrahim Njoya gave me the following reply from Sir Robin Macworth-Young, the Head of the Royal Archives in Windsor Castle.dated May 28, 1982 stated that *"The Royal Collections of Drawings is held in the library and I much regret that there is nothing in it answering to the description in your letter."*

(18) *"Old maps, collated with other materials, help us to elucidate the course of human history. When in 1918, a mosaic floor was discovered in the ancient Transjordanian church of Madaba showing a map of Palestine, Syria and part of Eygpt, a whole series of representations and treaties was published on the geography of Palestine at the time. The map answered many hitherto unsoluble questions, for example the question as to where the Virgin Mary met the mother of John the Baptist."*

(19) *"I suppose it would be true to say that the science of survey and cartography goes back to the very earliest beginnings of human history. For war or peace the tribal topographer, whether he could only give description, or whether he could supplement that by map scratched on a piece of borne or by shapes of twigs to show the relative positions of land and water, must have been a person of considerable importance and I hope he got his proper share of the loot at any rate I have no doubt that he did not neglect to press for it in the interest of service. There is one thing I like to add...because I came across it the other day in the Pacific-, the fact that in the very early days the Polynesians used a form of sextant (made out of coconut shell which they employed for navigation.... What I wish to go on to say was if cartography belongs to man's earliest experience as huntsman or warrior or voyager in canoes, the more accurate science of mensuration of survey in the stricter sense, comes to man when he settled down to agriculture."*

(20) *"A series of tragedies were to start with the end of his (King Mbombwo) reign. The sons of the ailing King divided over the forthcoming succession, started to kill each other. The servitors of the Palace, whose great numbers gave them power, also killed many if the sons and, as a reward appropriated some of the wives of the dying King.*

One of the few sons of Mbombwo to escape massacre succeeded to the throne, but the Palace servitors, fearing his retaliation, killed him. A young son of the dead King succeeded briefly to the throne before being murdered by the Palace servitors. The chief of the King's guards, formerly a war captive, seized power. This slave reigned for several years before being eliminated by the son of a

daughter of King Mbombwo. There were no more male descendants and therefore, in accordance with custom, it was Nsa'ngu, the son of a princess, who reigned.... Therefore, to bring the country back other, Nsa'ngu set about executing all those who had taken part in various violations of Bamum laws."

(21) Despatch Buea Archives No. C/25/17/ p.4).

(22) Here are the names of some of the field participants: There were Nji Mama was the leader of the group, Monliper, Ibrahim Njoya, Laponte The foMeku, Kpumie Petro, Salomon Njikam, Njiyam 9Nji Mantwm) [Mantuam], Nji Mbwem, Benjamin Kpume, Anjwe mpaam, Thomas Njoya, Mvu Derema, Pweywena Njimokye, Lawem fafa, Manga, Nsangu Nkena, Pwenfane, Koutu, Mengam, Mwndw Mbuonjo, and Jacob Nkuandu]]. Some of the notes books can be seen in the Musee de l'Homme in Paris. [Object of Collection No. 34.171.1377].

(23) This Municipal Library was formerly the headquarters in Cameroon of Centre de l' Institut Francaise d'Afrique Noire (IFAN).

(24) See Buea Archives No. C/25/17 p. 4).

(25) Amerindians or Aboriginals of Canada.

(25a) According to Dickinson (1979: 32) landownership led to the production of maps. As in Bamum, "Landowners of all kinds, and not least those who had newly acquired considerable estates following the dissolution of the monasteries, found it increasingly convenient to have maps of their lands, especially in settling legal actions and boundary disputes."

(26) The were derogatorily in the past called the Bush People of Africa. They prefer to be called the San. Briefing from one of them who was our guide at the Okavango Inland Delta, 1994.

(27) See the *Times*, February, 13, 1995: 52

* maps of Abraham Ortel [Ortelius] with his *Theatrum Orbis Terrarum* published on May 20, 1570; Gerard Mercator who was an artist, mathematician and cartographer-1578; the Dutch Lucas Jansoon Waghenaer (1584); Jodocus Honduis (1606); Blaeu's polygot maps said to be prodigious of highest quality in most main European languages (1629); Jan Jansson [Dutch] 1633; Nicholas Sanson (1629) often referred to as the Father of French cartography; Jean Baptist Bourguignon D'Anville (1750) drew for Louis XV; Sabastian Munster (circa 1550) is noted for his early maps of England; Christopher Saxton of Yorkshire (1570), England produced the first national atlas of all the counties of England and Wales; John Speed is well known for his publication of *Theatre of the Empire of Great Britain* (1676); etc...

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From the editor:

Gratitude is extended to all individuals who have contributed articles to this edition of the *Bulletin*. I would also like to thank Mohammad Bessadok for assisting me with the diacritical marks on the German and French citations.

To reiterate the sentiments expressed by our President, Alberta Wood, without articles the *Bulletin* will cease to exist. The bonds of friendship and professionalism that we as a unique group of individuals cultivated over the years are strengthened by having a professional publication. Our common love and interest in cartographic material is shared in the *Bulletin*.

Therefore, I would ask our readers to become active participants in our publication. Share your intellectual resources and ideas with our audience.

Please send me your contributions today!!

Sincerely,
Rosaline Milks

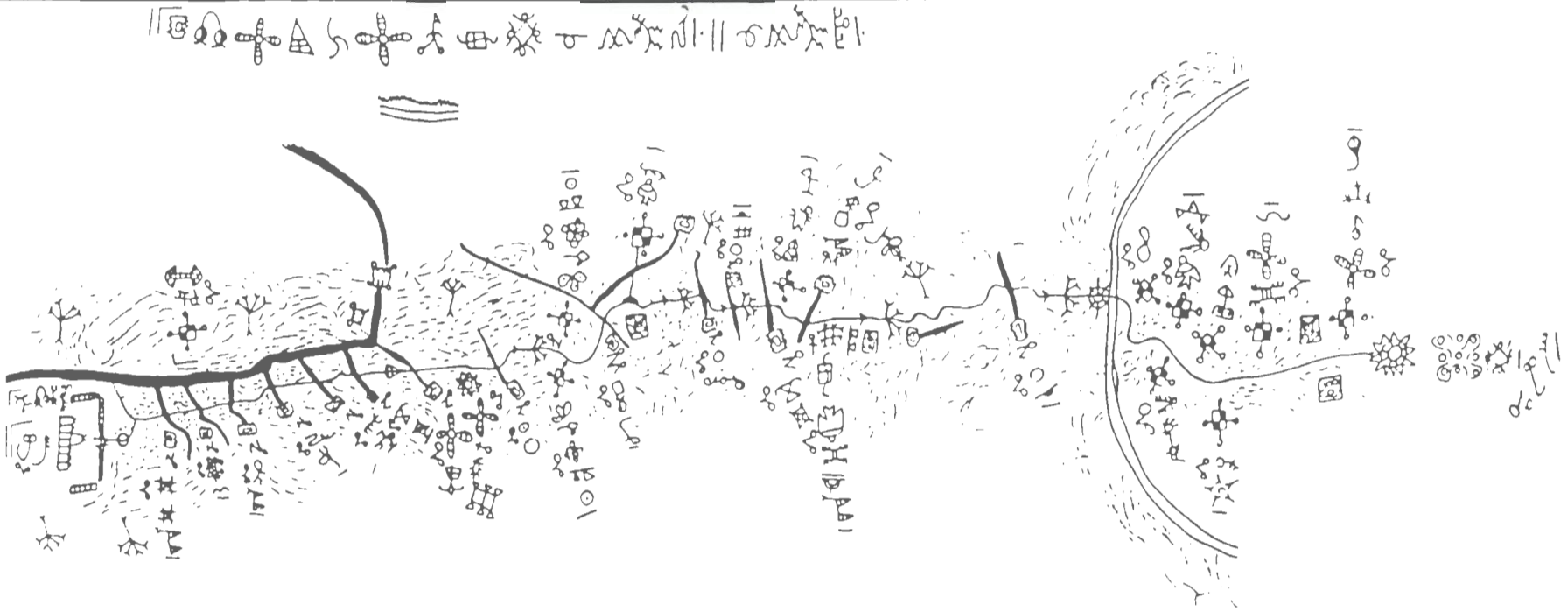

Abb. 2. **Ndschoyas Wegeaufnahme von der Farm nach der Stadt.** ($^{10}/_{11}$ des Originals.)

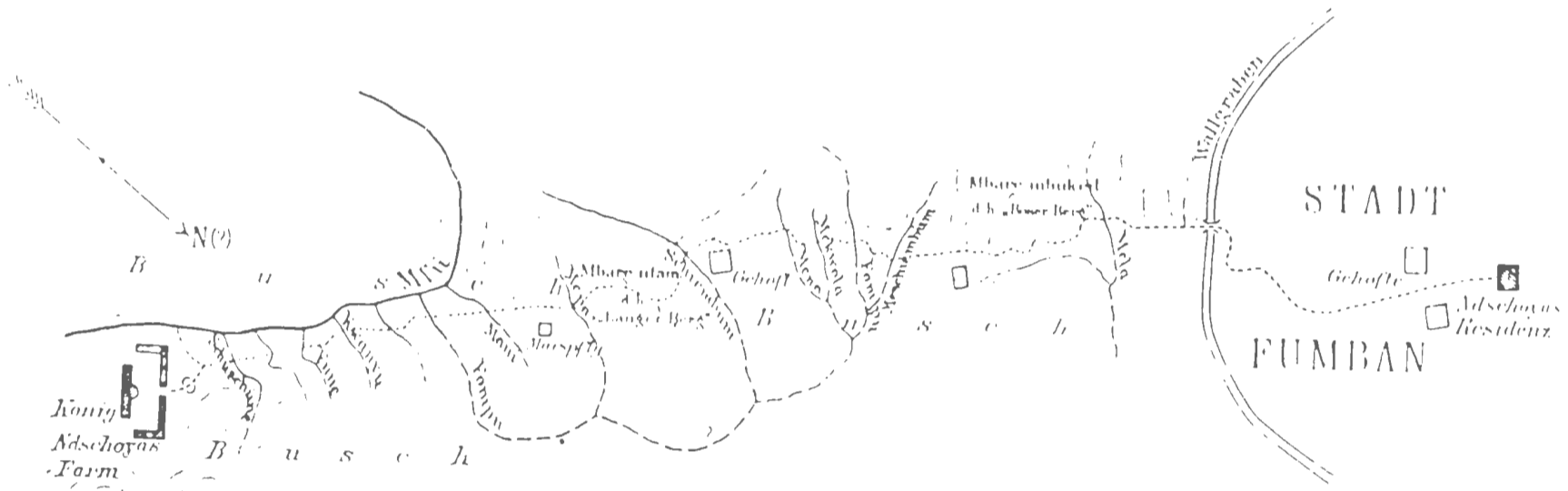

Abb. 3. **Dasselbe als europäisches Kartenbild.** (Ungefährer Maßstab 1 : 44000?)

Fig. 1. The First map of King Njoya, Road from the town of Fumban to his farm compiled and drawn in c1906. After B. Struck in *Globus* xciv, No. 13 October 1908.

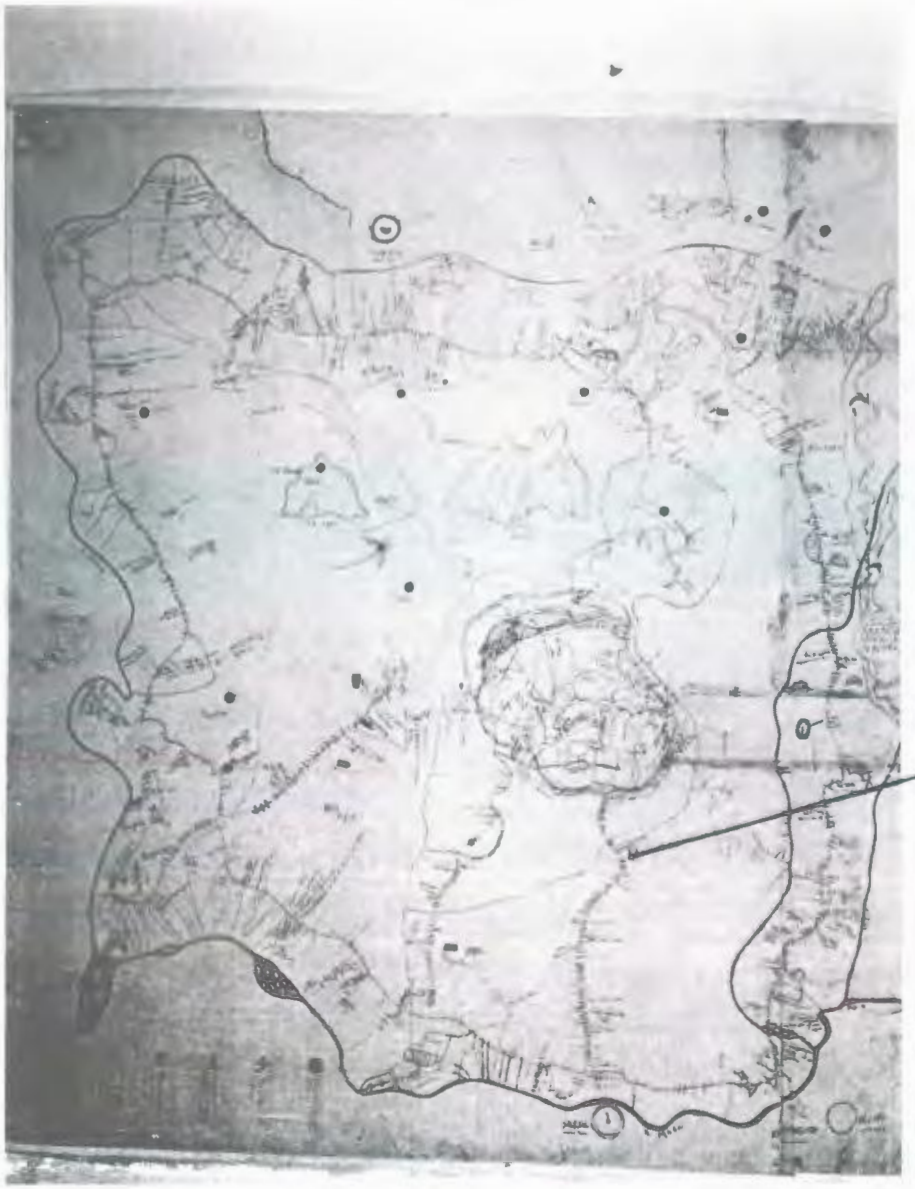

Fig. 2. King Njoya's Topocadastral map of Bamum Kingdom (89cm x 1 metre 12 cm) c1920 drawn by Nji Mama. Photographed by Viban Ngo, 1982.

Fig. 3. Zoomed section of Fig. 2 to show some details of route traversing east of Fumban. Photographed by Viban Ngo, 1982.

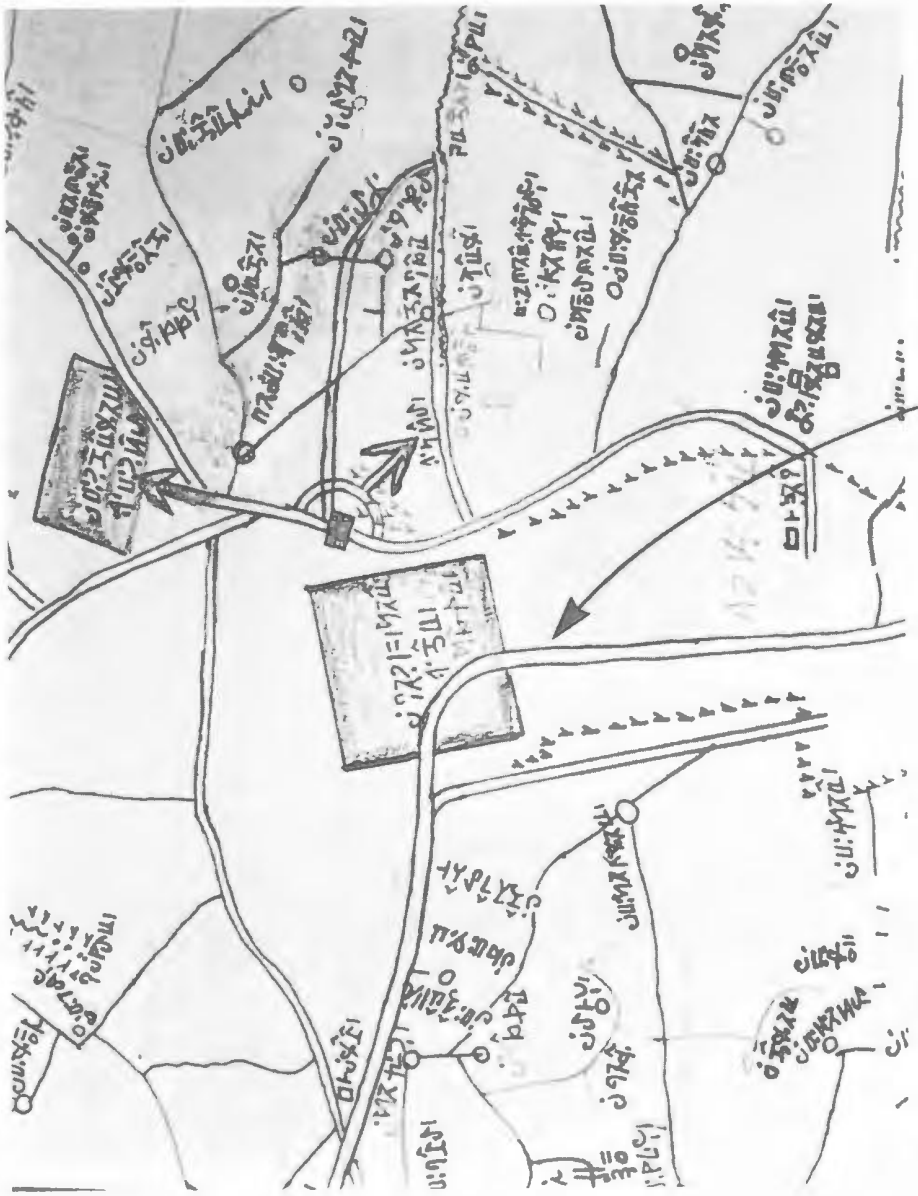

Fig. 4. Zoomed map of the citadel showing the location of the palace and the infrastructure. Photographed by Viban Ngo, 1982.

Fig. 5. Map of the Fumban citadel: infrastructure and war defence trenches Photographed by Professor Claud Tardits, 1976.

Plate 1. King Njoya the Artist/Cartographer having an audience with German Officials at the old Palace. Note King Sangu's Throne he gave to King George V of Gt. Britain in 1916. Photographed by Paul Biegler, Gesellschaft Nordwest-Kamerun, c1908 . Courtesy of G. Biegler, Madrid, Spain.

Plate 2. Fumban Palace designed and constructed by King Njoya in 1910. Photographed by Viban Ngo, 1992.

THE *ATLAS OF SASKATCHEWAN*: PAST, PRESENT AND FUTURE

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Past: The first *Atlas of Saskatchewan*

The first *Atlas of Saskatchewan* was published in 1969. It originated as a Centennial project and was under the editorship of the then Head of Department, Prof. J. Howard Richards, and the cartographic direction of Prof. Ka Iu Fung. It was the first of a spate of provincial atlases in western Canada, with Alberta's close behind while B.C. and Manitoba followed some years later, and it has now been out of print for over 25 years.

My time as a member of the Department began the year after publication so I did not have any part in its preparation. However, I heard tales of the intense effort exerted by everyone on staff at the time and I could see the wealth of equipment it had left behind. That equipment endowed the Department's technicians for many -- perhaps too many - years to come. The total budget was $190,000, of which $42,000 came from government grants and the rest from this University. At the end, the U. of S. Book-store happily sold off remainders at $17.50 with the aim of merely breaking even.

The original *Atlas* was well received, both in terms of content and graphic design -- Prof. Fung found that copies placed on display at academic meetings had a nasty habit of growing legs and walking away. The Department still gets requests for permission to use parts of it in other publications, and in recent years the frequency of requests for an updated edition has increased.

Present: the *Atlas of Saskatchewan* Project

Revision of the *Atlas* was first considered in 1980, when Profs. Richards and Fung met with government officials and were promised $135,000 for such a project. However, later events -- mainly, a change in government -- meant that support for a new *Atlas* did not materialize.

In April of 1994 Prof. Fung wrote to the Hon. Pat Atkinson, then Minister of Education, Training and Employment, to state again the urgent need for a new provincial atlas. He got a positive response: she offered to contact officials in various Departments, to publicise the project, and to solicit financial support.

Meanwhile, the provincial Heritage Branch contacted the Canadian Plains Research Centre at the University of Regina and the Department of Geography at the U. of R. about the establishment of an ad-hoc committee to further the development of a 'New *Atlas* Project'. During the same period Profs. Fung and Martz, in Saskatoon, were contacted by Mr. Bob Mills of the provincial Department of Economic Development, and by Mr. Len Exner of Kanotech, a Saskatchewan based GIS company, bearing an informal proposal that the Dept. of Geography at the University of Saskatchewan initiate a project to produce a new *Atlas*.

This led to an entire year of meetings by an interest group, later styling itself a Steering Committee, made up of representative from the Geography Departments of the two universities and several other organizations and government agencies (listed in Appendix 1). From the first there was an underlying tension between the two university contingents. I will spare you the details: suffice it to say that at the end of that year of meetings it became clear that no amount of goodwill was going to lead to genuine collaboration in production of the new *Atlas*. As holder of copyright to the original volume, and with Prof. Fung still active and very much determined to play a part in directing production of the successor volume, the University of Saskatchewan could not sit idle while a rival institution took over the Project. President Ivany had arranged for $75,000 in seed money as soon as the new *Atlas* project was made known to him -- an order of magnitude more than any other agency of institution represented on the Steering Committee was willing to commit.

In the end, financial arrangements for the *Atlas* Project were taken in hand by University of Saskatchewan Technologies (UST), the arm's-length business agency for the U. of S., which entrusted production work to Prof. Fung as Editor-in Chief, assisted by Prof. Lawrence Martz as GIS and digital equipment manager and myself as 'V.P. for everything left over'.

Production work on the new *Atlas* began in the fall of 1996 with the hiring of Mr. Gerald Romme, a cartographic technician with digital pre-press experience from work on Vol. II of the *Historical Atlas of Canada*, and purchase of a Sun workstation and a license for Arc/Info software. Bit by bit the project has added other hardware and production workers, though it is still running on a shoestring and housed in a number of rooms scattered around the Department. A large space has been allocated to the Project in another building, but work cannot relocate there until it gets an EtherNet wire connection.

The project is directed first toward production of a book-format atlas, slightly smaller than the original and with a changed table of contents but still clearly kin to its predecessor. Manuscript and even plate preparation is entirely electronic, and it does seem that this gives genuine savings in both money and time compared to the photo-chemical pre-press technology current in 1969. From the income generated by sales of this familiar, tried-and-true publication we propose to finance production of entirely electronic versions of the *Atlas*. Meanwhile, the remnant of the erstwhile Steering Committee, headquartered in Regina, is committed to production of an electronic *Encyclopedia of Saskatchewan*. Somehow, somewhen, these two closely-related projects will have to re-connect.

We expect that the new *Atlas* volume will be completed by the province's 95th anniversary in the year 2000. Whether any electronic version can be completed in that time frame, apart from a 'static' conversion of the book's content to CD-ROM format, remains to be seen.

Future: Electronic Variations on the *Atlas* Theme

The traditional model of an atlas, printed in book form, presents multiple themes in the context of their spatial relationships. What the user sees is a set of maps and other graphics, most of them accompanied by explanatory text.

But book-format atlases are *static* representations of a region at a point in time, although some do include maps of past relationships to indicate the trend of change, and a few projections of conditions at some future date. However, information presented in this way cannot be reorganized to let users get answers to their own questions, much less to view changes through time in an 'animated' way. Electronic variants on the atlas theme can offer users some degee of control over what they see. While people *other* than end-users still `the information on which the *Atlas* is based. In addition, they can be made available on local and global networks. Multi-format publication also favours use of the *Atlas* not only for education and administration but as a promotional tool for tourism and business.

There are also drawbacks to electronic publishing due to copyright and related limits on distribution of files that are costly to compile but cheap to spread. We have had to negotiate for more than a year to come up with a use license contract with Saskatchewan Geomatics Division (formerly Central Survey and Mapping Agency), which controls the base map files used by the cities of Regina and Saskatoon, as well as the provincial 'township fabric' base. Once Atlas maps are available on the World Wide Web, they just about have to be considered to be in the public domain. In order to realize the GIS-style of user-created maps mentioned above, some severe aggregation of data files will be necessary in order to satisfy the financial claims on the original, detailed data by source agencies such as Statistics Canada. Many extremely worthwhile map themes simply will not ever be available to the public: the owners of the relevant map and data files refuse to release them.

Conclusion

Among the benefits from a renewed, multi-format *Atlas* that were evident back in the days of the Steering Commitee were opportunities such as:

Ë helping to develop Saskatchewan's reputation as a leader in information technology

(continued on page 53)

BOOK REVIEWS

GEOFF BROWN

MAPPA MUNDI: THE HEREFORD WORLD MAP. P. D. A. Harvey. Toronto: University of Toronto Press, 1996. illus., [6], 58 p. $20 CAN (paper) $40 CAN (cloth). ISBN 0-8020-7945-8.

Much has been written about the Hereford World Map. Few writers, however, have had the opportunity to examine the original document. Many studies are instead based on facsimiles, several of which are faulty, thus leading to errors in description and interpretation. While reviewing this book, I had the 1954 facsimile published by the Royal Geographical Society (RGS) spread out before me. The details illustrated in the book are certainly adequate. However, I felt closer to the subject with the map in front of me, as it is 9/10ths the size of the original (which I have only seen once, for half an hour).

Gerald R. Crone, then Librarian and Map Curator to the RGS, wrote the memoir which accompanies the facsimile. It was prepared following his personal inspection of the map while it was removed from its case in London for cleaning, under the sponsorship of the RGS. Harvey differs with Crone on several points, not least of which is the size of the facsimile (full size versus nine tenths). Harvey has also erred slightly in the transcription of the title of the RGS facsimile by leaving out the word "manuscript" from the title *Reproductions of early manuscript maps III: The world map by Richard of Haldingham in Hereford Cathedral circa A.D. 1285.* The only other disagreement with Crone which I detected is Harvey's claim on pg. 5 that "Scotland as well as Ireland is a separate island." This caused me to jump up and look at the facsimile. From my observation of the map in front of me, Scotland is clearly joined to England by a narrow neck of land. This is also apparent on the Matthew Paris 'A' map of Britain (the most familiar to me) which is reproduced further on in the book. Checking to see what Crone said, I found "Scotland is joined by a narrow isthmus". I think Harvey was influenced by a print of the earliest reproduction from the map by Richard Gough in his *British Topography*, published in 1780, and shown on page 18. Both here and on sheet 10 of the RGS facsimile, Scotland is clearly shown as an island. A look at a modern map will show that not much enlargement of the Firths of Clyde and Forth is required to produce such a narrow neck. Without trying to push the accuracy of these medieval maps, we should remember that they were created during a warm interglacial period when sea levels were much higher.

The book is divided into 3 parts: "The map and its history", "The map and its relatives" and "The map and its sources". These are followed by two appendices: "Inscriptions outside the frame of the map" and "Reproductions of the map".The author has included a "Select Bibliography" and index as well.

For those who do not have the luxury (I can only call it that) of having a copy of the RGS facsimile to consult while reading the book, the publication contains sections of both the map and the frame at a scale that shows everything the author describes in the text. In general, the clarity of all the reproductions is excellent.

In a section dealing with changes to the total artifact, Dr. Harvey reveals that the staff of the British Museum removed the back panel, which carried a painted decorative border, in 1855. During the 1948 restoration brass strips and nails were probably lost and the old case was thrown out as lumber, only to be rediscovered in 1989 in the cathedral's former stable. This allowed carbon dating of that portion of the original item.

For those interested in the wider field of medieval world maps, chapter two includes grand colour reproductions of nine other examples and the only known remaining fragment of a tenth. There are also two closeups of sections of the Ebstorf map and six other medieval maps of parts of the earth: three of Britain, one of Asia, one of Europe, and one of Palestine, mostly by Matthew Paris. By including these maps, Dr. Harvey illustrates that the variability in style observed in the world maps also carries over to regional maps. Despite having only a few remaining examples, we may surmise that many others were created.

Dr. Harvey opens the first chapter with the words "Hereford Cathedral's medieval map of the world is one of the most interesting artifacts to survive from thirteenth-century England ... ". A highlight of my 1988 visit to London was a visit to an exhibition at the Royal Academy where the map was on display. It has been a great pleasure to have the opportunity to spend more time learning about this map now. The threat of it being sold at auction galvanized a nation into action to finance restoration of the cathedral which owned it, and to further restore and properly house this graphic encyclopaedia of thirteenth century English thought and knowledge.

At such a very affordable price I would suggest that any library could afford it and most certainly all libraries with map collections should have it.

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Mapping the UK: Maps and Spatial Data for the 21st Century. C.R. Perkins and R.B. Parry, 1996. East Grinstead: Bowker-Saur, 1996. 448 p. $210 U.S. (hardbound). ISBN 1-8573

The map library community welcomes the addition of this substantial volume to its collection of working tools. Perkins and Parry have repeated the successful formula we first saw in their 1987 manual, *World Mapping Today* (new edition due late 1997). Mapping the UK devotes almost 400 pages to what most would agree is an intensively mapped country which could be afforded a mere 12 pages in the World volume.

The Introduction of Mapping the UK gives an overview of the current picture and, like all chapters except the final one, is supplied with an extensive list of "References" and "Further Reading". Mapping the UK is well illustrated with 16 pages of colour plates, some showing up to six sample maps per page. Elsewhere, as a result of close collaboration with publishers such as the Ordnance Survey (OS), index diagrams, sample areas and legends for various scales are reproduced in black and white. Reproductions of the legends are particularly useful since they do not always appear on the maps themselves. The black and white figures generally work well because of good design. An example is the equal population cartogram showing Great Britain in an endearingly familiar shape, and reminding the reader of the effectiveness of this technique. Once you have seen one of these diagrams, like the Isodemographic Map of Canada (1971), the message is never forgotten. It is a pity, however, that the delightful Parish Map of Aveton Gifford in Devon could not have been reproduced in colour.

OS is undoubtedly the largest mapping organisation in Great Britain and Northern Ireland. The authors devote no less than five chapters to OS history, policies, function and topographic mapping products. The remaining chapters are organised by themes such as earth science, weather, urban, etc. I was surprised to find that there are at least 247 other agencies, apart from the OS, involved in mapping the UK. These are listed at the end of each chapter and are well indexed. The authors do not claim to have listed all map publishers. One omission which map librarians might find useful is Alan Godfrey, 12 The Off Quay Building, Newcastle upon Tyne, NE6 1LH. Tel. 0191 276 1155. He has published over 1000 reduced facsimiles of large scale OS maps of the 19th and early 20th centuries.

In the final chapter the authors look into their crystal ball and applaud the "resilience of the paper map" in the face of the digital threat. Nevertheless, they recognise the value of sharing data both nationally and across frontiers, citing acid rain which does not respect boundaries. Their upbeat conclusion is that "Maps are important. Technology and society are rapidly changing the ways in which they are constructed, used and regarded, but as visual metaphors they will continue to provide statements which both reflect and shape our perception of the world". We can but agree.

Barbara Morris
Digimap Project Officer
Data Library,
Edinburgh University Computing Services
URL http://datalib.ed.ac.uk

Rural Images: Estate Maps in the Old and New Worlds. David Buisseret (ed.). Chicago: University of Chicago Press, 1996. [8] p. plates: illus. (some colour), maps (some colour), 184 p. $55.00 U.S. (cloth) ISBN 0-2260-7990-2.

The six essays that make up this volume originated from the ninth series of the Kenneth Nebenzahl, Jr., Lectures in the History of Cartography presented at the Newberry Library in Chicago. Because it is the work of four authors, the depth of information, style of presentation and focus vary greatly. Each article, taken by itself, makes a significant contribution to the understanding of estate maps, but taken as a whole, the book is uneven.

In the study of cartographic history, we often try to balance the study of the maps themselves with the use of maps as source documents for the study of history. This volume contains an unsettling mix of focus between the articles and sometimes within an article. Of the four authors, B.W. Higman comes to terms with the problem by contributing two articles: one on the making of Jamaican estate plans and one on the use of the plans as source documents.

The articles vary in their breadth of geographic coverage. David Buisseret contributes two survey articles: the first on Old World plans and the second on New World plans. Sarah Bendall's article focuses on the estate maps of a single English county, Cambridgeshire.

There is also considerable variation in the kind of detail provided about the plans. P.D.A. Harvey, in his discussion of the history of English estate maps and their use as historical evidence, provides many images and much detail. The description of a single map may run to three columns. In contrast, Higman, discussing the Jamaican plans, describes the surveyors, their training, social status, survey and cartographic techniques and supplies relatively little description of the plans, themselves.

The definition of the estate plan which is used for this volume is very narrow, allowing the authors to work within a restricted geographic area and time period. In his introduction, Buisseret defines "estate maps" as maps which " were commissioned by a private proprietor" which "show that person's estate". Maps drawn for legal purposes or technical purposes are ruled out "to keep [the] definition as tight as is necessary". The definition is further limited by the understanding that these maps were used for improvement in the management of the estate as well as for decorative documents to be displayed as status symbols.

While this definition serves to narrow the scope of the book, it seems arbitrary. For the student of history or of cartography, a map of an estate drawn for legal purposes may be as useful as one drawn for management purposes. However, a broader definition would have forced the authors to consider a much larger, and perhaps unmanageable, volume of material. The stringency of the definition allows Buisseret, in his survey of Old World plans, to discuss England in detail and deal with the Scandinavian countries in a single paragraph. It allows the New World to be defined roughly as the Caribbean and colonial America. It allows the time period being discussed to be limited to the period between about 1570 and the end of the nineteenth century.

Within this definition, the book is an interesting contribution to the history of cartography. The articles are scholarly and well documented. The images are mainly black and white, with a few colour, and are generally good reproductions. The book is indexed and contains a bibliography.

Rural Images is recommended for academic libraries supporting research in the history of cartography and for libraries with a strength in English or Caribbean land-ownership mapping.

Sandy Campbell
Science and Technology Library
University of Alberta
Edmonton, Alberta

The mapping of Russian America: a History of Russian-American Contacts in Cartography. (American Geographical Society Collection Special Publication No. 4). Alexei V. Postnikov. Milwaukee, WI.: Golda Meir Library, University of Wisconsin-Milwaukee, 1995. illus., 35p. $10. US. ISBN 1-879281-16-3; ISSN 1053-6817.

This document is an interesting overview of the Russian mapping of America from the mid-seventeenth century to 1867, when Russia sold Alaska to the United States. The publication is essentially a lecture given at the University of Wisconsin-Milwaukee in their Maps and America lecture series in 1994. With the end of the Cold War, we are now seeing more

information come out of Russian archives as well as more Russian scholars travelling to the west to share their research. The author is chair of the History of Geology and Geography Department of the Institute on the History of Science and Technology, Russian Academy of Sciences. He took up several fellowships in the Milwaukee-Chicago area and brought with him considerable information and expertise about Russian sources and archives.

The Mapping of Russian America is a mix of information about western and Russian mapping of the Alaska area and provides some useful information on the exchange of information between western European and Russian explorers. Notable here is his information about exchanges between James Cook and Gerasim Izmailov in 1778.

Postnikov has also turned up some interesting manuscript maps in mid-western U.S. collections. The most important is a map of Siberia, dating from the 1680s, found in the Newberry Library in Chicago. It shows evidence of being copied from Russian rather than western European sources. With regard to maps of the early period the author states that the Russians clearly knew that there was a strait between Asia and America by the 1670's. Postnikov naturally spends some time covering the Bering expeditions in the 1730's which resulted in the first landing of Russians in America and concrete proof of the separation of the continents. Two different maps resulted from the second expedition. The second, by Sven Waxell, shows a long east-west trending coast instead of the island archipelago that hampered the work of British expeditions such as Cook's in the 1770's. The author is somewhat dismissive of G. J. Muller's map of 1754 which, unfortunately, included an enlarged Alaskan peninsula and which he says showed the fabulous DeFonte geography of Joseph N. Delisle. Perhaps the author misunderstands Muller's intention to discredit the Delisle mapping.

About half of the work is a thorough description of the exploration and detailed surveying of the entire Alaska peninsula from the 1780's to the mid 1800's by members of the Russian American Company, the British and the Spanish. The author points out that the Russians amassed an enormous amount of information on Alaska. An amount which seems even more impressive considering there were never more than about 800 of them in Alaska. Much of this was because of strong government interest and support. In the 1820s the Russians attempt to find a northeast passage around America to the Atlantic Ocean prompted the British to once again begin their search for the Northwest passage. The result was the Franklin and Beechey expeditions. In conclusion, Postnikov states that the first major map made by the United States government after its purchase of Alaska in 1867 was made almost entirely from Russian sources. From the illustration this might appear to be a manuscript map in the American Geographical Society Collection. Unfortunately the map has not been fully cited and remains a mystery.

Much of the value of this work lies in the good illustrations and the detailed citations of maps and sources in Russian archives, a real boon to western scholars who have often lacked actual proof of the existence of certain maps. One criticism is that names are not spelled consistently; for instance Jacob von Staehlin, whose erroneous map of the enlarged Alaskan peninsula created problems for James Cook, is referred to as both "Shtelin" and "Shtellin". Presumably these are Russian versions of the German name. "Truscott" also referred to as "Tresskott" is another problem. He appears to be best identified as Ivan Truskot by Leo Bagrow in his History of Russian Cartography up to 1800 (ed. by Henry Castner , Wolfe Island, Ont., Walker Press, 1975). Bagrow's work is unfortunately not cited in this publication and may have been overlooked. There is also a mix-up over the many later editions and versions of the G.F. Muller map on pages 10 and 16. The 1758 edition of the map, identified as "(Muller and Truscott)", is shown but Truskot appears to have only produced the 1772 Russian edition. This edition is vaguely alluded to as having incorrect data added but it is not cited here.

Despite these problems, this is an excellent overview of both the Russian and non-Russian mapping of the Alaska region with fresh information, sources and interesting interpretations. Hopefully the author will continue his research and publish further useful works in English.

Joan Winearls
University of Toronto Library

The Mapping of New Spain: Indigenous Cartography and the Maps of the Relaciones Geográficas. Barbara E. Mundy. Chicago: University of Chicago Press, 1996. illus., index, 281 p. $40 U.S. (cloth). ISBN 0-2265-5096-6.

The history of cartography is rich in literature about maps of far corners of the world produced by the various colonial powers. Only within the last ten years or so have we started to see material related to the cartography of the indigenous peoples of the world. Barbara Mundy's book is a happy addition to that literature. To be precise, Mundy's book is about the meeting and mixture of two cartographic traditions, European and indigenous, in sixteenth-century New Spain. An area that corresponds roughly with present day Mexico, or at least a good chunk of southern Mexico.

At the center of Mundy's discussion is an attempt by the Spanish government, in the latter part of the sixteenth century, to create a census/chronicle/atlas descriptive of their land holdings in New Spain. The project, initiated and administered from Madrid, failed to create the complete picture desired due to distance, and lack of initiative on the part of local Spanish officials in New Spain. The partial returns, including 69 manuscript maps dating from around 1580, constitute the bulk of the evidence investigated by Mundy. The present locations of the manuscripts are instructive: 33 in Spain, 33 in Texas, and 3 in Scotland(!). This suggests that the Spanish government did not, in the end, put much stock in the results of the survey.

The book consists of eight chapters. Chapters one and two are introductory in nature. Chapter three discusses the Relación Geográfica survey and it's results. Chapters four and five cover the indigenous cartographers and their mapping tradition, chapter six deals with the language and place names on the Geográfica maps, and chapter seven relates them to other mapping of New Spain. Chapter eight presents conclusions. In the appendices Mundy catalogs the maps being studied; reproduces the questionnaire; discusses native inscriptions on one of the maps; and reproduces an administrative directive about the survey. There is an extensive bibliography and a detailed index. Eight color plates, gathered in the center of the book, reproduce in very good quality, a selection of the manuscript maps. There are an additional 101 black and white illustrations scattered throughout the book that are well integrated with the text.

This book is well done, both intellectually and physically. Clearly the geographic area under discussion is probably not high on the collection priorities of most readers of this journal. On the other hand, Mundy's work is an excellent example (one cannot quite say the only example) of a thorough investigation of the cartography of an area from both indigenous and European points of view. This approach needs, and deserves, considerably more attention than it has received over the years. The European settlement of North America, was a constant process of interaction between Europeans and indigenous peoples. We know far too little about the cartographic interaction of those groups. Mundy makes clear that maps of the Relación Geográfica were a mixture of Spanish and indigenous mapping traditions, and that the Spanish tradition by no means overwhelmed the other. There appears to have been a two way exchange of ideas and cartographic conventions involved in producing the maps involved. The Mapping of New Spain is an excellent model for future studies that take a fresh look at old maps. It suggests that previously ignored cartographic artifacts of indigenous peoples need to have the same level of scrutiny and scholarship normally applied to European products.

Charley Seavey
Tucson, Arizona

NEW MAPS

AMY CHAN

Africa. Scale 1:10,000,000. [Washington, D.C. : Central Intelligence Agency, 1996].

Amerikai Egyesûlt Allamok: 1:4,000,000, névmut at ó = United states of America = Vereinigte Staaten von Amerike / Cartographia. [4. Kiad.]. Scale 1:4,000,000. Budapest : Cartographia, 1996.

Argentina. Scale [ca. 1:20,000,000]. [Washington, D.C. : Central Intelligence Agency, 1996]. "Base 801779 (R00880) 7-96".

Boreal forest / Geomatics Canada. Scale 1:10,750,000. Ottawa, Geomatics Canada, 1996.

Burma : political. Scale [ca. 1:11,111,000]. [Washington, D.C. : Central Intelligence Agency, 1996]. "Base 802499 (B01313) 8-96".

Burma : relief. Scale [ca. 1:11,111,000]. [Washington, D.C. : Central Intelligence Agency, 1996]. "Base 802500 (B01313) 8-96".

Carte géologique générale du Grand-Duché de Luxembourg / Orell Füssli arts graphique s.a. Scale 1:1,000,000. Luxembourg : Service géologique, 1996.

China, Northwest / Petroleum Information Corporation. Scale [ca. 1:1,500,000] ; Proj. Albers. Denver, Colo. : The Corporation, c1996.

East coast offshore map / Oilweek Magazine. Scale 1:2,500,000. [Calgary, Alta.?] : Oilweek, 1996.

ëozones, ecoregions et ecodistricts terrestres de la province de Quebec, Canada / prèparation de la carte digitale par Agroalimentaire Canada, Direction g n rale de la recherche, Système d'Information des sols du Canada (SISCan). Scale 1:3,500,000. 1 cm. = 35 km. ; proj. Conique conforme de Lambert, parall les de r f rence 48°N et 57°N, m ridien central - 67°30'00". Ottawa : Environnement Canada, 1996.

Energy map of Asia/produced and distributed by Petroleum Economist in association with British gas; designed by D.A. Burles, A.K. Mais & A. Malkin. 3rd ed. Scale ca. 1:13,500,000 ; Mercator proj. London : Petroleum Economist, Ltd., 1995.

Energy map of China / produced by the Petroleum Economist Ltd., London, in association with Price Waterhouse ; designed by A. Malkin. 3rd ed. Scale [ca. 1:5,385,600]. London : Petroleum Economist, Ltd., c1996.

Energy privatisation map of the world / produced by the Petroleum Economist Ltd., in association with Arthur Andersen, Andersen Consulting. Scale not given. London : Petroleum Economist, Ltd., 1995.

European union : member states, regions and administrative units / published by the Office for Official Publications of the European Communities ; issuing department, European Commission, Directorate-General X, Information, Communication, Culture, Audiovisual Publications Division ; map by Lovell Johns. Scale 1:4,000,000. 1 cm. = 40 km./1 in. = 63.14 mi. ; Postel's azimuthal equidistant proj. Luxembourg : Office for Official Publications of the European Communities, c1996.

Etiópia, Eritrea, Dzsibuti 1:2,500,000 : névmutstó = Ethiopia, Eritrea, Djibouti = Athiopien, Eritrea, Dschibuti / Cartigraphia. 2. Kiad. Scale 1:2,500,000. Budapest : Cartographia, 1996.

Fisheries atlas of Canada = Atlas des pecheries canadiennes / produced and published by unique Media. Not drawn to scale. Don Mills, Ont. : Unique Media, c1995.

Gas in the former Soviet Union and Europe / produced and distributed by Petroleum Economist Ltd., in association with Ruhrgas ; designed by D.A. Burles and A. Malkin. 2 nd ed. Scale [ca. 1:7,000,000]. London : Petroleum Economist, c1995.

Haengj ng, toro mangdo: [Han'guk]. Scale 1:500,000. S ul T' kpy lsi : Chungang Chido Munhwasa, 1996.

Iran : political. Scale [ca. 1:3,000,000] ; Lambert conformal conic proj., standard parallels 12°N and 38°N. [Washington, D.C. : Central Intelligence Agency, 1996] "Base 802511 (R01078) 9-96".

Iran : relief. Scale [ca. 1:3,000,000] ; Lambert conformal conic proj., standard parallels 12°N and 38°N. [Washington, D.C. : Central Intelligence Agency, 1996] "Base 802512 (R01078) 9-96".

Kuwait : political. Scale [ca. 1:2,500,000] ; Lambert conformal conic proj., standard parallels 12°N and 38°N. [Washington, D.C. : Central Intelligence Agency, 1996] "Base 802527 (R01015) 9-96".

Kuwait : relief. Scale [ca. 1:2,500,000] ; Lambert conformal conic proj., standard parallels 12°N and 38°N. [Washington, D.C. : Central Intelligence Agency, 1996] "Base 802489 (R01015) 9-96".

Major pipelines of the former Soviet Union / produced by the petroleum Economist in association with Eosneftegazstroy ; designed by A. Malkin. London : Petroleum Economist, c1995.

Map, world, centennial Olympic games : Atlanta 1996 / Gousha ; official licensed product of the Atlanta Committee for the Olympic Games, Inc. 1996 ed. Scale 1:40,988,000. 1 in. = 646.90656. At equator ; Robinson proj. Comfort, Tex. : H.M. Gousha Co. [1996]. ISBN 0-671-55809-9.

Mongol khans and their legacy. Scale 1:18,500,000. Washington D.C. : National Geographic Society, 1996. (To accompany National Geographic, V. 190. #6 December, 1996)

North circumpolar region. Scale 1:10,000,000. Ottawa : Natural Resources Canada, Geomatics Canada, Canada Centre for Remote Sensing, GeoAccess, 1996.

North and South America. Scale 1:67,000,000. [Washington, D.C. : Central Intelligence Agency, 1996] "802532 (R02283) 11-96".

Okologie der landnutzung im Mitteleuropa = Ecology of land use in Centrl Europe / by Andrzej Richling...[et. al.]. Scale 1:1,500,000. Wien : Österreichisches Ost-und Südosteuropa-Institut, 1996.

Political map of the world, August 1996. Scale 1:35,000,000. [Washington, D.C. : Central Intelligence Agency, 1996] "802469 (R00349)".

Rhodesia (U. K.) Scale 1: 1,900,000. [Washington, D.C. : Central Intelligence Agency, 1996]

Rwanda and Burundi : political. Scale 1:2,000,000. [Washington, D.C. : Central Intelligence Agency, 1996] "740960 (R01374) 11-96".

Rwanda and Burundi :relief. Scale 1:2,000,000. [Washington, D.C. : Central Intelligence Agency, 1996] "740959 (R01374) 11-96".

Southwest Asia. Scale 1:6,500,000. [Washington, D.C. : Central Intelligence Agency, 1996] "802498 (545025) 12-96".

Terrestrial ecozones, ecoregions and ecodistricts, Alberta, Saskatchewan and Manitoba, Canada / digital map prepared by Agriculture and Agri-Food Canada, Research Branch, Ottawa, Ontario, Canadian Soil Information System (CanSIS). Scale 1:3,500,00. 1 cm. = 35 km. ; Lambert conformal conic proj., standard parallels 48°N 57°N, central meridian -105°35'45". Ottawa : Environment Canada, 1996.

Terrestrial ecozones, ecoregions and ecodistricts, British Columbia and the Yukon Territory, Canada / digital map prepared by Agriculture and Agri-Food Canada, Research Branch, Ottawa, Ontario, Canadian Soil Information System (CanSIS). Scale 1:3,500,00. 1 cm. = 35 km. ; Lambert conformal conic proj., standard parallels 49°N 77°N, central meridian -91°52'00". Ottawa : Environment Canada, 1996.

Terrestrial ecozones, ecoregions and ecodistricts, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland, Canada / digital map prepared by Agriculture and Agri-Food Canada, Research Branch, Ottawa, Ontario, Canadian Soil Information System (CanSIS). Scale 1:3,500,00. 1 cm. = 35 km. ; Lambert conformal conic proj., standard parallels 46°N 58°N, central meridian -60°00'00". Ottawa : Environment Canada, 1996.

Terrestrial ecozones, ecoregions and ecodistricts of the Northwest Terrorities, Canada / digital map prepared by Agriculture and Agri-Food Canada, Research Branch, Ottawa, Ontario, Canadian Soil Information System (CanSIS). Scale 1:3,500,00. 1 cm. = 35 km. ; Lambert conformal conic proj., standard parallels 49°N 77°N, central meridian - 91°52'00". Ottawa: Environment Canada, 1996.

Terrestrial ecozones, ecoregions and ecodistricts, Province of Ontario , Canada / digital map prepared by Agriculture and Agri-Food Canada, Research Branch, Ottawa, Ontario, Canadian Soil Information System (CanSIS). Scale 1:3,500,00. 1 cm. = 35 km. ; Lambert conformal conic proj., standard parallels 44°N 54°N, central meridian - 85°00'00". Ottawa : Environment Canada, 1996.

Taehan Min'guk ch ndo. Scale 1:1,100,000. S ul T' kpy lsi : Yongjin Munhwasa, 1996.

United States : the physical landscape. Scale 1:6,223,000. 1" = 98 miles. Washington, D.C. : National Geographic Society, 1996.

Worldwide shiprepair docks. 21st ed. Scale indeterminable. London : Reed Business Publishing, 1997.

NEW BOOKS AND ATLASES

FRANK WILLIAMS

Amazonian Deforestation and Climate. J.H.C. Gash ...{et al.} (eds.) Chichester : J. Wiley, 1996. 611 p. 65 ISBN 0-471-967343

Atlas l'actual : Le Québec et ses régions, Le Canada et régions, Le monde Montréal : Centre educatif et culutel, 1994. 160 p. $40 CAN ISBN 2-7617-1083-5

Atlas historique du Québec : population et territoire. Ste. Foy, Qué : Les Presses de l'Université Laval ; Saint-Nicolas, Que. : Distribution de livres univers (distributeur), 1996. 200 p. $50 CAN ISBN 2-7637-7494-6

Atlas of the World. 4th ed. *New York* : Oxford University Press, 1996. 400 p. $70.00 US ISBN 0-19-521266-5

Atlas of Geology and Geophysics of China Seas and Adjacent Regions. *Eng. ed. Hong Kong : Geocarto International Centre, 1996. 94 p. Hardcover. $110 US (incl. S & H)*

Collins Atlas of the World. London : Harper Collins,1996. 199 p. £ 30.

Concise Atlas of the World. 3rd. New York : Oxford University Press, 1996. 264 p. $35 US ISBN 0-87371-986-7

Congalton, Russel G. ***Assess the Accuracy of Remotely Sensed Data : Principles and Practises.*** CRP Press, 1996 160 p. ISBN 0-87371-986-7

Conley, Tom. ***Self-made Map : Cartopgraphic Writing in early Modern France.*** Minneapolis : University of Minnesota, 1996. 448 p. $35.00

Desk Reference Atlas. New York : Oxford University Press, 1996. 208 p. $19.00 US ISBN 0-19-521263-0

Educational Atlas of China. Chinese/Eng. bilingual ed. Hong Kong: Geocarto International Centre, 1995. 176 p. Harcover. $121 US (incl. S & H)

Encyclopedia World Atlas. 3rd ed. New York : Oxford University Press, 1996. 272 p. $39 US ISBN 0-19-521264-9

Essential World Atlas. New York : Oxford University Press, 1996. +144 p. $22 US

Freshbach, Murray, and Guroff, Gregory. ***Environment and Health Atlas of Russia.*** Moscow : PAIMS, 1995. 448 PAIMS, 1995. 448 p DM285

Glossary of the Mapping Sciences. American Congress on Surveying and Mapping, 1995. Bowker. 581 p. $80 US ISBN 0-614-06088-5

Graham, Ron. ***Small Format Photography.*** Whittles Publishing, 1995. 320 p £50 ISBN 1-870325-56-7

Greeley, Ronald, ***NASA Atlas of the Solar System.***New York : Cambridge University Press, 1996. 380 p. $150 US ISBN 0-521-56127-2

Hornbeck Tanner, Helen. ***The Settling of North America : the Atlas of the Great Migrations into North America from the Ice Age to Present.*** New York : MacMillan, 1995, 208 p.

Hupchick, Dennis P. and Cox, Harold E. ***A Concise Historical Atlas of Eastern Europe.*** St. Martin 's, 1996. 120 p. $50 US ISBN 0-312-15893-9

Hutchinson, Scott. ***Inside Arcview. 2nd Ed.*** Onward Press, {1996}. (Includes CD-Rom) 500 p. $40 US ISBN 1-566-90116-2

McKay, Angus. ***Atlas of Medieval Europe.*** London : Routledge, 1996. 240 p. $
ISBN 0-415-01923-0

Mairota, Paola. ***Atlas of Mediterranean Environments in Europe : the Desertification Context.*** New York : John Wiley & Sons, 1996. 168 p. ISBN 0-471-96092-6

Mundy, Barbara E. ***Mapping of New Spain: Indigenous Cartography and the Maps of the Relaciones Geogra-ficas.*** Chicago: University of Chicago Press, 1996. 256 p. $40 US ISBN 0-226-55006-6

Perkins, C. and Barry, R.B. ***Mapping the UK.*** East Grinstead : Bowker-Saur, 1996. 397 p. £ 125 ISBN 90-04-10238-8

Pluvier, Jan M. ***Historical Atlas of South-East Asia.*** New York : E. J. Brill, 1995. 64 p. $150 (U.S.) ISBN 90-04-10238-8

Postnikov, Alexi. ***Russia in Maps : a History of the Geographical Study and Cartography of the Country.*** Moscow : Nash Dom - L Age d Homm, 1996. 192 p. 127ff

Rayburn, Alan. ***Naming Canada : Stories about place names from Canadian Geographic.*** Toronto: Toronto U.P., 1994. $17 CAN ISBN 0-80-200569-1

Scale in Remote Sensing and GIS. Quattrochi, Dale A. (ed). CRC Press, 1996.

Smith, Richard J. ***Chinese Maps: images of "all under heaven."*** New York : Oxford University Press, 1996. 88 p. $40 US ISBN 0-19-585949-0

Warner, William S. Graham, Ron W., and Read, Roger E. ***Small Format Aerial Photography,.*** Whittles Publishing, 1995. 320 p. £ 50 ISBN 1-870325-56-7

Whitfield, Peter. ***The Charting of the Oceans : ten centuries of Maritime Maps.*** London : British Library, 1996. 136 p. £ 20 ISBN 0-7123-04932

(Continued from page 44)

The Atlas of Saskatchewan: Past, Present and Future

Dr. Michael R. Wilson

Ë providing easy access to an integrated display of multiple, generalized information sources

Ë contributing to the process of improving efficiency in integrating data sets from many source agencies, and up-dating of that information for use by a wide range of clients

Ë offering an enhanced teaching tool for Saskatchewan schools, colleges and universities

Ë substantially reducing costs and delays in bringing up-to-date information into all of the above

The digital database accumulated under the auspices of the Project is expected to be one of its most significant long-term benefits, and will be the foundation on which further initiatives rest. These should include, for example, added levels of GIS query capability in a series of releases aimed at users with more capable hardware, particularly those who need more detailed thematic data. At some future date we expect it will dawn on the Provincial Government that the Atlas-as-GIS is an essential tool that should be in use by every one of its departments and agencies, and even by each MLA.

Appendix 1: Participating Agencies (original Steering Committee)

Ë 90th Anniversary Committee

Ë Saskachewan Property Management Corporation, CSMA (now SGD)

Ë Saskatchewan Tourism Authority

Ë Saskatchewan Heritage Foundation

Ë Saskatchewan Economic Developmen

Ë Saskatchewan Municipal Government, Provincial Library

Ë Saskatchewan Education

Ë Canadian Plains Research Center

Ë U. of R. Dept. of Geography

Ë U. of S. Dept. of Geography

REGIONAL NEWS

MELISSA LEITCH

CANADA

EARTH SCIENCES INFORMATION CENTRE

Map Collection

Irène Kumar, Map Collection, ESIC
Rosemary Swan, Acting Associate Head, ESIC
ikumar@gsc.NRCan.gc.ca

In August 1995, the merger of Geomatics Canada and the Geological Survey of Canada to create the new Earth Sciences Sector was announced. Soon after, in November 1995, the Geomatics Information Centre and the Canadian Geoscience Information Centre were merged, creating the Earth Sciences Information Centre. Last month, the Map Library, the Photo Collection, the Book and Map Archives and the Geological Survey of Canada Open File Collection were all relocated from Room G-70, 601 Booth to Room 121, 615 Booth. The Map Library will now be referred to as the Map Collection of the Earth Sciences Information Centre.

The rationale behind the relocation was to move the cartographic materials closer to the Geomatics Collection, enhancing the strengths of both collections and improving access to these materials for all clients. In addition to the Map Collection, clients now have access to a comprehensive collection of books and periodicals on remote sensing, GIS (geographic information systems), GPS (global positioning system) and various other related cartographic and geographic information sources.

BRITISH COLUMBIA

UNIVERSITY OF CALGARY

Library
Gail Kessler
gmkessle@acs.ucalgary.ca

We have had a change in map librarians at the University of Calgary recently (Jan.6). Helen Clarke, the former map librarian, has moved into a different position. After nine years in Maps she is now Collections Librarian. Taking over as Map Librarian is Eric Tull. Eric has been at the University of Calgary for a few years mainly as the librarian for Environment, Computer Science, Arctic Institute among other things. He is Map Librarian half time, the other half being Innovation Librarian and Arctic Institute Librarian.

UNIVERSITY OF VICTORIA

Map Library
Lori Sudgen
lsugden@uvic.ca

We were pleased to hear that Kathleen Aten's position has been extended through to the end of September.

We have purchased, under a limited use agreement, part of a draft series of Sensitive Ecosystem Inventory Project maps for the Capital Regional District. The final draft of the 1:20,000 series will be available after March 31, and the accompanying technical report will be produced later in 1997.

The Sensitive Ecosystems Inventory project was designed to identify the remaining fragments of the original ecosystems to encourage (or promote) land-use decisions which would assure their long-term sustainability. The SEI systematically identified, classified, mapped and evaluated the current condition of the remaining sensitive ecosystems throughout the Nanaimo Lowland - the coastal lowland from north of Campbell River southward to Sooke - and adjacent Gulf Islands. The study area is under the jurisdictions of the Capital, Cowichan Valley, Nanaimo and Comox-Strathcona regional districts and the Islands Trust.

Environment Canada (Canadian Wildlife Service) and BC Environment (Vancouver Island Regional Office, Nanaimo and Conservation Data Centre, Victoria) combined resources to conduct this project. Several local governments contributed additional funding, namely, Capital and Comox-Strathcona Regional Districts, Provincial Capital Commission, Islands Trust and the municipalities

of Nanaimo and Campbell River. Additional air photo interpretation was conducted by Fisheries and Oceans Canada in order to add as many streams as possible to the existing TRIM base maps; all streams and lakes are included on the SEI maps as sensitive ecosystems.

The quality of the mapping and printing, by Clover Point Cartographics, is excellent. Individual sheets vary in number and size of sites, e.g. sheet 92B.062 contains only a portion of a site from an adjoining quadrant. The topographic base is fine black contours on white, with roads as fine red lines and hydrography in blue. Categories of sensitive sites mapped: coastal bluff; herbaceous, terrestrial; older forest (>100 years); riparian; scarcely vegetated; wetland; woodland (Garry Oak and/or arbutus); seasonally flooded agricultural field; second growth forest (60-100 years). CRD Parks has compiled two overview maps at 1:50,000 from the SEI data, one for the Greater Victoria area and one for the Gulf Islands. They will be available through permission of the SEI later in the summer.

For further information, contact:
SEI Project Office, Victoria, (250) 386-2803, fax (250) 388-9236;
Canadian Wildlife Service, Qualicum Beach, (250) 752-9611;
Conservation Data Centre, Victoria, 387-9798

NEWFOUNDLAND

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
Maps, Data and Media Division, QE II Library
Alberta Auringer Wood
awood@morgan.ucs.mun.ca

New printers that were received in August were set up in October. This means that we now have HP Laser Jet capability in the Media and Data Centre and an HP colour ink jet for public printing in the Map Library. Also, the bar code scanners for use in circulating materials were installed in October. Bill Tiffany is going to arrange refresher training for the staff before we implement automated sign out.

We have received the latest version of ArcView, but have yet to use it. Work continues of preparing guides to using ArcView 2.1. At the end of December, a new version of our catalogue was installed bringing various changes, most recently including access via "Smart Port" to obtain cataloguing copy for maps, as well as other materials.

A presentation on the Data Liberation Initiative (DLI) was given to Information Services Division staff in October and to the entire staff in February. We have acquired access to the University of Western Ontario Internet Data Library System (IDLS). There is still work to be done to add this information to our web pages for the DLI (http://www.mun.ca/library/media/dli.html).

I've agreed to participate in training of DLI contact people on behalf of our library. This entails a training session in Ottawa in mid-April, participating in a workshop in May, and being one of the instructors for one in early June. Also, there will be three half-day workshops, including one on the Census, at the CAPDU (Canadian Association of Public Data Users) meeting here in June as part of the Congress of Learned Societies about June 8-10. These are aimed at both DLI contacts and researchers.

Joanne Costello returned from maternity leave on December 2nd. Colleen Field finished her time of working in the Map Library at the end of December. She will now work in three areas of the library system on contracts.

On February 6th, Aspi Balsara, Information Services Division, began working in the Media and Data Centre one day per week to assist with data related materials. His first project is to prepare a brief, one to three pages, pathfinder for the 1991 Census Profile CD-ROM product. In addition, he has signed up for the DLI Listserv and will forward postings to Information Services that he feels are of relevance. Other activities will be added as time permits. In conjunction with this change, I will use only one office which will be that in the Map Library.

We have just completed the entry of NTS 1:50 000 sheets into the GEODEX system. There are approximately 23,000 entries altogether in two files. Some clean-up remains to be done before going on to the next inventorying and indexing project. Work continues on the entry of NTS 1:25 000 sheets into GEODEX, however.

We held brief tours for a Geography 2195 class of 32 Marine Institute students on January 17th and for a member of the Wildlife Division of the Department of Natural Resources along with two work term students from the Cabot Institute on February 5th.

NOVA SCOTIA

DALHOUSIE UNIVERSITY

Map Collection
James Boxall
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It continues to be a busy time for the Dalhousie Map Collection, as well as for mapping in this region. Geoff Brown and James Boxall have finally recovered from hosting the ACMLA Annual Meeting. Geoff has continued to expand his horizons with being a webmeister, and his input and ideas for accessing data via the web are very valuable within this area. James has been re-elected to the Board of Directors for the Geomatics Association of Nova Scotia. He also spent two weeks visiting the United States; including a trip to Washington, DC to represent ACMLA at a meeting of map library associations to discuss publications and potential cooperative projects. James was also at the University of California - Santa Barbara to participate in the Alexandria Digital Library Review. Mary Larsgaard, our ACMLA member of note, was a fantastic host while James was there (she kept him in line). The Alexandria project, and the whole operation at the UCSB Map and Imagery Lab made it difficult for James to get back on the plane to come home. And yes, the weather was great, and James did get to play golf.

Several graduate students have completed thesis work that utilized the GIS services and data in the Map Collection. This is a new addition to the GIS services, but it is one that is quickly becoming very successful and popular. Even though computing technology has become a priority, the map collection recently received two more cabinets to make room for an ever growing paper collection. James and Geoff, along with the help of student assistants, are "reorganizing" the collection to better reflect user needs. A new floor plan will be drawn and mounted on the map collection web site.

Also of note, the map collection is currently discussing a potential agreement with the Government of Nova Scotia to obtain digital georeferenced files for the whole province. We will keep you informed of any developments from our web page. On a very sad note, as most CARTA subscribers and ACMLA members will already know, this past December 29th, Benoit Ouellette, ACMLA member and Cartographer at Saint Mary's University Geography Department, died of cancer. Ben was only 40, and the diagnosis was just made in October of 1996. It came as a great shock to us all here in Nova Scotia. Ben started working at Saint Mary's the same year James began his geography degree there. A memorial service was held at Saint Mary's, where James gave a short testament, and offered our sympathies from the ACMLA. Ben was a great friend and colleague, and he is missed greatly.

ONTARIO

UNIVERSITY OF TORONTO

Map Library
Joan Winearls
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Joan Winearls has just had the following article 'THOMAS JEFFERYS'S MAP OF CANADA and the mapping of the western part of North America, 1750-1768' published in IMAGES & ICONS OF THE NEW WORLD : ESSAYS ON AMERICAN CARTOGRAPHY edited by Karen Severud Cook. (London: The British Library, 1996), 27-54. The book is a special issue of the BRITISH LIBRARY JOURNAL Vol. XXII/1 (Spring, 1996). The article looks at an important manuscript map in the British Library and the relationship of it and other important contemporary maps to the published map. Jefferys credibility as a publisher, his hiring of reputable geographers and their work in mapping an unexplored area in the era when the DeFonte fantasy of a northwest passage was at its height are all examined.

Also included in the book is another article on the mapping of Canada - Kirsten A. Seaver's 'A Very Common and Usual Trade': The relationship between cartographic perceptions and 'fishing' in the Davis Strait circa 1500-1550.'

The book is available from the British Library (ISBN 0 7123 4520 5). It appears that single copies are approximately 20 pounds or $30.00 U.S. and are available from:The British Library, Great Russell Street, London WC1B 3DG

UNIVERSITY OF WATERLOO
Map & Design Library
Richard Pinnell
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The GeoSpatial Helpdesk Service is proving to be a success. Four staff in the UMD Library offer this service on a rotating basis : they are Amy Chan (Librarian), Ann Naese (Library Assistant), Rosalind Rampersad (Library Assistant), and myself. The service is offered for two hours each week and is promoted on the Web at http://www.lib.uwaterloo.ca/uweds/help_geo.html

Staff are on hand to provide patrons with access to cartographic data and to help them use the desktop mapping software (ArcView 3 and MapInfo 4) on our public access PC. Patrons may request data (by phone, email, or personal visit) at any time during the week but this scheduled service ensures that we are on hand to provide person to person assistance.

Much of the cartographic data resides on our DEC Alpha network server and staff have had to learn how to run a batch file to access the network drives and then to copy down the data to the machine in the UMD Library. Staff have also worked together as a team to learn other Windows operations and to teach each other how to use MapInfo and ArcView. We still require patrons to complete a Data Release form before we release the data to them but we are experimenting with different ways of delivering the data. I have worked out a method of doing this using the Web and this seems to work well with Leisure Studies Data Bank files; we can move the data to a secure area on our server and then allow patrons to use anonymous ftp to get access for a limited period of time. Alternatively we may supply patrons with a time-limited password and ID.

We plan to publicize the GeoSpatial Help service in a forthcoming FYI (For Your Information) newsletter which is sent by the Library Office to all faculty on campus. If anyone reading this is interested, I can provide you with a copy or you could access a copy of it on the Web: http://www.lib.uwaterloo.ca/fyi/fyi.htmland click on Vol.5, No.1. Also of interest might be Vol.3, No.4, which pertains to maps and mapping. The former FYI also talks about electronic security (see next paragraph) and mentions that the Library's Cartographic Materials Web page received a favourable review in the February 1997 issue of the Association of College and Research Libraries' News.

Our new electronic security system is now up and running. We purchased a 3M model 3802 system and two Bookcheck units for the desk in the UMD Library. Using either of the Bookcheck units, staff can sensitize or desensitize the 3M tattle tape strips that are now in all of our regular-sized books and in a growing number of our oversize atlases and government documents. This is a two aisle system and patrons can enter or exit using either aisle; the detector panels will sound an alarm if items with sensitized strips are carried out of the library. The two divisional libraries at UW do not have electronic security so this is an opportunity for the Library to test the effectiveness of this kind of security and to assess costs and impact on staff and patrons.

In my business plan I provided for a three stage implementation: phase one, the installation of basic security devices and the application of tattle tape strips in all our books, is now complete. Phase two calls for the replacement of one of the Bookcheck units with a 3M Staff Workstation and the stripping of some of our maps; the Staff Workstation is a device which enables staff to simultaneously charge out an item and desensitize it. And finally, the third phase is the installation of SelfCheck equipment and further stripping of the map collection. Our experience since February 20 has been most favourable; the system is very sensitive and will detect all or most items in which there is a "live" strip and yet it does not give false alarms for briefcases, keys, and so on.

We have now been able to move our new books and our heavily used periodicals out of Controlled Access and back into the regular stacks. This gives students direct access to these materials whereas in the past they had to ask library staff to pass these items to them. Related to this we have begun applying circulation system barcode labels to our unbound periodicals. Patrons have had to fill out a manual form if they wished to borrow a periodical issue; now we will simply wand the label on their Borrower's card and on the periodical issue. We are constantly seeking ways to improve or enhance existing services such as this one, so that we can be as client-centred as possible. Various groups in the Library have begun working more closely with their counter

parts at the University of Guelph and at Wilfrid Laurier University; these three institutions (the Tri University Group, or TUG for short) have agreed to work consortially in certain areas particularly in the Library area. A great deal of time and effort has been spent negotiating a contract with Endeavor for their Voyager library system and this has now been done successfully; TUG has also purchased a joint off-site storage facility in the City of Guelph. I am involved with two groups: the TUG Web Group which is studying the feasibility of a joint Web page development including joint discipline pages such as one for Government Documents and possibly one for Maps and the second is the Electronic Data Service Group.

Finally, I can report that the UW Library has now begun the systems upgrading for all staff from Windows 3.11 to Windows 95. Four of us in the UMD Library have had our machines upgraded (for the most part this involves increasing RAM memory to 20 Mb) and Windows 95 has been installed; the same day that our machines were upgraded we were sent for systems training. This training involves spending 6 hours (3 of these in the classroom) to learn how to use Windows 95 and another 6 hours (3 in the classroom) to become familiar with Office 97 (Microsoft Word, Excel, and Power Point).

By the time this news item is published in the Bulletin, all staff will have been upgraded and trained. My office PC was recently upgraded to a Pentium 200 with 32 Mb RAM, 8X CD-ROM, and 17 inch monitor. It takes hardly any time at all for ArcView to load, and multitasking is a real pleasure.

In January it was decided to withdraw all of the rolled wall maps from our collection. With the exception of a few titles, the bulk of the collection was getting very little use. The more popular wall maps were given to course instructors who expressed interest and the remainder (more than 200 wall maps) were given to the Waterloo County Board of Education.

UNIVERSITY OF WESTERN ONTARIO

Serge A. Sauer Map Library
Cheryl Woods
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The Buckminster Fuller Institute, of Santa Barbara, CA, donated a dymaxion map globe to the Serge A. Sauer Map Library. Valued at US $3,400, the 39-inch "sculpture" comprises a series of translucent plexiglass panels mounted as a geodetic dome. The Map Library, in competition with other educational institutions in North America, was one of only 15 to receive a free copy of this globe.

In late March we gladly accepted the gift of a set of Rwanda topographic maps, 1:50,000, 1994 and JOG 1:250,000 maps of the same area from a paton who had been doing government work in that area. This will greatly improve our coverage of Rwanda.

Nouvelles Regionale

CANADA

CENTRE CANADIEN D'INFORMATION GÉOSCIENTIQUE

Collection cartographique
Irène Kumar, Collection cartographique, CCIG
Rosemary Swan Chef adjoint intérimaire, CCIG
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En août 1995, la fusion de Géomatique Canada et de la Commission géologique du Canada a été annoncée afin de créer le nouveau secteur des Sciences de la terre. Peu après en novembre 1995, le Centre d'information géomatique et le Centre canadien d'information géoscientifique ont été fusionnés, donnant ainsi naissance au Centre d'information des sciences de la terre. Le mois dernier, la cartothèque, la collection de photographies, les archives cartographiques et livresques et la Collection de fichiers ouverts de la Commission géologique du Canada ont été relogées de la pièce G-70 du 601, rue Booth à la pièce 121 du 615, rue Booth. La cartothèque sera maintenant appelée la cartothèque du Centre canadien d'information géoscientifique.

La philosophie derrière la relocalisation était de rapprocher le matériel cartographique plus près de la Collection géomatique, mettant ainsi en valeur les forces des deux collections tout en améliorant l'accès à ces documents pour tous les clients. En plus d'avoir accès à la collection cartographique, les clients peuvent maintenant consulter un fond détaillé de livres et de périodiques sur la télé-détection, systèmes d'information géographique (SIG), système mondial de positionnement (SMP) et plusieurs autres sources d'information cartographiques et géographiques.

COLOMBIE-BRITANNIQUE

UNIVERSITÉ DE VICTORIA

Cartothèque
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Nous étions très heureux d'apprendre que Kathleen Atler occupera son poste jusqu'à la fin de septembre, grâce à une prolongation. Nous avons acheté par le biais d'une entente limitée d'utilisation, une partie des séries préliminaires de cartes du projet d'inventaire des écosystèmes délicats (IÉD) pour le district régional de la Capitale. L'ébauche finale des séries 1:20,000 sera disponible après le 31 mars et le rapport technique qui l'accompagne sera produit un peut plus tard en 1997.

Le projet d'inventaire des écosystèmes délicats (IÉD) a été préparé afin d'identifier les fragments qui restent des écosystèmes originaux pour encourager (ou promouvoir) les décisions quant à l'utilisation des terres, ce qui permettrait leur maintient à long terme. Le IÉD a identifié, classifié, fait un relevé cartographique et a évalué l'état actuel des écosystèmes délicats qui restent et ce de façon systématique sur les terres basses de Nanaimo, les terres basses de la côte à partir du Nord de la rivière Campbell au sud de Sooke et pour les îles du Golfe adjacentes. Le secteur d'études est sous la juridiction de la Capitale, de la vallée de Cowichan, de Nanaimo et des districts régionaux de Comox-Strathcona et la fiducie des Iles.

Environnement Canada (Service canadien de la faune), et Environnement CB (bureau régional de l'île de Vancouver, Nanaimo et Centre de conservation des données, Victoria) ont mis en commun leurs ressources pour mettre en oeuvre ce projet. Plusieurs gouvernements locaux ont donné des fonds additionnels y compris les districts régionaux de Comox Strathcona, la Commission de la capitale provinciale la fiducie des Iles et les municipalités de Nanaimo et de la rivière Campbell. Pêcheries et Océan Canada ont offert leurs services en prêts pour faire une interprétation des photographies aériennes afin d'inclure autant de cours d'eau que possible à la base de données pour les cartes 1:50M, tous les cours d'eau et les lacs sont inclus sur les cartes IED comme étant des écosystèmes délicats.

La qualité des relevés cartographiques et de l'impression par «Clover Point Cartographics» est excellente. Les feuilles individuelles varient en nombre et selon la grandeur du site ex. feuille 92B.062 comprend seulement une partie d'un site à partir d'un secteur adjacent. La base topographique est un fin contour noir sur du blanc, avec les chemins en fines lignes rouges et l'hydrographie en bleu. Les catégories de sites délicats répertoriées sont : escarpement côtier, herbacés, terres, forêt ancienne (plus de 100 ans) ; rive : végétation peu fournie ; terres humides boisés (Gary Oak ou arbutus) ; terres agricoles inondées au gré des saisons ; forêt de deuxième pousse (60-100 ans). Parcs «CkD» a compilé deux cartes donnant une vue d'ensemble à 1:50,000 à partir des données IED, une pour la grande région de Victoria et une pour les îles du golfe. Elles seront disponibles sur permission de IED tard à l'été. Pour plus d'informations communiquez avec le : Bureau projet IED, Victoria, (250)386-2803, télec. (250) 388-9236 ; Service canadien de la faune, Plage Qualicum, (250) 752-9611 ; Centre de conservation des données Victoria, 387 9798

UNIVERSITÉ DE CALGARY

Bibliothèque
Gail Kessler
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À l'Université de Calgary récemment (6 jan.), il y a eu des changements au niveau des cartothécaires. Helen Clarke, cartothécaire pendant 9 ans occupe maintenant le poste de bibliothécaire pour les collections. Eric est avec l'Université de Calgary depuis quelques années déjà à titre de bibliothécaire pour l'environnement, les sciences informatiques

et l'institut de l'Arctique entre autres choses. Il occupe maintenant le poste de cartothécaire à demi temps tout en étant bibliothécaire pour l'innovation et l'institut de l'Arctique.

TERRE-NEUVE

UNIVERSITÉ MEMORIAL DE TERRE-NEUVE

Cartes, Données et Division des médias,
Bibliothèque QE II
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Les nouvelles imprimantes que nous avions reçu au mois d'août ont été installées en octobre. Ceci signifie que nous avons maintenant la capacité d'imprimer les documents sur imprimante laser HP au Centre des médias et des données et une imprimante couleur HP à jet d'encre accessible au public dans la cartothèque. De plus, les lecteurs de codes à barres utilisés pour les documents en circulation ont été installés en octobre. Bill Tiffany organisera un cours de perfectionnement pour les employés avant que nous implantions la sortie de documents automatisée. Nous avons reçu la version la plus récente de «Arcview», mais nous ne l'avons pas encore utilisée. Le travail se poursuit pour la préparation des lignes de conduite pour l'utilisation de «Arcview 2.1». À la fin du mois de décembre, une nouvelle version de notre catalogue a été installée ce qui a amené de nombreux changements, plus récemment incluant l'accès par le biais de «Smart Port» pour obtenir une copie du catalogage des cartes ainsi que pour d'autres ressources.

Une présentation pourtant sur l'initiative de libération des données (ILD) a été faite au personnel de la Divion des services d'information en octobre et à tout le personnel en février. Nous avons maintenant acquis l'accès au système de données bibliothécaires Internet de l'Université Western Ontario. Il reste encore du travail à accomplir pour ajouter cette information à nos pages Web pur le ILD (http://www.mun.ca/library/media/dli.html). J'ai accepté de participer à la formation des personnes contact ILD anom de notre bibliothèque. Ceci comprend une session de formation à Ottawa à la mi-avril, ma participation à un atelier en mai, et agir à titre de formatrice pour un atelier au début du mois de juin. De plus, il y aura trois ateliers d'une demi-journée dont un sur le recensement, à l'Association canadienne des utilisateurs de données publiques (ACUDP) qui a aussi une rencontre à St John's dans le cadre du congrès sur des Sociétés savantes du 8 au 10 juin. Celles-ci visent les personnes contact ILD et les chercheurs.

Joanne Costello est de retour de son congé de maternité depuis le 2 décembre. Colleen Field a cessé de travailler à la cartothèque à la fin du mois de décembre. Elle travaillera maintenant dans trois secteurs du système bibliothécaire sur des contrats. Le 6 février, Aspi Balsara, division des services de l'information a commencé à travailler au Centre des médias et des données, une journée par semaine pour donner un appui pour les documents liés aux données. Un de ses premiers projets fut de préparer un sommaire, une à trois pages, pour le CD-ROM portant sur le profil du recensement de 1991. De plus, il s'est inscrit pour «Listserv» ILD et enverra toutes les inscriptions qu'il juge pertinentes aux services de l'information. D'autres activités seront inclues selon le temps qui sera disponible. En rapport avec ce changement, j'utiliserai maintenant un seul bureau qui sera situé dans la cartothèque. Nous avons tout juste complété l'entrée de données des feuilles SNRC 1:50 000 dans le système GEODEX. Il y a environ 23 000 entrées en tout dans les deux fichiers. Il reste à faire un peu de nettoyage avant de commencer le prochain projet d'inventaire et d'indexation. Le travail se poursuit pour l'entrée des feuilles SNRC 1:25 000 dans le GEODEX. Nous avons offert de brèves visites guidées pour les 32 étudiants du cours de géographie 2195 de l'Institut marin le 17 janvier et pour un membre de la division de la faune du ministère des Ressources naturelles ainsi qu'avec deux étudiants stagiaires de l'Institut Cabot le 5 février.

NOUVELLE-ÉCOSSE

UNIVERSITÉ DALHOUSIE

Cartothèque
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Cette période est très occupée à la cartothèque de Dalhousie, ainsi que pour la cartographie dans cette région. Geoff Brown et James Boxall se sont finalement remis d'avoir été les hôtes de l'Assemblée générale annuelle de l'ACACC. Geoff a continué à élargir ses horizons en jouant le rôle de maître du Web et sa participation et ses idées

pour avoir accès aux données par le biais du Web sont d'une grande valeur dans ce secteur. James a été réélu au bureau des directeurs pour l'Association de géomatique de la Nouvelle-Écosse. Il a aussi passé deux semaines en visite aux États-Unis, dont un séjour à Washington, DC pour représenter l'ACACC à une réunion des associations de cartothèques pour discuter de publications et projets de coopération potentiels. James est aussi allé à l'Université de la Californie à Santa-Barbara (UCSB) pour participer au «Alexandria Digital Library Review». Mary Larsgaard, notre membre de l'ACACC a été une hôtesse hors paire lors du séjour de James (elle a veillé sur lui). Le projet Alexandria et toute la mise en application à l'UCSB et le laboratoire d'imagerie ont rendu difficile le retour de James en avion. Eh oui, la température était fantastique et James a joué au golf. Plusieurs étudiants gradués ont complété leur travail au niveau de leur thèse, ils utilisaient les services SIG et les données dans la collection cartographique. C'est un nouvel ajout aux services SIG, mais c'en est un qui devient rapidement plein de succès et très populaire. Même si la technologie informatique est devenue une priorité, la collection cartographique a récemment reçu deux autres classeurs pour ranger une collection sur support papier qui continue à grossir. James et Geoff, avec l'aide d'assistants étudiants réorganisent la collection afin de mieux répondre aux besoins des usagers. Un plan présentant la collection cartographique sera préparé et ajouté à notre site Web. Notons, que la collection cartographique est présentement en discussion avec le gouvernement de la Nouvelle-Écosse pour obtenir des fichiers digitalisé géoréférencés pour toute la province. Nous vous tiendrons informés de tous les nouveaux développements au sujet de notre page Web.

Sur une note plus triste, comme presque tous les abonnés à CARTA et les membres de l'ACACC le savent probablement déjà, le 29 décembre dernier, Benoît Ouellette, membre de l'ACACC et cartographe au département de géographie de l'Université Saint Mary est décédé du cancer. Ben avait tout juste 40 ans et il avait reçu le diagnostique en octobre. Pour nous tous en Nouvelle-Écosse, ce fut un gros choc. Ben a commencé à travailler à Saint Mary la même année que James y a commencé son baccalauréat en géographie. Un service commémoratif s'est tenu à Saint Mary et James y a livré un message à la mémoire de Benoît, tout en offrant nos condoléances au nom de l'ACACC. Ben était un grand ami et un collègue, il nous manque grandement.

ONTARIO

UNIVERSITÉ DE TORONTO

Cartothèque
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L'article suivant de Joan Winearls «THOMAS JEFFERYS'S MAP OF CANADA and the mapping of the western part of North America, 1750-1768» a été publié récemment dans « Images and Icons of the New World:» «ESSAYS ON AMERICAN CARTOGRAPHY» édité par Karen Severud Cook (London: The British Library, 1996), 27-54. Le livre est une publication spéciale du «BRITISH LIBRARY JOURNAL, Vol. XXII/1 (printemps 1996)». L'article porte sur une importante carte manuscrite qui se trouve à la «British Library» et sa relation ainsi que celle d'autres cartes contemporaines importantes en rapport avec la carte publiée. La crédibilite de Jefferys, le fait qu'il ait embauché des géographes de réputation, et leur travail à faire des relevés dans une region qui n'était pas encore explorée alors que le fantasme d'un passage du Nord-Ouest était à son paroxysme sont tous examinés. On retrouve aussi dans le livre, un autre article sur les relevés cartographiques du Canada-«Kirsten A. Seaver's A Very Common and Usual Trade» : «The relationship between cartographic perceptions and fishing in the Davis Strait circa 1500-1550».

Ce livre est disponible de la «British Library» (ISBN 0 7123 4520 5). On peut aussi se procurer des copies au coût d'environ 20 livres sterling ou 30$ U.S. et elles sont disponibles à la «British Library, Great Russell Street, London, WC1B 3DG».

UNIVERSITÉ DE WATERLOO (U de W)

Cartothèque et Bibliothèque de design
Richard Pinnell
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Le service d'aide géospatial se révèle être un vrai succès. Quatre employés de l'Université de Waterloo de la cartothèque et de la bibliothèque

de design et (UWCBD) offrent le service sur une base rotative ils sont : Amy Chan (bibliothécaire), Ann Naese (assistante bibliothécaire), Rosalind Rampersad (assistante bibliothécaire) et moi-même. Le service est offert pour une période de deux heures chaque semaine e est annoncé sur le Web à l'adress suivante : http// www.lib.uwaterloo.ca/uweds/help_geo.html Le personnel est disponible pour aider les chercheurs à accéder aux données cartographiques et pour les aider à utiliser les logiciels cartographiques (ArcView3 et MapInfo 4) disponibles à partir de notre ordinateur personnel accessible au public. Nos clients peuvent demander des informations (par téléphone, courrier électronique, ou en personne) n'importe quand durant la semaine mais le service programmé nous permet d'assurer de l'aid e sur une base individuelle. La plus grande partie de nos données cartographiques se trouve sur le serveur du réseau DEC Alpha et le personnel a dû apprendre à utiliser les fichiers par lot pour avoir accès aux données sur le réseau et pour ensuite copier les données sur l'ordinateur à la UWCBD. Le personnel a aussi travaillé en équipe pour apprendre d'autres applications de Windows et pour s'enseigner mutuellement comment utiliser MapInfo et ArcView. Nous demanderons à nos clients de signer un formulaire d'autorisation d'accès aux données avant que nous leur donnions accès aux données mais nous expérimentons différentes façons de leur donner accès aux données. J'ai développé une méthode pour accomplir cela en utilisant le Web et ceci semble bien fonctionner avec les fichiers de la banque de données des études en récréologie ; nous pouvons transférer les données à un endroit particulier sur notre serveur et permettre aux clients d'utiliser un «ftp» anonyme pour y accéder pour un temps limité. Alternativement, nous pouvons donner aux clients un mot de passe et une identification pour un temps limité.

Nous planifions de publiciser le service d'aide géospatial dans un bulletin d'information (pour votre information PVI) à venir qui est envoyé à toutes les facultés sur le campus par la bibliothèque. Si vous êtes intéressés, il me fera plaisir de vous en envoyer une copie ou vous pouvez en obtenir une copie par le biais du Site Webàl'adresssuivantehttp://www.lib.uwaterloo.ca/fyi/fyi.html et cliquer sur Vol.5, No.1.. Le Vol.3, No.4, peut aussi s'avérer intéressant et il porte sur les cartes et la cartographie. L'ancien PVI traite aussi de la sécurité électronique (voir le prochain paragraphe) et mentionne que les documents de la cartothèque sur la page Web ont eu une critique favorable dans le numéro de février 1997 de l'«Association of College and Research Libraries' News».

Notre nouveau système de sécurité électronique est maintenant en service. Nous avons acheté le modèle 3802 de 3M et deux unités pour magnétiser ou démagnétiser les livres pour le comptoir de la UWCBD. En utilisant l'une ou l'autre des unités pour les livres, le personnel peut magnétiser ou démagnétiser les bandes magnétiques 3M qui sont maintenant dans tous nos livres de format régulier et dans un nombre croissant de nos atlas grand format et dans les documents gouvernementaux. C'est un système à deux rangées et nos clients peuvent entrer ou sortir en utilisant l'une ou l'autre des rangées ; les panneaux de détection déclencheront une alarme si des bandes magnétiques sont sorties de la bibliothèque. Les deux bibliothèques de division à l'U de W n'ont pas de système de sécurité électronique, c'est donc une occasion idéale pour la bibliothèque de vérifier l'efficacité de ce genre de système et d'évaluer les coûts et l'impact sur le personnel et les clients. Dans mon plan d'affaires, j'ai fourni un programme d'implantation en trois phases : première phase, l'installation d'un dispositif de sécurité de base et l'application des bandes magnétiques à tous nos livres, celle-ci est maintenant terminée. La deuxième phase repose sur le remplacement d'une des unités pour les livres par un poste de travail 3M pour le personnel et l'application de bandes magnétiques sur certaines de nos cartes ; le poste de travail pour le personnel permet aux employés d'enregistrer un document pour la sortie et de le démagnétiser en même temps. Et finalement, la troisième phase et l'installation de l'équipement qui permet l'auto-vérification (enregistrement) et continuer à appliquer des bandes magnétiques sur les documents de la cartothèque. Notre expérience depuis le 20 février s'est avérée très positive, le système est très sensible et détectera presque tous les articles dans lesquels il y a une bande magnétisée, mais ne fait pas sonner l'alarme pour les porte-documents, les clés et autres objets du même genre.

Nous avons pu déménager nos nouveaux livres et les périodiques qui sont fréquemment utilisés de la section à accès contrôlé sur les étagères régulières. Ceci permet aux étudiants d'avoir un accès direct à ces ressources alors que par le passé ils devaient demander au personnel de leur passer ces articles. Nous avons aussi commencé à mettre sur nos revues qui ne sont pas encore reliées un code à bâtonnets comme pour tous les autres articles en circulation. Avant les clients devaient remplir une fiche à la main s'ils voulaient emprunter un périodique non relié ; maintenant nous pourrons simplement le mettre sur leur carte d'usager grâce au code à bâtonnet. Nous cherchons constamment de nouvelles façons d'améliorer les services actuels comme celui-ci, afin que nous puissions concentrer nos efforts sur notre clientèle autant que possible.

Plusieurs groupes dans la Bibliothèque ont commencé à travailler ensemble plus étroitement avec leurs collègues des Université de Guelph et de Sir Wilfrid Laurier, ces trois institutions (le groupe des trois universités GTU en abréviation) se sont entendues pour travailler comme un consortium dans certains secteurs, particulièrement dans celui des bibliothèques. Nous avons dépensé beaucoup de temps et d'efforts à négocier un contrat avec «Endeavor» pour leur système de bibliothèque «Voyager» et c'est maintenant un fait accompli. Le GTU a aussi acheté conjointement un espace d'entreposage dans la ville de Guelph. Je suis impliqué avec deux groupes : le groupe Web GTU qui étudie la faisabilité pour le développement d'une page Web conjointe qui inclurait des pages conjointes sur les disciplines telles que les documents gouvernementaux et possiblement une page Web pour les cartes. Le deuxième groupe avec lequel je travaille est le groupe de service des données électroniques «Electronic Data Service Group».

Enfin, je peux mentionner que la bibliothèque de l'Université de Waterloo (BUW) a commencé à mettre à jour les ordinateurs pour tout le personnel de Windows 3.11 à Windows 95. Quatre d'entre nous à la BUW avons eu une mise à jour pour nos ordinateurs (ceci comprend la mise à jour de la mémoire vive à 20 mb) et Windows 95 a été installé ; le jour même ou nos ordinateurs ont été mis à jour, on nous envoyait pour une formation informatique. Cette formation était d'une durée de 6 heures (dont 3 passées dans une salle de classe) pour apprendre à utiliser Windows 95 et un autre 6 heures de formation (dont 3 en salle de classe) pour se familiariser avec Office 97 (Microsoft Word, Excel et Power Point). Au moment ou cet article sera publié dans le Bulletin, tous les ordinateurs auront été mis à jour et le personnel aura eu sa formation. Mon ordinateur PC a été récemment mis à jour pour un Pentium 200 avec 32 mb de mémoire vive, un CD-ROM 8X et un écran de 17 pouces. Cela prend très peu de temps pour accéder à ArcView et avoir plusieurs applications qui fonctionnent en même temps est un vrai plaisir.

En janvier, nous avons décidé de retirer toutes nos cartes roulées de notre collection. À l'exception de quelques titres, le gros de la collection était très peu utilisé. Les cartes murales les plus populaires ont été données à des professeurs qui avaient indiqué un intérêt et le reste (plus de 200 cartes murales) ont été données au Conseil scolaire du comté de Waterloo «Waterloo County Board of Education».

UNIVERSITÉ WESTERN ONTARIO

Cartothèque Serge A. Sauer
Cheryl Woods
woods@sscl.uwo.ca

L'Institut Bukminster Fuller de Santa Barbara, Californie a donné un globe terrestre «dymaxion» à la cartothèque Serge A. Sauer. Cette «sculpture» d'une valeur de 3 400$ US est composée d'une série de panneaux de plexiglass transparent montés sur un dôme géodetique. La cartothèque était en concurrence avec d'autres institutions d'enseignement en Amérique du Nord, nous sommes une des quinze institutions choisies à recevoir un de ces globes et ce gratuitement.

En mars dernier, nous avons accepté avec plaisir le cadeau suivant ; un ensemble de cartes topographiques du Rwanda, 1:50 000, 1994 et des cartes JOG 1:250 000 de la même région d'un client qui avait travaillé pour le gouvernement dans cette région. Ceci améliorera grandement nos ressources sur le Rwanda.

(continuation of President's Message)

December 12 -	Shirley A. Harmer - letter of appreciation for work for ACMLA
March 8 -	CARTA - NDI Digital Ocean© CD-ROM products
March 12 -	CARTA - indexes to and not yet printed the NTS maps
March 18 -	Hon. John Manley, Minister of Industry - copyright law
March 24 -	Standing Senate Committee on Social Affairs, Science and Technology - copyright law
March 31 -	Chair and members, Senate Committee on Transport and Communications - copyright law
April 14 -	From Timothy Ross Wilson, Clerk of the Standing Senate Committee on Transport and Communications - copyright law
April 14 -	From Lynn Penrod, President, Social Sciences and Humanities Research Council - Assist in selecting new areas of research to fund
April 16 -	From M. E. Grant, Ministry of Northern Development and Mines of Ontario - inviting advice on proposed change in map revision and publication
April 18 -	From Monique Hamilton, Clerk of House Standing Committee on Canadian Heritage - copyright law
April 21 -	From Marc Denis Everell, ADM, Earth Sciences Sector, Natural Resources Canada - Feedback on strategic plan for Geomatics for the new millennium
April 21 -	Michel Duclos, ISO-RENO enr. - new member
April 21 -	Bob Lincoln, University of Manitoba - new member
April 23 -	From Orville Phillips, Senator - copyright law
April 23 -	From Marianne Scott, National Librarian - National Library's annual resource sharing meeting
May 2 -	CARTA - CMO procedures for depository libraries and archives
May 2 -	Claude Blanchard and Gwynneth Evans - National Library's annual resource sharing meeting

By-law Changes

Lori Sugden wrote me that she heard from Industry Canada that our by-law changes received Ministerial approval as of April 3rd.

Annual Meeting

As I write this message, plans are firmed up and publicized for our Annual Conference in Saskatoon. I hope that all of you are planning to attend! There will be stimulating presentations and lively social events.

Future Meetings

Discussions have continued regarding the 1999 meeting in conjunction with the International Cartographic Association meeting in Ottawa in mid-August. ACMLA will be responsible for a day of technical sessions and a workshop. We will also have half a day set aside for our business meeting. Registration fees have not yet been set.

Alberta Auringer Wood
May 5, 1997

Guidelines for the ACMLA Papers Award

1. The Papers Award will consist of a monetary award of $200.00.

2. This award is to be made during the Annual Conference.

3. The award will usually, though not necessarily, be given on an annual basis.

4. Nominations for this award, while primarily the responsibility of the Awards Committee members, may be made by an individual member.

5. The papers which will be considered for this award will consist of papers which have appeared in any issue of the ACMLA Bulletin for the calendar year preceding the conference.

6. Papers appearing in the Bulletin will be eligible for consideration if they are three pages or more in length.

7. Only papers of sufficient length, appearing in the Bulletin, which are not regular features, but are instead feature articles will be considered for this award. Continued articles, and co-authored articles, shall be given full consideration.

8. Articles which are eligible by the above clauses shall be further screened by subject matter. Only articles which made a solid contribution to map librarianship, curatorship or archiveship, including cartobibliographies, shall be considered for this award.

9. The Awards Committee and its appointees, shall weigh the degree of originality, uniqueness of subject matter and the depth of research involved in the papers under consideration. The complexity of subject matter, the presentation of such by the author, and technical qualities such as grammatical construction should all be considered.

10. Papers nominated for this award, which fit the above criteria to the satisfaction of the Awards Committee, shall then be subject to evaluation by a person or persons who are not normally members of the committee.

11. The Awards Committee shall contact a person or persons of its choice and request a written evaluation of the quality exhibited by a nominated paper.

12. Upon receipt of such evaluation, the Awards Committee shall come tc a unanimous decision on the choice of a recipient.

13. A report shall be made to the Executive on all papers nominated and the results of consideration by the Awards Committee one month prior to the Annual Conference.

14. To facilitate and encourage the recipient's attendance at the Annual Conference, he/she should be informed of the impending award.

1997 Conference Calendar - University of Saskatchewan

May 25, 1997 Executive meetings

May 26 - 27 **Pre-Conference** Workshop Geographical Products from Statistics Canada

Day 1 - Review of Basics using 1996 Census products - discussion of 1996 geographic areas & comparison of 1991 & 1996

Day 2 - Applying geographic products, including: how products link together, how to do a simple EA map and how to do "point-in-polygon" and spatial joins, in order to aggregate statistics & identify component parts (e.g. postal codes and EAs)

Main Conference:

May 28, 1997 Opening remarks: Frank Winter (Director of Libraries, University of Sask.) & Alberta Auringer Wood (ACMLA President) & Andrew Hubbertz, local conference organizer

"History of Geological Mapping in Western Canada" Walter Kupsch, Dept. of Geography, University of Saskatchewan.

"The Revised Edition of the *Atlas of Saskatchewan*", Michael Wilson, University of Saskatchewan.

"*Atlas of Saskatchewan Birds*" Alan R. Smith

"Homestead Records"Maureen Fox Saskatchewan Archives Board

"The Rural Map Directory and its One-Inch-to-the-Mile Land Ownership Maps of Central Alberta, (1920)" Ron Whistance-Smith, University of Alberta Library

"Digitizing Fire Insurance Plans: The City of Saskatoon Archives Experience" Eric Anderson, City of Saskatoon Archives

Walking heritage tour of Saskatoon, Peggy Sarjeant of Saskatoon Heritage Society

May 29, 1997

Reports from the National Centre for Topographic Information - Michael Cardinal & Denis Genest

Fred Stephenson, Institute of Ocean Sciences, Sydney, B.C.

Harold Rostad, Saskatchewan Institute of Pedology

"Land Use & Occupancy in North Central Saskatchewan: A Case Study in Cartography" Brenda McLeod, Dept. Native Studies

"ArcView 3: Enhancements & Extensions" Al Udell, E.S.R.I.

May 30, 1997

Report from the National Archives

"Mapping an Imaginary Island in the World" William Sarjeant, Dept. of Geological Sciences, University of Saskatchewan and (as Antony Swithin) author of *The Perilous Quest for Lyonesse.*

May 31, 1997

Field trip: Batoche National Historical Site, Seager Wheeler Historic Farm, Wanuskewin Heritage Park

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