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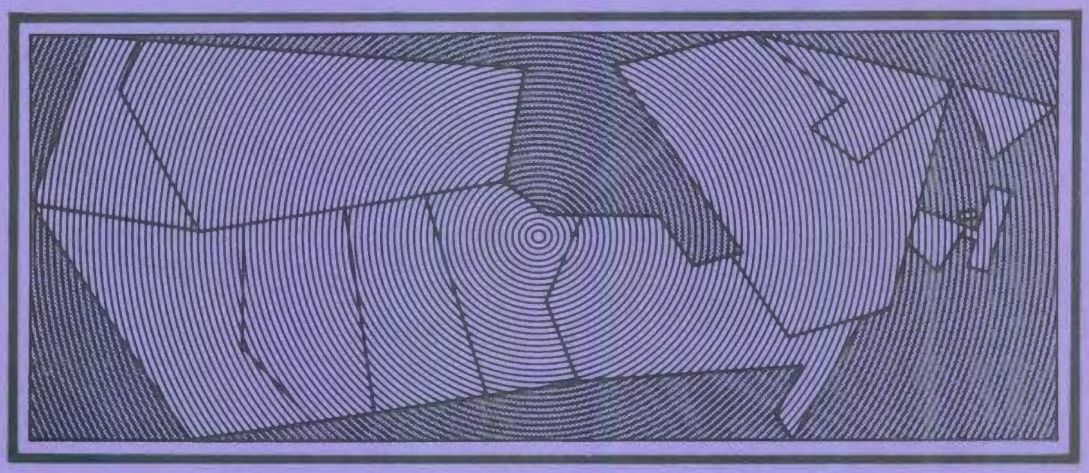

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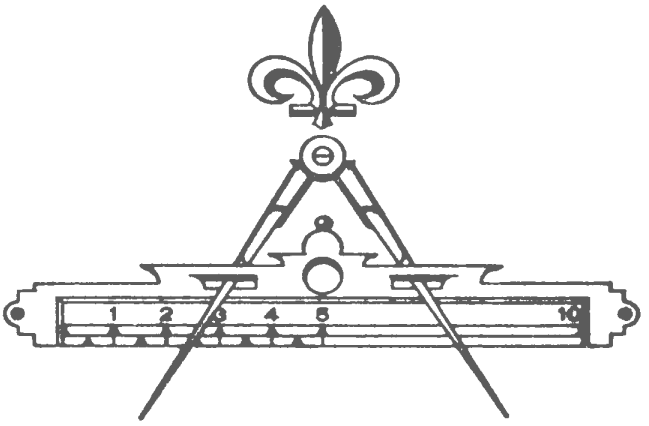

ASSOCIATION OF CANADIAN MAP LIBRARIES

BULLETIN

ASSOCIATION DES CARTOTHEQUES CANADIENNES

Number 18, May 1975

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MAPS AS CONSTRAINTS OR SPRINGBOARDS TO IMAGINATIVE THOUGHT: FUTURE MAPS OF CANADA

Too few people can read maps. Just as many people are "illiterate" when it comes to "reading" the landscape all around them,[1] they may also be quite unable to read and interpret information conveyed to them on a map. In part, the latter problem may be due to an inadequate education for, afterall, we need to learn how to read and interpret maps just as we need to learn how to read and comprehend written material. Maps, of course, are highly selective documents, for the information portrayed on a map is there as the end result of a series of decisions, all of which were based on a series of biases and assumptions that undoubtedly are not known to the reader of the end product.

Maps can help open the mind to new worlds, such as with the nautical charts of the 15th Century which convey to us European mariners' conceptions of the world at the time, other "worlds" and landscapes of the past that have been reconstructed,[2] the migratory patterns of pastoral nomads,[3], non-western notions of city form,[4] or the delightful mapped imaginary worlds created by novelists and writers of children's stories.[5]

But maps seem also to act as inhibiters or constraints to the imagination. By this is meant that a map may simply serve to cement a notion of how "reality" is, and any departure from that "reality" cannot be considered.[6] This point was emphasized recently by a large group of second year Cultural Geography students at Carleton University who were asked to debate the following resolution: "the political boundary between Quebec and Ontario does not relate to other realities and thus it should be removed."[7]

Students previously had been introduced both to published census and other data that illustrated the continuing movement of French-Canadians into Eastern Ontario,[8] and also to the concept of the Ottawa Valley as a cultural transition zone between French and English Canada. Even after being exposed to these data in map form, too many students were quite unable to free themselves of the "constraints" of the present-day inter-provincial political map and so be able to debate the resolution. "But the river serves as a natural boundary," "But the boundary has always been there so how can we contemplate a movement," "But the boundary cannot be moved," "But the map shows the boundary to be along the river," were typical of the students' comments made to justify why they were quite unable to debate the "pro" point of view. In other words, "reality" as shown on the map plus seemingly poorly developed imaginations combined to inhibit debate and discussion. Similar reactions occurred in each of the eight discussion groups.

Why were many of the students unable to construct "new" maps? Group discussion and later questioning of individuals led to the conclusion that

these Canadian students assumed that once set, major political boundaries would not be removed or relocated. Part of the "now" generation, they seemed to have a frightful unconcern for historical maps -- "that's just history" -- and also an inability to accept that our political boundaries might be other than they now are. It seemed that the present was viewed as the end of the evolutionary process and that was all that mattered. But why should the students simply accept the present boundaries as shown on the map for, afterall, it is clear that the boundaries of today may not necessarily be those of tomorrow!

Boundaries serve many purposes and have been classified as to types,[9] we have some understanding about the various functions they play, whether they are permeable or impermeable,[10] and we are beginning to develop an appreciation for the way boundaries are perceived by different groups in a region.[11] Unfortunately, the variable fluidity of political boundaries is difficult to convey on maps, thus maps of political units, as documents usually showing statically some selected information, may serve to accent the status quo.

Since the "present-time-slice" students seemed not to be impressed or even concerned about the historical development of Canada's boundaries, they were then exposed to boundary changes elsewhere and to the problems that have arisen because of the partitioning of territory, especially when different concepts of territory and attachments to place do not areally coincide.

Positive responses came from the students when shown certain maps and exposed to an analysis of their contents. For example, surprise was often expressed by the students when they saw first Murdock's map of Africa showing tribal areas and then with the imposed European boundaries which so illogically group and divide culturally diverse peoples.[12] And students were fascinated and even bothered by the implications of Norton Ginsburg's maps of a "Chinese Perception of a World Order."[13] To illustrate that boundaries are indeed not necessarily fixed entities, the students were also shown Gilfillan's map showing the durability of boundaries in Europe during the past 450 years which gives a surprising picture of the instability of many state boundaries.[14] To help cement the notion of boundaries being fluid over time and also certain related concepts of territory and territorial organization, the students were then presented with a series of maps showing hypothetical future scenarios for Canada. Student attention was heightened and, even through the laughter generated, several important points were made. Sketches of these scenarios now follow, but not all of the concepts are identified.

SERIES I

Scenario a: Quebec decides to act on behalf of French Canadians in Eastern Ontario and, led by the Quebec Provincial Police (Q.P.P.), a westward invasion occurs with control being established over the region. The claiming of the territory and including it in an expanded Quebec is justified by cultural claims, a clear case of irredentism.[15]

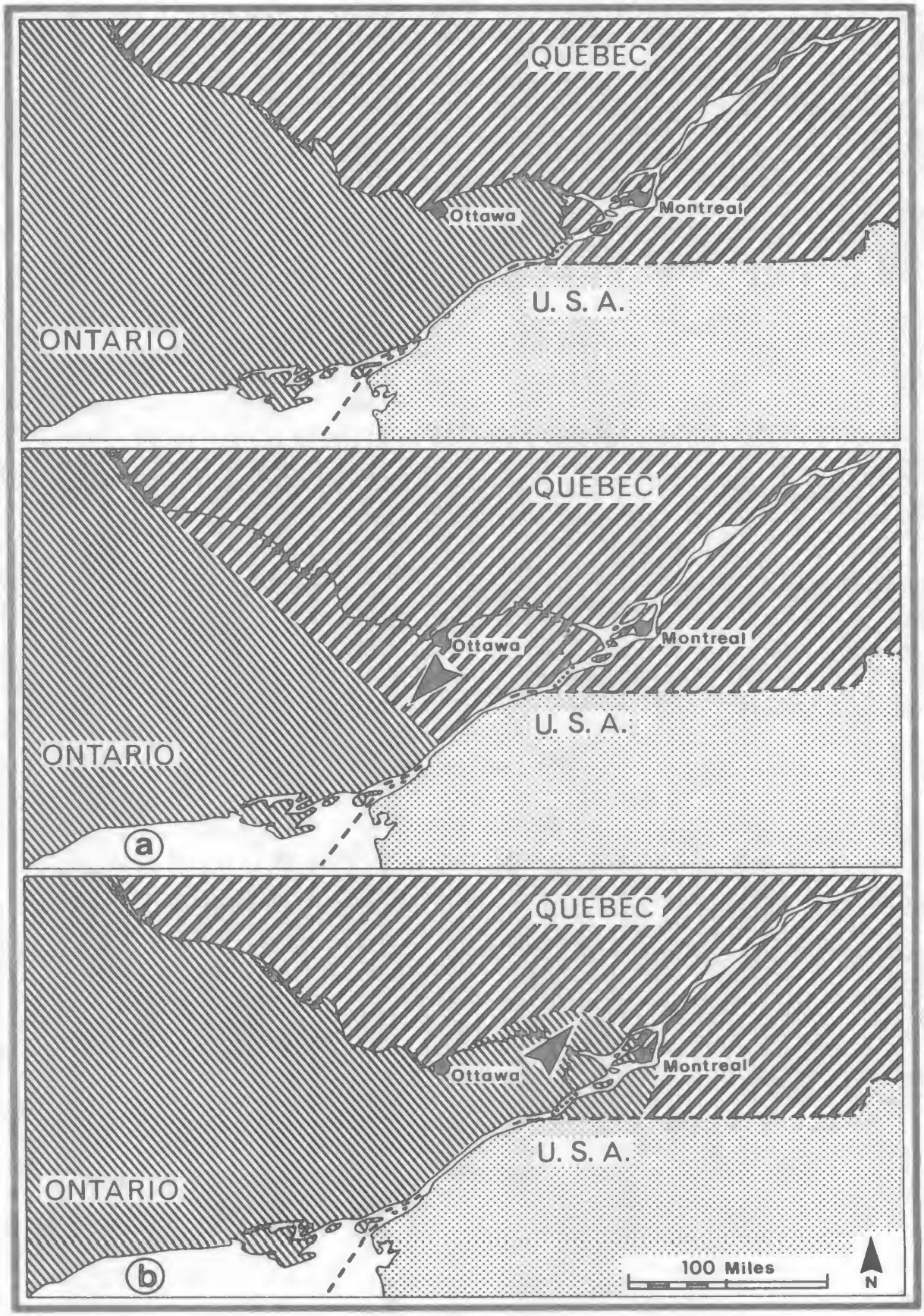
Scenario b: Recovering from the shock, Ontario dispatches the Ontario Provincial Police (O.P.P.) to recover the occupied territory which, to their surprise, they quickly accomplish. Filled with confidence, the O.P.P. push on, capturing and claiming in the name of Ontario parts of southwestern Quebec, including much of Montreal Island. Ontario justifies this occupation on historical grounds (i.e., the 1820's desire to annex Montreal to Upper Canada) and cultural (linguistic) grounds (i.e., the English speaking population). Opposition is encountered in downtown Montreal and eventually the Alberta Provincial Police are called in to establish and maintain a no-man's land between the O.P.P. western and Q.P.P. eastern controlled sectors of Montreal and the island.

SERIES II

Scenario I: By the year 2000 A.D., the territory once known as Canada is fundamentally restructured. First, Quebec seceded from Canada,[16] taking with it Labrador and most of New Brunswick. Prince Edward Island became independent under the Crown while Newfoundland became an independent republic. Nova Scotia, after a brief attempt at independence, succumbed to economic pressures and was annexed by the U.S. which wanted the Bay of Fundy for tidal-generated electric power development.

When Quebec became independent it closed the St. Lawrence to Ontario goods. Hurt economically from losing its outlet to the sea, Ontarians, so long propogandized by cable television from the U.S., called for annexation by the U.S., but statehood was achieved at a price. A new border was imposed northwards near Sault Saint Marie, and most of northern Ontario was taken from it to become functionally part of Minnesota and Michigan.

Canada's west was caught. No longer having links to the east, new links had to be forged and the former provinces (plus a renamed "North Resources" region) became one giant union called Coalsaman.[17] Manitoba, which had survived economically in the old confederation by being a useful central stop-over point on the east-west Canadian trade and communications network, soon discovered that being located at the eastern extremity of a western oriented union did little for the economic health of the area. Regional Economic Disparity Project Officers in the new capital of Vancouver were at a loss as to what to suggest! Eventually, Manitoban's sense of regional identity won out and they succeeded in freeing themselves from the union. But where to turn? As a landlocked country Manitoba soon learned that its only alternative to renewed union with (now renamed)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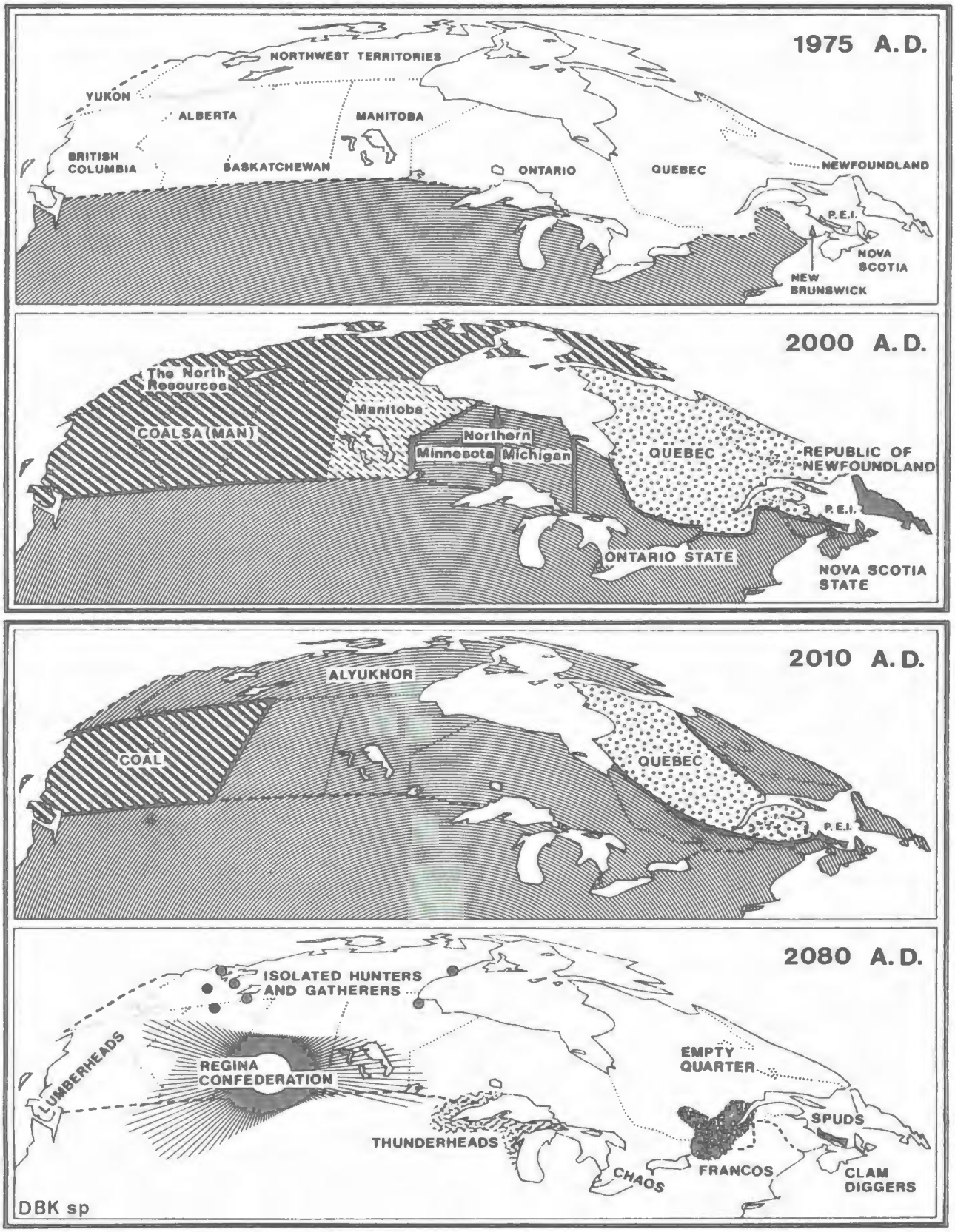

1975 A.D.
NORTHWEST TERRITORIES
YUKON
ALBERTA
MANITOBA
BRITISH COLUMBIA
SASKATCHEWAN
ONTARIO
QUEBEC
NEWFOUNDLAND
P.E.I.
NOVA SCOTIA
NEW BRUNSWICK
2000 A.D.
The North Resources
Manitoba
COALSA(MAN)
Northern Minnesota
Michigan
QUEBEC
REPUBLIC OF NEWFOUNDLAND
P.E.I.
ONTARIO STATE
NOVA SCOTIA STATE
2010 A.D.
ALYUKNOR
COAL
QUEBEC
P.E.I.
2080 A.D.
ISOLATED HUNTERS AND GATHERERS
LUMBERHEADS
REGINA CONFEDERATION
EMPTY QUARTER
SPUDS
THUNDERHEADS
CHAOS
FRANCOS
CLAM DIGGERS
DBK sp

Series II

Coalsa was annexation by the U.S. By referendum, Manitoban's agreed to the latter and the territory shortly after was annexed by an Act of Congress.

Scenario II: By 2010 A.D. the map further altered. The area once known as Saskatchewan also soon discovered what it was like to be the eastern most region of the western oriented union and, seeing that Manitoba State was flourishing, Saskatchewan successfully requested Congress to annex it too. While Coal reeled from the shock of this further loss of territory, U.S. forces moved north from Manitoba State and east from Alaska to claim the north, which was renamed Alyuknor.[18] The U.S. then maintained sovereign claim to Alyuknor by flying weekly missions over the territory and by establishing T.V. coverage by transmitting New York City news programmes north by satellite.

Quebec by this time had become more isolated and was unable to prevent a U.S. takeover of large sections of its territory after a two-pronged attack from Labrador and Ontario State. The Republic of Newfoundland was annexed by the U.S. but P.E.I. remained both independent and as one of the smallest member states in the U.N.

Scenario III: By the year 2080 A.D. the map of North America was radically different. Widespread famine and war and the diffusion of deadly diseases had decimated populations. Chaos still reigned in what had once been called the "industrial-northeast." Populations elsewhere struggled to survive with little being known anywhere about the past. A small agricultural population in the east was clustered in a loose tribal grouping called the Francos, but the origin of this name was uncertain. Except for a small island community of potato eating people called the Spuds, only small isolated clusters of people clung to the eastern shores. Their economy was based on clam digging. Vast areas of the northeast lay uninhabited but huge deserted man-made structures across rivers lay quietly standing as monuments to some strange unknown gods of the past.

In the centre and on the western margins of the continent were some specialized fisherman called the Thunderheads and Lumberheads. Isolated hunters and gatherers occupied disparate areas of the northwest. In the west were a variety of people who were agriculturalists and who had developed a new hierarchical social system which in part helped forge a new form of political linkage between groups, the total of which they called the Regina Confederation. Most interestingly, and in contrast to all other peoples on the continent, they had developed a new concept of territory, for they had come to define themselves by the territory they occupied rather than defining the territory by where their social groupings happened to be.[19]

Absurd? Possibly! Certainly these scenarios, when presented to the students, helped free constrained mental maps of what "reality" is, and discussion of the Ontario-Quebec boundary was able to occur at a new level of appreciation.

Whimsical scenarios of the future seem to be useful pedagogical tools for they jar fixed mental sets and get imaginations going as students seek to apply and interpret basic geographical themes and concepts. Any number of different future scenarios can be developed -- perhaps limits are provided by limits of the imagination -- but, at least when used as a pedagogical device, there should always be the exploration of five questions which have great geographical implications: What? Where? When? Why? and How? Perhaps geographers and map librarians should make more of an effort to develop and make available such maps. Of course, not all maps of the future are whimsical, for serious attempts have been made to project into the future and to develop alternate political maps that should better meet the needs of society.[20] Perhaps maps of possible futures will help in acting as springboards to imaginative thought and so also force new ways of reading present day political maps.

ACKNOWLEDGEMENT

The author thanks his students in 45:230 Cultural Geography and 45:561 Territory and Territoriality for the idea to develop the thoughts presented in this paper.
Stefan Palko, Cartographer, Department of Geography, Carleton University, drafted the maps.

FOOTNOTES

[1] The concept of a landscape as a document to be read is important in Geography. See Marvin W. Mikesell, "Landscape," in International Encyclopedia of the Social Sciences, ed. David Sills (New York: Macmillan, 1968), Vol. 8, pp. 575-580; David B. Knight, "A Dead Landscape or an Illiterate Readership?" Journal of Geography, Vol. 72, no. 8 (November, 1973), pp. 10-12; Idem, Cemeteries as Living Landscapes (Ottawa: Ontario Genealogical Society, Publication 73-8, 1973), Carl O. Sauer, Land and Life (Berkeley. University of California Press, 1967).

[2] See Hugh Prince, "Real, Imagined and Abstract Worlds of the Past," in Progress in Geography, eds. C. Board, et. al. (London: Edward Arnold, 1971), Vol. III, pp. 1-86.

[3] Douglas L. Johnson, The Nature of Nomadism (Chicago: University of Chicago, Department of Geography, Research Paper No. 118, 1969).

[4] Paul Wheatley, The Pivot of the Four Quarters (Chicago: Aldine, 1971), and Yi-Fu Tuan, Topophilia: A Study of Environmental Perception, Attitudes, Values (Toronto: Prentice Hall, 1974), especially pp. 150-172.

[5]Of the latter genre, the wonderful Arthur Ransome books (including Swallows and Amazons, The Picts and the Martyrs) serve as good examples. For an excellent entry into other mapped imaginary worlds see J. B. Post, An Atlas of Fantasy (Baltimore: Mirage Press, Ltd., 1973). See also the fascinating examination of Tolkienscapes, J. Douglas Porteous, "A Preliminary Landscape Analysis of Middle-Earth during its Third Age," Landscape, Vol. 19, no. 2 (January, 1975), pp. 33-38.

[6]The whole issue of perception of geographic "reality" is vital. See P. W. English and R. C. Mayfield, Man, Space, and Environment (Toronto: Oxford University Press, 1972), pp. 211-319, and Peter Gould and Rodney White, Mental Maps (Harmondsworth: Penguin, 1974).

[7]The word "removed" was used purposely since it can mean either relocated or taken away entirely.

[8]Including Donald Cartwright, "French Canadian Colonization in Eastern Ontario to 1910: A Study of Process and Pattern," unpublished Ph.D. dissertation, University of Western Ontario.

[9]See Norman J. G. Pounds, Political Geography, 2nd edition (Toronto: McGraw-Hill, 1972), pp. 66-121, and Harm J. de Blij, Systematic Political Geography, 2nd edition (Toronto: John Wiley and Sons, 1973), pp. 127-219.

[10]See, for instance, J. Ross Mackay, "The Interactance Hypothesis and Boundaries in Canada: A Preliminary Study," Canadian Geographer, Vol. II (1958), pp. 1-8; Roy I. Wolfe, "Transportation and Politics: The Example of Canada," Annals, Association of American Geographers, Vol. 52 (1962), pp. 176-190; and D. Michael Ray, Dimensions of Canadian Regionalism (Ottawa: Department of Energy, Mines and Resources, Geographical Paper No. 49, 1971), pp. 31-34.

[11]For example, Gibson found that residents on the Hull side of the Quebec-Ontario border included much of Ottawa in their preference mental maps as compared with Ottawa residents who saw the Ottawa river more as a barrier. Terrence L. Gibson, An Empirical Approach to the Functioning of a Boundary, unpublished M.A. thesis, Carleton University, Ottawa, 1972.

[12]Base map is attached to George Murdock, Africa (New York: McGraw-Hill, 1959), and with imposed European boundaries in R. Mansell Prothero, Migrants and Malaria in Africa (London: Longmans, Green and Co., Ltd., 1965), p. 131.

[13]Norton S. Ginsburg, "On the Chinese Perception of a World Order," in R. Kasperson and J. Minghi, eds., The Structure of Political Geography (Chicago: Aldine, 1969), pp. 330-340.

[14]S. C. Gilfillan, as redrafted in Pounds, op. cit., p. 37.

[15]On irredentism see de Blij, op. cit., pp. 407-412. On the various types of claims to territory see Andrew F. Burghardt, "The Bases of Territorial Claims," Geographical Review, Vol. 63, no. 2 (April, 1973), pp. 225-245.

[16]See Andrew F. Burghardt, "Quebec Separatism and the Future of Canada," in Geographical Approaches to Canadian Problems, ed. R. Louis Gentilcore (Toronto: Prentice-Hall, 1971), pp. 229-235.

[17]Coalsaman: British Columbia, Alberta, Saskatchewan, Manitoba. On possible western union see K. K. Flton, ed., One Prairie Province? (Lethbridge, Alberta: Lethbridge Herald with The University of Lethbridge, 1970), especially the papers by Andrew H. Clark, "Historical and Geographical Perspectives," pp. 325-335, and A. H. Laycock, "How Union Would Affect the Development of Natural Resources," pp. 337-349.

[18]Alyuknor: Alaska, Yukon, Northern Territories.

[19]For the European historical development of these concepts and also cross-cultural perspectives see E. W. Soja, The Political Organization of Space (Washington, D.C.: Association of American Geographers, Commission on College Geography, Resource Paper No. 8, 1971), and Jean Gottmann, The Significance of Territory (Charlottesville: The University Press of Virginia, 1973).

[20]For example, maps by geographers include George T. Renner, "Maps for a New World," Colliers, Vol. 109 (June 6, 1942), pp. 14-16; and G. Etzel Pearcy's map of the U.S. reorganized into 38 states and reported in "Boston, Plym., and Boise, Bitt.," Time, December 17, 1973, p. 10. See also a more recent 16-state U.S. nation proposal in Stanley D. Brunn, Geography and Politics in America (New York: Harper and Row, 1975), pp. 422-425, a proposal that will be treated further in Idem, Towards a More Perfect Union (New York: Oxford University Press, forthcoming, 1975). And, for a review of larger scales and a quantitative point of view, see Bryan H. Massam, The Spatial Structure of Administrative Systems (Washington, D.C.: Association of American Geographers, Commission on College Geography, Resource Paper No. 12, 1972).

David B. Knight
Department of Geography
Carleton University

EARLY CANADIAN CARTOGRAPHY IN THE UNIVERSITY OF ILLINOIS MAP AND GEOGRAPHY LIBRARY

The University of Illinois Library has been collecting maps and atlases for nearly one hundred years although the first full-time map librarian was not appointed until 1944. Even then, the map collection had more than 40,000 maps and much of the present rare map collection had already been purchased or given to the university. This collection is now being catalogued for the first time and this paper is the result of the cataloguing of our Canadian collection.

From these early beginnings, the library has grown to include nearly 15,000 monographs, 800 serial titles, 115,000 aerial photographs and over 280,000 maps. The rare map collection has grown steadily into one that includes examples from many cartographers and maps from various periods in the history of cartography. The library now has major pre-1900 collections on the British Isles, Italy, the West Indies, the Great Lakes region and a representative collection dealing with the American Revolutionary War despite the fact that acquisitions have never concentrated on either specific areas nor a specific cartographer.

It is our interest in the early exploration of the Great Lakes which accounts for our early maps of Canada. The earliest maps in our collection are from the late seventeenth century and it seems appropriate to divide our discussion by the following regions: North America, Eastern Canada, the Great Lakes region, Regions and Cities, and Northwestern Canada.

North America

One of the earliest original maps of Canada is Nicolas Sanson's "Canada, sive Nova Francia, & c. Per N. Sanson." Our particular map, at the approximate scale of 1:15,000,000 is believed to have been published in Paris in 1657. The University of Illinois copy differs from three entries in Phillips and another in the William L. Clements Library catalogue. Although including an area as far south as the Carolinas, the map centres on the St. Lawrence River valley and the eastern Great Lakes region. The accuracy of both the St. Lawrence region and the location of Lake Ontario are evidence of the numerous explorations in this region and the crude shapes of the western lakes reflect the extent of geographical knowledge at this period. Indian names dominate the map and yet European settlement is easily identified: Port Royal, Port Neuf, Québec, and Montreal. Until Delisle's 1703 map, this map served as the prototype for maps of North America and is also one of the first maps to distinguish the five Great Lakes.

Another Sanson map, corrected and amended by William Berry in 1680, "North America Divided into its Principall Parts viz. Arctick lands ...," is the largest English map of North America published at this time. The map is dominated by an extremely colorful cartouche in the upper left corner and many new European settlements appear on the east coast with Indian names continuing to dominate the interior. The map differs little in the Great Lakes-St. Lawrence region when compared to the earlier Sanson; however, the Straits of Anian is included on the west coast and the areas immediately west of Hudson's Bay are labeled "New North Wales" and "New South Wales." This map was reissued in 1718 under the imprint of "P. Dreaton, J. Lenthall and T. Taylor."

Even more colourful is Nicolas Visscher's map: "Nova Tabula Geographica complectens Borealiorem Americae Partem, in qua exacte delineatae sunt Canada sive Nova Francia, Nova Scotia ...," published in Amsterdam [1685]. This map, certainly one of the most accurate for the period, shows numerous place names and bathymetric soundings along the north-eastern coast of the United States. Visscher attempted, with some degree of accuracy, to show relief and woodland in the interior. This map may be of interest to many Canadians as it draws the Pennsylvania border well north of Lake Ontario and includes the island of Mont Royall within the boundaries of Novum Belgium or New York!

Returning to Nicolas Sanson and a 1696 map: "L'Amerique Septentrionale divisée en ses principales parties ... presentée ... Hubert Iaillot," published by Jaillot, I find it differs little from the Berry-Sanson 1680 map and is nearly an exact copy from the ornate cartouche (uncoloured on our copy) to the names in the southwestern United States. Minor changes will be found in the vicinity of the St. Lawrence valley and the Hudson's Bay region has been entirely redrawn. "New North Wales" and "New South Wales" have now been given more specific land areas and Buttons Bay, given a northwest orientation by Berry, is given a southern one by Jaillot. These two maps show the continued influence of Nicolas Sanson on North American cartography even after his death in 1667.

Nicolas de Fer's map, "Le Canada, ou Nouvelle France, ... et le Cours de la Riviere de Misisipi ... A Paris ... 1702," is an accurate French map for the Great Lakes at the turn of the century. This map, engraved by Van Loon, is from de Fer's [L'atlas curieux ... Paris ... 1700-1704].

A later edition of Visscher's [1685] map, described earlier, can be found in William Bollan's Importance and advantage of Cape Breton, Leipzig, 1746. This edition includes an inset entitled: "Plan des Fortifications de la Ville de Louisburg dans l'Isle de Cap-Breton." This large scale inset delineates roads, buildings, artillery batteries, and the wall fortifications surrounding the fort at Louisburg.

Perhaps the most important map in North American history is: "A Map of the British and French Dominions in North America ..." by John Mitchell, engraved by Thomas Kitchin and originally published in 1755. The Map and Geography Library is fortunate to have two different editions of this map: the second issue of the first edition and the third edition. The lower right corner of this map contains a large title cartouche and an inset of Hudson's Bay is in the northwest corner of the map. Understanding Mitchell's fear of French encroachment, one of the primary reasons for compiling the map, it is interesting to note that his southern limits of Canada are delineated north of Lake Ontario. He justifies this by referring to earlier maps by Delisle and de Fer and labelling the area: "Conquered and expelled by the Iroquois Ann. 1650 ever since which time they have been in Possessn. of this Country." Although an important map in U.S. cartography, this map is also significant to Canada for its delineation of the Great Lakes region, its importance during the deliberations which led to the Treaty of Paris in 1783, and for its use in determining the Canada-United States boundary lines.

John Rocque's "A General Map of North America," published by his wife after his death in 1762, is one of the first maps in our collection to show the boundaries of the "Government of Quebek." The boundaries surrounding the Great Lakes region are confusing on this map as Pennsylvania, Maryland

and Virginia are restricted to the coastline. This results in a large area, west to the Mississippi and extending north of Lake Huron and south to North Carolina, labelled only with the names of numerous Indian tribes, roads and towns. West of Hudson's Bay one finds the area labelled, "These Parts are Intirely Unknown" and "It is very uncertain whither this part is Sea or Land." South of Hudson's Bay, another large area is labelled "Indians" with a note on the map that "This Map is divided according to his Majesty's Proclamation: English, French, Spanish, Indians."

Eastern Canada

I will now focus my attention on those maps of the area of Canada itself, and more specifically, the southeastern portion of the country. Once again, our collection begins with maps from the late seventeenth century and two maps by the Italian cartographer Vincenzo Coronelli are perhaps our most significant seventeenth century items. These two maps are, "Partie Orientale du Canada ou de la Nouvelle France ... Par le P. Coronelli ... A Paris ... Chez I.B. Nolin ... 1689," and "Canada Orientale nell' America Settentrionale ..." [1695]. The first map gives a list of forts and islands near Montreal, contains numerous place names, shows fort locations, and has many paragraphs of text describing the discovery of certain regions. Because of the excellent cartography found on Coronelli's maps, this is one of the most accurate delineations of the St. Lawrence valley at this time. The second map, showing the Maritime Provinces and Newfoundland, contains numerous place names and identifies harbours with small anchor symbols. This relatively large-scale map, approximately 1:3,500,000, shows the Newfoundland Grand Banks in considerable detail with soundings.

Entering the eighteenth century one of the first maps encountered is Delisle's "Carte du Canada ou de la Nouvelle France ... Par Guillaume Del'Isle ... 1703." This map, remarkable for its accuracy in the Great Lakes region, is also the first issue of the first printed map to show Detroit only two years after it was founded by Cadillac.[1] Since this map revises Sanson's conception of the region, it has become the most influential early eighteenth century map of Canada. The Map and Geography Library also has a re-engraving of this map, a considerably more colourful copy, published by Covens and Mortier of Amsterdam in [1730].

Another well-known European cartographer, Tobias Conrad Lotter of Germany, was also producing maps of America during this period. The son-in-law of Matthias Seutter, he inherited Seutter's business and simply substituted his own name on the plates and reissued them. The few new maps he did publish, which Seutter had not done originally, were actually copied from Delisle - in other words, Lotter was an authentic practitioner of that fine art of plagiarism! Our map: "Partie Orientale de la Nouvelle France, ou du Canada ... par T. Conr. Lotter," [1734], shows the area from the St. Lawrence valley east to include Newfoundland. The map's most obvious characteristic is its north-south elongation - as if someone had drawn the map and then stretched the paper in a north-south direction. Actually, the cartography published by Lotter, and therefore a reflection on Seutter as well, shows no improvement from earlier maps and may indeed represent a regression especially when compared to Delisle.

Another early map, drawn by Hermann Moll in 1732, is: "Newfoundland, St. Lawrence Bay, The Fishing Banks, Acadia, and part of New Scotland." This map is a crude execution of the St. Lawrence Bay region, for it had been drawn more accurately by earlier cartographers. Moll, however, usually was aware of the advances in geographical knowledge and his places, names, and boundaries are usually accurate even though the maps may be poorly drawn.

The next series of maps are those prepared by Nicolas Bellin during the mid-eighteenth century:

"Partie Orientale de la Nouvelle France ou du Canada ... Publie par les Heritiers de Homan en l'an 1755."

"Carte du Golphe de St. Laurent ..." [1757]

"Suite de Cours du Fleuve de St. Laurent depuis Quebec jusqú au Lac Ontario ..." [1757]

"Carte du Cours du Fleuve de St. Laurent depuis son Embouchure jusqú au dessus de Quebec." [1757]

"Carte de l'Acadie et pais voisins." [1764]

These maps, extracted from various printed works, are highly accurate cartographic productions for the mid-eighteenth century. Although well-known for his 1744 map of the Great Lakes on which he placed the fictitious island "Isle Philipeaux," an imaginary cartographical place which existed for more than a century, his maps represent the next period of improvement after Delisle.

One of the most detailed charts of Newfoundland's Grand Bank can be found on a chart from Jeffery's 1776 The American Atlas: "A Chart of the Banks of Newfoundland drawn from a great number of hydrographical surveys, chiefly from those of Chabert, Cook and Fleurieu," printed for Robt. Sayer and John Bennett. This is a notable atlas map with hundreds of soundings and "Fleurieu's Track in July 1769" shown clearly. Much of the southern half of Newfoundland is delineated and the coastline appears quite accurately.

The library also has a late eighteenth century map, one displaying the political boundaries as they were in 1794. "A New and Correct Map of the British Colonies in North America ... with the adjacent states of New England ..." differs from those issues described in Stevens and Tree's Comparative Cartography.[2] Numerous Indian tribe locations are shown as are towns, forts, relief by hachures, and only "a half of Vermont!" This is an excellent map for viewing the situation as it existed prior to the beginning of the nineteenth century.

An early large-scale map of the St. Lawrence River is Jean-Baptiste Bourguignon d'Anville's ca. 1755 map entitled: "Le Fleuve Saint-Laurent, représenté plus eu détail que dans l'etende de la Carte." This map, larger in scale and considerably more detailed than those produced by Bellin at the same time, was published in d'Anville's Atlas général, Paris, 1777-80. This map may be the first printed map to accurately chart the many islands along the river between Lake Ontario and the Bay of St. Lawrence.

The one nineteenth century map, included in this discussion, is Samuel Holland's, "A new map of the Province of Lower Canada, describing all the seigneuries, townships, grants of land, and c. ... London, Published by William Faden ... August 12th, 1802." This map's importance may be measured by the fact that it was issued six times, with minor revisions, from 1802 to 1843.[3] Important for its political boundaries, this is also an excellent hydrographic chart for it gives soundings in the St. Lawrence River north of Quebec, in Chaleur Bay, in the Bay of Fundy and also delineates the rivers and lakes of New Brunswick.

Great Lakes

The following group of maps, with one exception, have as their central focus the Great Lakes region of North America. I will discuss the one exception initially: "America with those known parts in that unknowne worlde both people and manner of buildings discribed and enlarged by I.S. [John Speed] Ano. 1626." Our copy of this map is the fourth and last issue which was sold by Thomas Bassett and Richard Chiswell. It is included here as one example which does not show any of the Great Lakes, although Hudson's Bay and the St. Lawrence River are included. This map is just one example of how maps were continually reissued without revision; this map, published in 1626, was reissued in 1631, 1662 and 1676 with no revision to the map although the text on the verso was changed each time.[4]

Two of our earliest maps of this area are by the Venetian cartographer Vincenzo Coronelli. The first, a 1688 map entitled: "Partie Occidentale du Canada ou de la Nouvelle France ou sont les Nations des Illinois ...," is a finely executed map of this region with numerous short descriptions of the Indians and rivers of the midwestern United States. Most of the place names used on the map are those adopted from the Indians and great care has been taken to map and name each river and bay as well as to show fortifications. This is the most advanced map of this area at the time and better maps of the Great Lakes region did not appear until the early eighteenth century. Another excellent delineation of the Great Lakes is his "La Louisiana, parte Settentrionale ..." published at Venice in 1696 as part of his Atlante Veneto. This map, highly praised in Karpinski's bibliography, is an important map historically.[5] As cartographer to Louis XIV, Coronelli had access to the latest French explorers maps accounting for his accurate delineation of this area. Coronelli, perhaps more familiar for the globes which he produced, should also be recognized as one of the more notable mapmakers in early American cartography.

Referred to as one of the fundamental maps of the Great Lakes area by Karpinski,[6] Bellin's 1744 "Carte des Lacs du Canada" is famous for its non-existent "I. Philippeaux" which can be found on maps of Lake Superior in the nineteenth century. This is also the first separate engraved map of the Great Lakes region. As the cartographer for Charlevoix, Bellin's map may be found in Charlevoix's Journal d'un Voyage, published in 1744. The map shows numerous rivers, forts, portages, missions, and Indian villages.

Two interesting maps appearing in the London Magazine are "A Map of the five Great Lakes, with part of Pensilvania, New York, Canada and Hudson's Bay Territories and c.," ca. 1755 and "A Plan of the Straits of St. Mary, and Michilimakinac, to shew the situation and importance of the two westernmost settlements of Canada for the fur trade." ca. 1761. The first of these maps, based on Bellin's earlier maps shows the "Boundary of the Six Nations," numerous settlements and forts as well as Bellin's "I. Philippeaux." The second map is the earliest separate map of this most important Great Lakes fur trading center. This interestingly detailed map also shows the mission of St. Ignace and a fort nearby, the mission of St. Mary and Indian villages in the region.

Another map by Bellin, and published by the "Heritiers de Homan" in 1755, is "Partie Occidentale de la Nouvelle France ou du Canada...." This map, obviously based on his 1744 map, is of larger scale and now includes the Mississippi River although little has changed in the Canadian region.

Regional Maps

Two regional maps of eastern Canada, both from widely different periods, are interesting for their respective detail. The earliest, a 1712 map entitled, "A Description of the Bay of Fundy ... observed by Nat. Blackmore in ye years 1711 and 1712." and "Printed and Sold by Tho. Bowles" is a detailed map of this region for the early eighteenth century. Probably compiled by Hermann Moll, there is an inset of "The Harbour of Annapolis Royal" which shows soundings, roads, buildings and the fort at Annapolis Royal. Most of the text on the map explains the tide or describes land areas useful for sailing directions.

The second map, tentatively dated ca. 1820, is by Joseph Bouchette and entitled, "A Plan of the new townships on the Grand or Ottawa River in which lands have been granted." This large-scale map shows the individual grants in townships in the area.

Moving northward in this description, mention should be made of two maps of Hudson's Bay by Nicolas Bellin: "Carte de la Baie de Hudson" (1757), and "Carte des Parties du Nord-Ouest de l'Amerique, Suivant les Voyages de Middletown et d'Ellis en 1742 et 1746, Pour chercher und Passage dans la Mer du Sud." (1777). The second is a more detailed map of the northern half of Hudson's Bay although both show islands, forts, and relief by hachures.

City Maps

Three eighteenth century maps from the collection will be briefly described as examples. Universal Magazine's 1745 map, "A plan of the city and fortifications of Louisburg," is probably well known since it has been reproduced many times. Besides the detailed plan of fortifications, this map also includes a map of the harbour of Louisburg and an inset of the Bay of Gabarus.

Our second example is Isaac Tirion's map, "Quebek, de Hoofstad van Kanada; aan de Rivier van St. Laurens: door de Engelschen belegaerd en by Verdrag bemagtigd, in't jaar 1759." This colourful map shows the army positions and artillery bombardment during the Battle of Quebec. Numerous

detailed drawings showing positions of both land and naval forces make this a valuable document for studying this particular period of Canadian history.

The third map, published in Cottelini's Gazzetteire American in 1763, is "Piano della Citta di Quebec." This small map shows relief by hachures and the legend above the map identifies many of the buildings and fortifications.

Northwest Coast

I shall end this short discussion of our collection with a description of two early maps of the northwest coast of Canada. The earliest map in our collection is the map printed for Robert Sayer, probably by Thomas Jefferys, in 1775: "The Russian discoveries, from the map published by the Imperial Academy of St. Petersburg." This map, copied from the Russian original published in 1773, shows the course of the ships sent by the Russian government to explore the American and Asiatic coasts.[7]

The second example, not found in Wagner's Cartography of the northwest coast of North America to the year 1800, is "Nouvelle carte des decouvertes faites par des vaisseux Russiens ... a St. Petersbourg a l'Academie Imperiale des Sciences 1784." Undoubtedly based on earlier editions, this map is engraved from a different plate than the above Sayer map.

Conclusion

It should be noted that this paper has dealt with only the sheet map collection in the Map and Geography Library and not our atlas collection nor the library's Rare Book Room collections. These collections would add further to this paper although it seems beyond the scope of this brief description.

In conclusion, the University of Illinois Map and Geography Library, although probably not containing any unique items, does have a collection of early Canadian cartography primarily developed from our interest in the early exploration of the Great Lakes region. The area of the Great Lakes continues to be our area of primary interest and a primary focus for our acquisitions programme.

Footnotes

1. Map Collectors' Circle. No. 33: French mapping of the Americas, the De l'Isle, Buache, Dezauche Succession (1700-1830), by R.V. Tooley. London, 1967. p. 20.

2. Stevens, Henry and Roland Tree. Comparative cartography exemplified in an analytical & bibliographical description of nearly one hundred maps and charts of the American continent published in Great Britain during the years 1600 to 1850. Offprint from essays honoring Lawrence C. Wroth, 1951. [n.p.] c1951. p. 348.

3. Ibid. p. 322.

4. Map Collectors' Circle. No. 92: A sequence of maps of America, by R.V. Tooley. London, 1973. p. 10.

5. Karpinski, Louis C. Bibliography of the printed maps of Michigan, 1804-1880. Lansing, Michigan Historical Commission, 1931. p. 50.

6. Ibid. p. 80.

7. Wagner, Henry R. The cartography of the northwest coast of America to the year 1800. Berkeley, University of California Press, 1937. Vol. II. p. 343.

David Cobb

MAPPING THE OCEANS: SOME BASIC PROBLEMS IN MARINE CARTOGRAPHY

Most maps of the world are in reality maps of the land areas of the world: On them seventy-one percent of the earth's surface is shaded blue to represent water, - and then is promptly forgotten. The map is so designed that the user will concentrate on the shapes enclosed by the shorelines and consequently, this is how most people visualize the shape of the countries of the earth. Compare, for instance, your mental image of Canada with Figure 1, which shows the extent of "continental" Canada. The latter is, in many ways, a truer shape of Canada than that outlined by the shoreline. This paper is concerned with the basic problems involved when mapping any parameter beyond the shoreline. It is intended as a review of those problems and of the techniques used to resolve them and it is hoped thereby to facilitate the application and interpretation of the printed map.

Background: Man has always been interested in the sea but never more than to-day. In former times the need to cross oceans by ship, and the frequently hostile nature of the marine environment dominated man's interest. Most marine cartography had the explicit aim of aiding navigation by providing a document on which all known hazards to shipping were recorded. Both the terrors and the enticement of unexplored oceans were personified by the sea-monsters and mermaids used to fill otherwise empty spaces on the map. Water depths were first shown on maps of harbours and later, descriptions of bottom types for anchorages and as aids to navigation were added. In 1769, Benjamin Franklin published the first map showing the Gulf Stream to aid sailing vessels crossing the Atlantic. Depths, bottom types and currents comprise the essentia information about the sea on hydrographic charts to this day. Whilst most hazards to shipping are now charted this does not prevent occasional disasters, the scale and impact of which are vastly increased by the size of modern ships and the types of cargoes they carry.

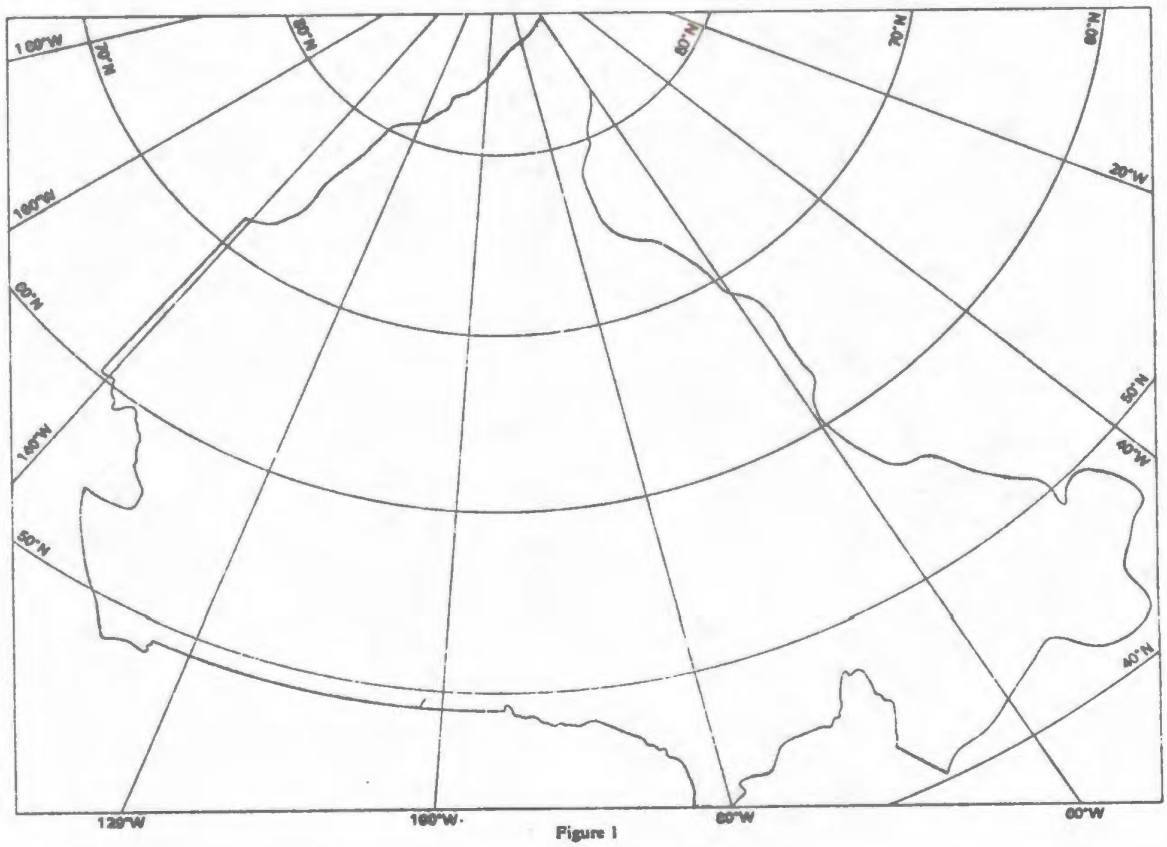


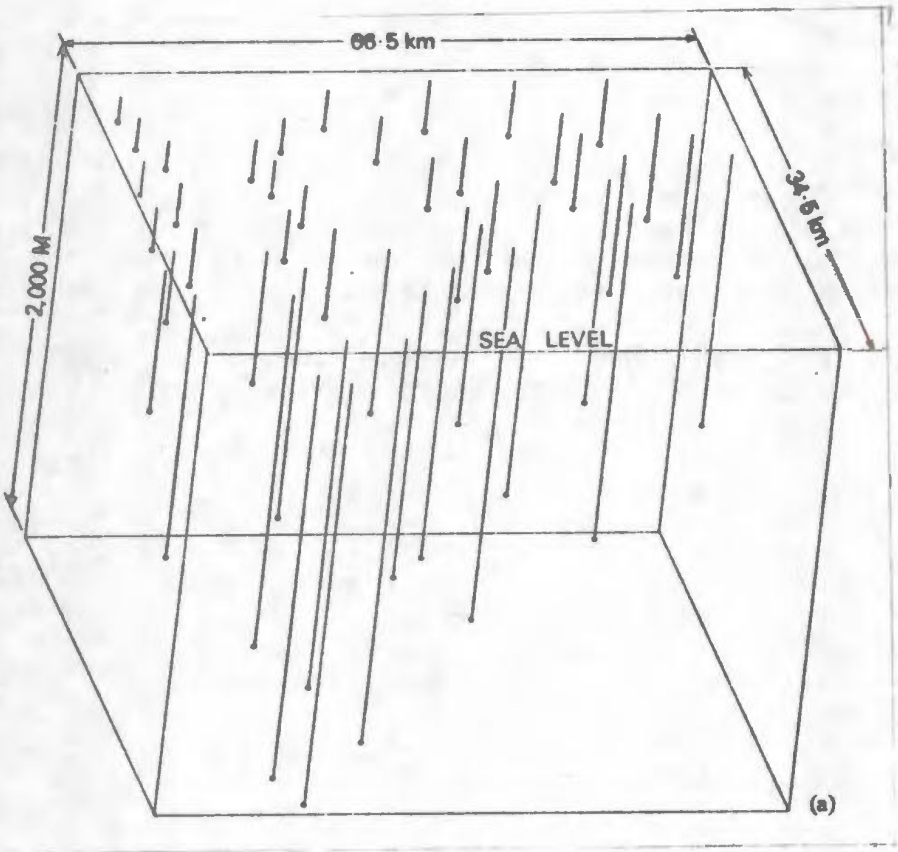
Figure 1

In recent years interest has extended from the needs of navigation to encompass an ever growing awareness of the limited resources of the world's land areas and the consequently urgent need to develop more fully the potential resources of the sea. Food from the sea has long been important but far too little has yet been done, for example, to aid fishermen in the precise location of their catch. Newer activities in mineral exploration at sea arise from the realization that the position of the shoreline changes with time, and that the continents do not stop at the shoreline but rather continue outward to form continental shelves which are proving to be valuable sources of gas and oil. In deeper waters, manganese is formed and brine, rich in heavy minerals, has been found. The oceans, too, control the climate of the earth by absorbing and redistributing solar energy. They also serve as a dumping ground for man's wastes, a practice over which there is increasing concern. Such a vast and important area needs intensive study to be properly understood and sensibly exploited.

Research in these fields is presently being carried on in many departments of universities and research institutions. Geologists, economists, and students of political science and international affairs, to name but a few are dependent on specialized marine maps. Map libraries can greatly help in this endeavour by being fully cognizant of the maps available, their potential and their limitations, and can perform a valuable service in the education of the map user thereby increasing the utility of these maps.

Categories of Problems: Map-making consists of acquiring data, interpreting it and presenting the interpretation in graphical form. In marine mapping, the three operations can be performed by distinct groups of specialists although the acquisition and interpretation are frequently undertaken by marine scientists while the third is the task of cartographers in the traditional sense. Since the problems associated with each operation are closely interrelated, all three must be discussed.

Data Acquisition: Beyond the depth of a few meters, seawater is opaque to light. Consequently, although aerial photography has been used to map the bottom to depths of about five metres[1], there is no method of obtaining direct areal coverage of any parameter at sea. The occurence and distribution of any phenomena can only be sampled. These samples take the form of small physical samples of the object of study, which can be considered as point data (Figure 2A). Alternatively, surfaces can be sampled by means of profiles recorded across them (Figure 2b). Recent advances with instruments like the sidescan sonar are starting to bridge the gap between sample data and areal coverage. When such instruments are fully developed, marine mapping will become much easier but at present a marine map can be drawn only within the limits imposed



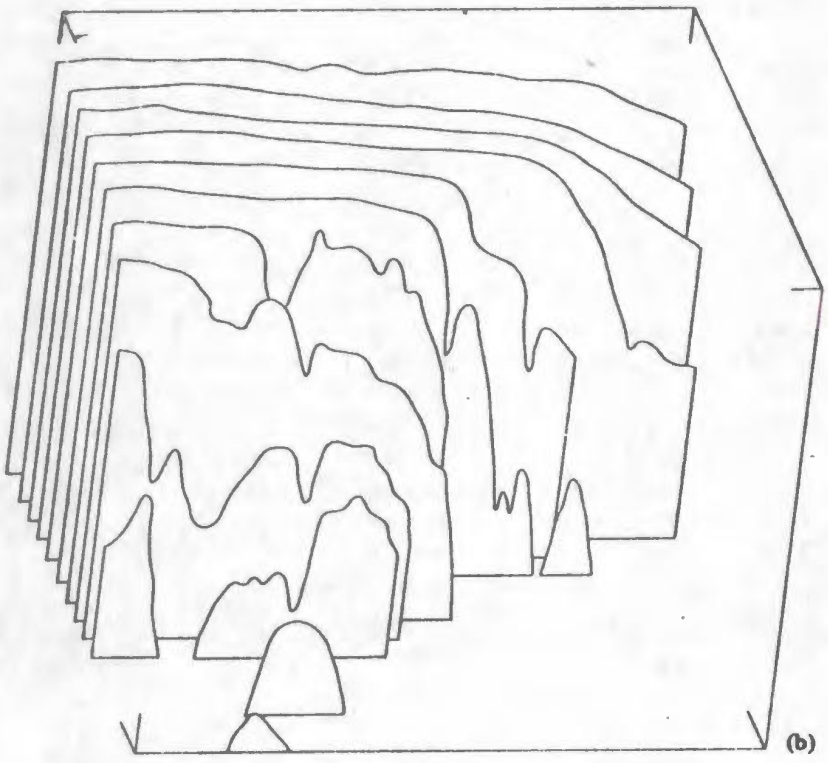


Figure 2

by point or profile data. The inference that can be derived from these data and methods of interpretation will be discus under "Data Interpretation". Before doi so, the practical difficulties of obtain data at sea will be considered.

Data are collected from a variety of mov or fixed platforms. Ships of various si are used primarily but occasionally heli copters or hovercraft are more suited to some particular task. Canada's fleet of scientific ships is small but of a high ity. Half of the vessels are capable of operating under virtually any conditions Their main limitation is their speed, wh in the best case is about fourteen knots (16 m.p.h). For example the Canadian Hydrographic Service is mapping an area the size of the land area of Canada from ships that can travel about as fast as a bicycle. Consider attempting to provid topographic map of such an area using on a bicycle equipped with an altimeter and sheer magnitude of the problem becomes apparent.

Moving ships can collect continuous hori zontal profiles of some marine parameter They can also stop and collect vertical profiles through the water column or col point data from the bottom or at discret depths in the water column. Parameters the same location can be measured as the vary through time from buoys moored on t surface or beneath it. Investigations o extremely small areas can be made by sub mersibles, bottom photography or divers. Normally these are so limited in range t their findings can only be considered to point data.

Profiles and point data have several pro in common, the first being positioning. any piece of data to be meaningful it mu first be located in space. Consider fir the x and y coordinates which are usuall but not necessarily, expressed in terms latitude and longitude. Visual fixes on accurately located shore stations give good results when taken close to land. distance increases, visual methods are replaced by shore-based electronic posit systems, whose accuracy can be evaluated and used when analysing the data. Shore

based electronic positioning systems also have their range limitations and far offshore, moored, radar transponder buoys can be used to give relative positions. The buoys change position to the limit of their mooring wires[3] but it is possible to continually fix on them. Satellites give fixes at discrete intervals, their frequency and quality varying with location. Between satellite fixes, other methods such as dead reckoning, celestial navigation or radar range and bearing on moored buoys must be used. Additional problems arise from the fact that the vector of the ship's movement is one of the terms used in calculating its position by satellite. This is difficult to measure since instruments currently in use measure only the speed of the ship through the water and not its speed relative to some fixed point. Actual speed over the bottom can be measured using Doppler sonar, but its use is at present restricted to shallow waters, and it is extremely expensive. A difference of one knot between the actual speed and the speed used in the calculations for satellite positioning means an error in position between 200 and 800 metres, depending on the direction of travel.[4]

This leads to an important point. It is seldom sufficient to position the platform on the surface at one instant of time. It is frequently essential to determine how the platform is moving. For example, in gravity measurements the vector of horizontal movement is used when calculating Eotvos corrections, without which the gravity measurements are meaningless. An error of one degree in determining the direction of this vector gives one milligal of error in gravity values. Similarly sea state, the vertical vector of movement enters into the problem in many cases, and the effect of sea state must be removed from the data to avoid erroneous conclusions.

Some instruments are not carried in the ship, but are towed behind it. If the instrument maintains a constant position relative to the ship, it can be positioned as accurately as the ship. If the instrument's position relative to the ship varies, or if its orientation relative to the ship's heading changes, then another factor is added to the positioning problem.

Determining the z coordinate, which is normally measured from the sea's surface, can also be difficult. Active instruments emit a signal and observe what happens to the signal. The observed event may be directly beneath the instrument or to one side due to vessel roll and pitch or the width of the propagated signal. Examples of the effects of different signal widths are given by Belderson et al.[5]

Passive instruments record what they experience at a location. The location may be on the platform or suspended beneath it. In the latter case, position is a problem, since lowering an instrument on a certain length of cable does not ensure that the instrument is as deep as the length of cable. Currents can easily push it sideways.

It is also imperative to know what each instrument measures and how it works. For instance, the echo-sounder, the instrument used most frequently at sea, does not, as is commonly believed, measure depth. It measures time. Time is converted to depth by multiplying it by the velocity of sound in sea water and dividing the product by two. Since the value for the velocity of sound

can exceed that of time by several orders of magnitude, velocity is critical, yet it is difficult to measure. Normally an assumed value is used, which is not necessarily correct. This makes absolute values of depth difficult to determine.

The echo-sounder operates by emitting pulses of energy and measuring the time they take to travel to the bottom and return. The number of pulses emitted per unit-time will affect the observed signal since the pulse rate is, in effect, the sampling rate. The quantity of energy emitted also effects the observed signal since energy, reflection and refraction are related by Snell's Law. These vary from instrument to instrument, and within one instrument operating on different scales, or due to drift with time. This can result in different signals being received and possibly confused.

As the energy pulse travels downward, its path approximates a cone. The amount of bottom "swept" by the signal is dependent on the solid angle at the top of the cone and the water depth. A small cone angle gives a signal close to an actual profile of the sea floor beneath the ship, while a large cone angle returns a signal consisting of reflections from all the topographic highs within the broad swath swept by the signal. Thus, the type of data collected varies with the characteristics of the machine used.

The echo-sounder has been used in this discussion as a typical instrument. Similar considerations apply to the other instruments used at sea.

These are a few of the basic problems in acquiring data at sea. They are not insurmountable and technical innovations are continually improving the quality and increasing the quantity of data. The conditions under which the data are collected and its limitations must be kept fully in mind when interpreting or presenting it.

Data Interpretation: Data interpretation starts before any data are collected since the types of instruments and the amounts of data collected greatly influence the final interpretation. The method of converting data to numerica form or to digital form for computer use also influences interpretation. This will be discussed before dealing with the actual problem of interpretation.

For ease of handling, and for manipulation by computer, profiles are frequently converted to series of numerical values which supposedly represent that profile. The method of selecting points on a profile which will be converted to numerical form is critical. Frequently, arbitrary intervals are scaled off along each profile and the values there recorded (Figure 3a). This effectively filters the profile to a form containing no features with a half-wave length less than twice the distance between the numerical values. Some types of data respond well to such filtering, others require more sophisticated filtering to remove noise, while others suffer a loss of resolution and can be better stored by recording all inflection points (Figure 3b) In each case, the phenomenon being studied should dictate the method of numerical storage. The profile as originally recorded should also be availabl to the interpreter. This problem is one on which considerable work remains to be done.

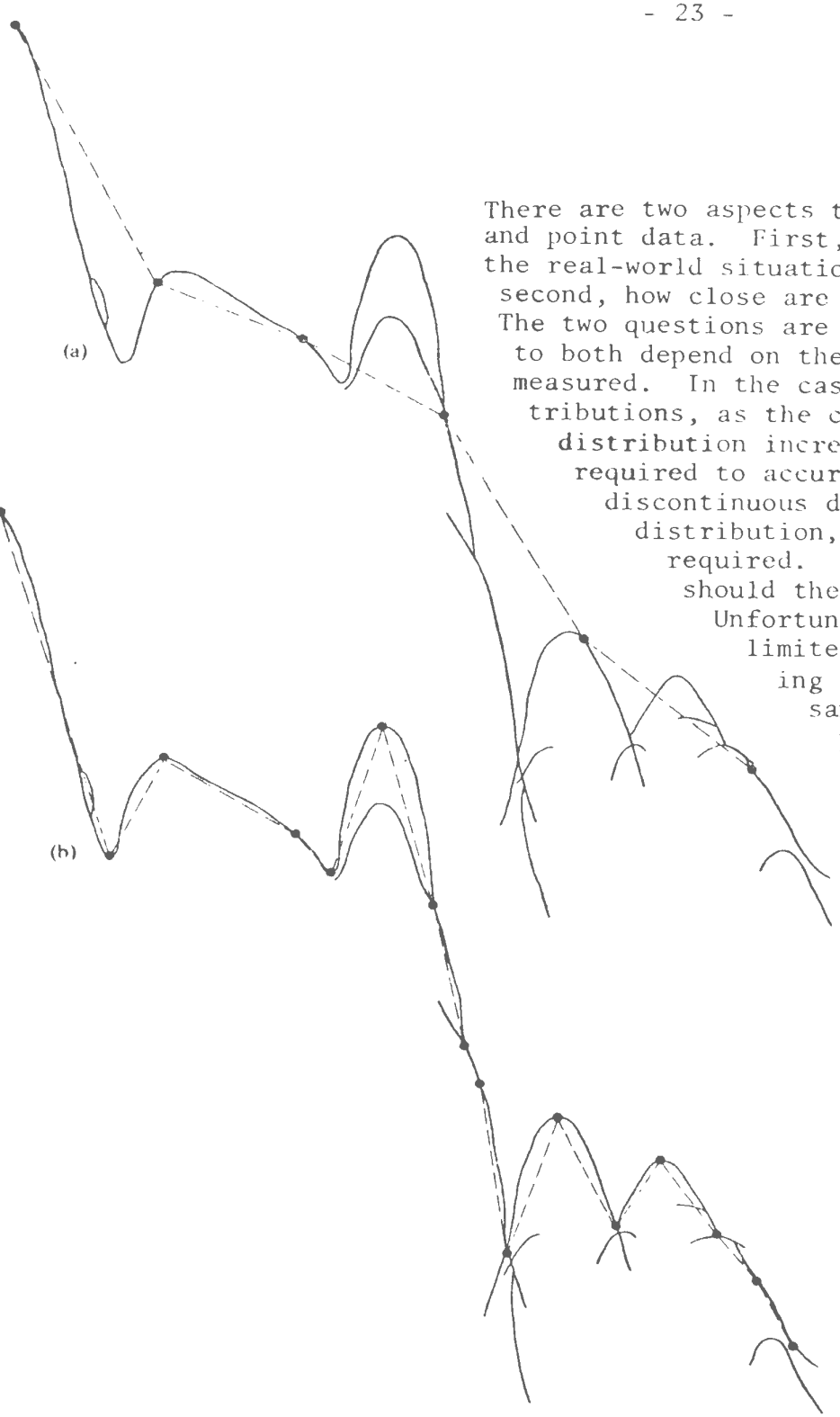


Figure 3

There are two aspects to the problem of interpreting profile and point data. First, to what degree do the data represent the real-world situation of which they are samples, and second, how close are interpretations of the data to nature? The two questions are closely interrelated and the answers to both depend on the complexity of the parameter being measured. In the case of parameters with continuous distributions, as the complexity of the surface of that distribution increases, so does the number of samples required to accurately delineate it. Similarly, for discontinuous distributions, the more fragmented the distribution, the greater the number of samples required. The type of phenomena being studied should therefore dictate the sampling density. Unfortunately, this is seldom the case due to limited ship time or to a lack of understanding of what is being studied. When the sampling density is not related to the phenomenon being sampled, incorrect conclusions about its distribution can be reached.

Beyond intuitive guesses, there has been little work done to determine the required intensity of sampling for various phenomena. The theory has been developed for sampling a two-component discontinuous distribution[6]. Others [7,8] have sampled discontinuous distributions and reconstructed them from the sample data in attempts to determine optimum sampling rates. Some similar work of a preliminary nature has been done on continuous distributions[9]. The next few years should see some solutions to these problems.

Given the limitations of the size of sample, positional uncertainties, and instrument characteristics, the actual interpretation is difficult. Traditionally, a specialist in a particular field interprets the data by using his knowledge of how the sampled phenomenon behaves in nature in conjunction with information about all other related phenomena. With the increasing use of computers, some workers have disclaimed this approach as being too "subjective" and advocate computer contouring as being more "objective"[10]. This is not true[11]. Computer contouring programmes are based on premises and those premises are subjective, being based on intuitive mathematical guesses rather than actual physical characteristics of the phenomenon being contoured. It is impossible to work from subjective premises to an objective approach. In addition, this method does not consider the data

as it is recorded but only as it is stored, and information about related phenomena is not considered. However, computer contouring is internally consistent and this consistency is valuable in some applications. The debate between computer supporters and their more traditional colleagues will probably continue for some time.

Data Presentation: Data collection and data interpretation result in a rough draft of a map which must be converted to a form that is readily readable. The cartographer preparing a map of a marine parameter has several responsibilities and problems. The map is an attempt to describe nature from sample data and the cartographer must refrain from exceeding the limitations imposed by the data. An excellent presentation of poor data or weak interpretations gives the maps extra credibility which they do not deserve and can create lasting incorrect impressions in the mind of the user. Thus, the cartographer's first step is to assess the data, both for himself and for the map user.

Positioning problems can, in some cases, be shown by marginal diagrams of which Figure 4 is an example. This figure shows the calculated positioning accuracy of the Decca Lambda system used to gather data within the map area.[12] Marginal tables and notes can also list the origin of the data and the systems used when collecting it[13], enabling the informed user to make his own assessment of quality. However, this does little for the general user, and attempts have been made to qualitatively assess the map and include that assessment with the marginal information. This is normally a subjective assessment, since little is known about the relationship of data density and natural phenomena as discussed above. Reluctant to make subjective judgements, some cartographers show only density of data and leave it to the user to assess the quality of the map.

Where data are recorded along continuous profiles, intersections between profiles give a measure of the internal consistency of the data. If the value recorded on each intersecting profile is the same, then internal consistency is perfect. As the differences between values on intersecting profiles increase the internal consistency of the measurements decreases. Showing these differences by means of a histogram[15] gives the map user a measure of how consistently the data were acquired. Internal consistency is no guarantee of absolute accuracy, but, in general, the higher the internal consistency the closer the data is to absolute accuracy.

Within the body of the map itself, it is possible to give an indication of the reliability of the data and of the interpretation. For continuous surfaces, the contour frequency becomes an indicator by increasing where validity is low and decreasing in areas of higher confidence. Additionally, the shapes outlined by these lines vary with the quality and the quantity of data. Where data is poorer, isolines and boundary lines are drawn considerably smoother than in areas where data is dense. This smoothness results in unnatural shapes showing only general trends which are readily identified as such by the experienced user, but which can easily mislead the uninformed.

Colour can also be used as a reliability indicator. Ideally, colour will be strongest corresponding to the areas of the map in which high confidence can be placed, and should fade out towards areas of lesser confidence, disappearing completely in some parts of the map. This is a difficult effect to achieve on most presses and the majority of cartographers are extremely reluctant to leave white areas on maps. While such effects may not be as aesthetically

pleasing, they are considerably more honest than treating all data as if it were of equal quality.

Having assessed the data, and keeping that assessment constantly in mind, the cartographer can select a suitable scale. In marine cartography, to a much greater degree than is the case with land maps, the scale is determined by the data. In any one profile there are various wavelengths of signals superimposed on one another, representing various sizes of features within the object being studied. For example, a profile across the sea floor might show a gently inclined continental shelf (long wavelength) on which there are a series of hills (medium wavelength) on the crests of which are sandwaves (short wavelengths) on the flanks of which are ripple-marks (extremely short wavelength). Thus, in two dimensions on a single profile, the occurance of each of these four sizes of features is apparent. However, when considering a three-dimensional distribution as measured on more than one profile, the distance between profiles becomes important. The shortest half-wavelength that can be detected at right angles to parallel profiles is twice the distance between neighbouring profiles plus twice their positioning error. This distance then dictates the resolution of the map and scales can be selected to portray features of this minimum size.

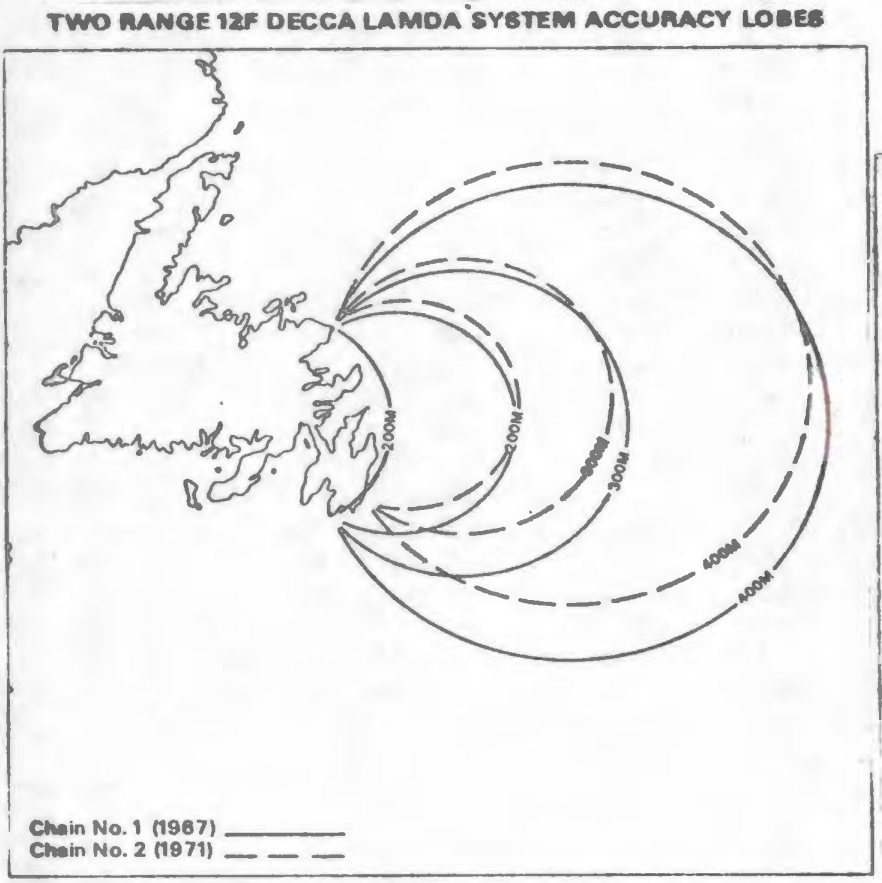
The selection of the projection to be used on a marine map depends to a large extent on whether or not the map is intended for use as a working document at sea. Mercator is the traditional projection used at sea since ships' courses can be drawn as straight lines and meridians intersect at equal angles. With the increasing use of ship-borne computers and computer-driven plotters, this requirement is diminishing. One projection that would be useful at sea, but which has never been drawn as far as this writer knows, would be a projection based on one of the commonly used shore-based electronic positioning systems. Such a map would show locations as they appear in Decca coordinates, for example, and would offer the advantage of easy repetition of positions. Where there is little likelihood of a map being used at sea, one of the projections which are pictorially more correct can be used.

Given these considerations, maps of continuous surfaces and of distributions similar to contoured and thematic maps on land can be drawn. With contour maps, especially those showing the shape of the sea floor, there have been numerous attempts at relief representation[16]. This can be extremely misleading if the limitations of the data are exceeded. Contours are derived from the data, and relief representation is derived from the contours; this double-derivation can easily be incorrect. Some workers have avoided this by using only contours and modifying them to show vertical displacement[17]. Possibly the most valid approach would be a map drawn as Figure 5, in which the profiles as actually measured are shown together with the contours derived from those profiles.

However, these are maps of only one surface and, since the sea is three-dimensional, often several surfaces must be shown on the same map. For example, currents pass over and under one another, temperature layers interdigitate, salinity is distributed differently at different depths. The display of such three-dimensional phenomena is currently the weakest aspect of marine cartography. Considerably more work must be done on this aspect.

A final challenge in marine mapping is the display of time-varying parameters. All aspects of the ocean vary with time, from the drift of the continents, calculated in millions of years, to the breaking of waves, measured in seconds. A succession of maps can be used to illustrate fluctuations through time. Yuen[18] provides a dramatic example with his study of Lake Ontario. He produced eleven maps, drawn to duplicate conditions at half-hour intervals. Three of these are reproduced in Figure 6. When viewed sequentially the eleven maps vividly show the movement of the wave form up and down the lake. This might also be shown on contour maps on which qualitative measurements could be made.

Marine maps are essential to the safe and intelligent exploitation of the oceans. This review has attempted to explain some of the problems involved in the acquisition, interpretation and representation of marine data and to give users a better idea of the ways in which these difficulties are being resolved. It is hoped that this will aid in the interpretation and appreciation and increase the utility of the many fine marine maps now being produced.



The figure shown against each of the lobes is the accuracy of positioning in metres at the 95% confidence level. The figures are based on a root mean square ranging error of 50 metres combining uncertainties due to instrumental noise, varying conditions at transmitter sites and uncertainties in the propagation velocity. At the 67% confidence level, the accuracies in position are represented by half the figures shown.

Figure 4

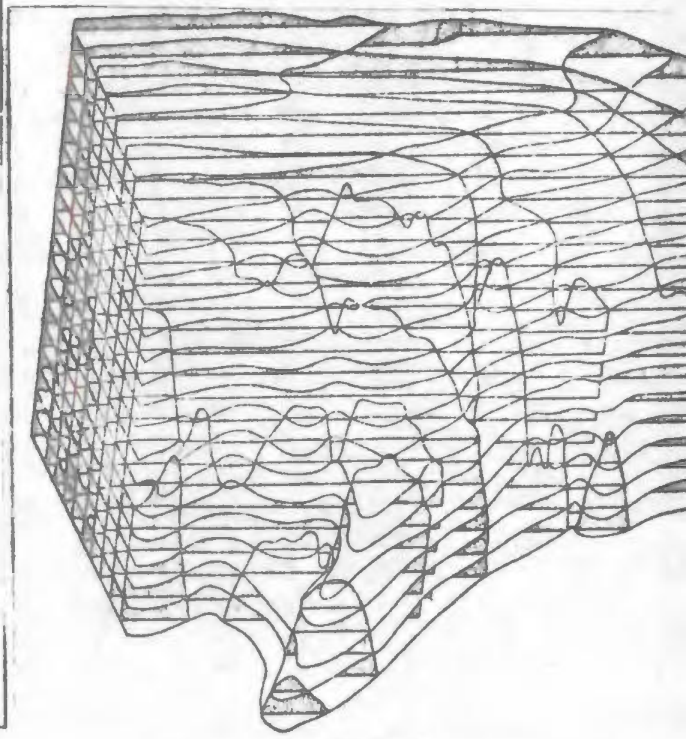
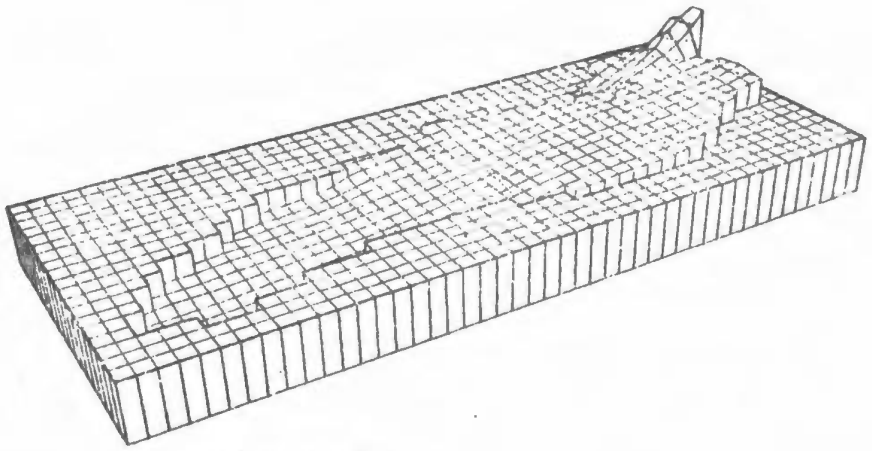
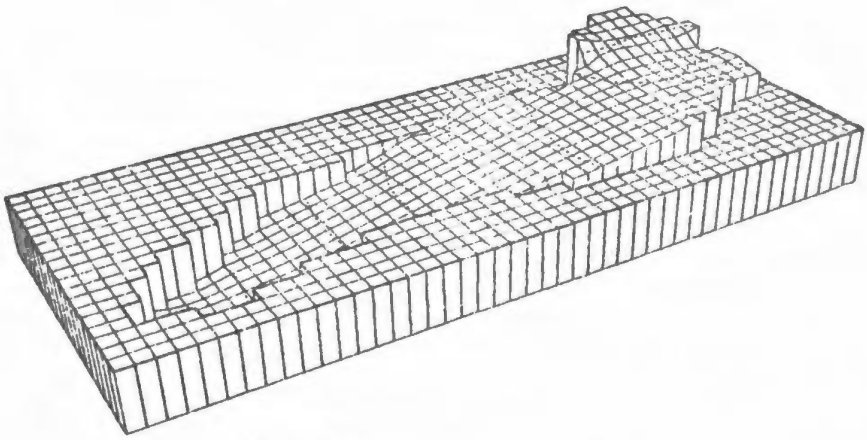


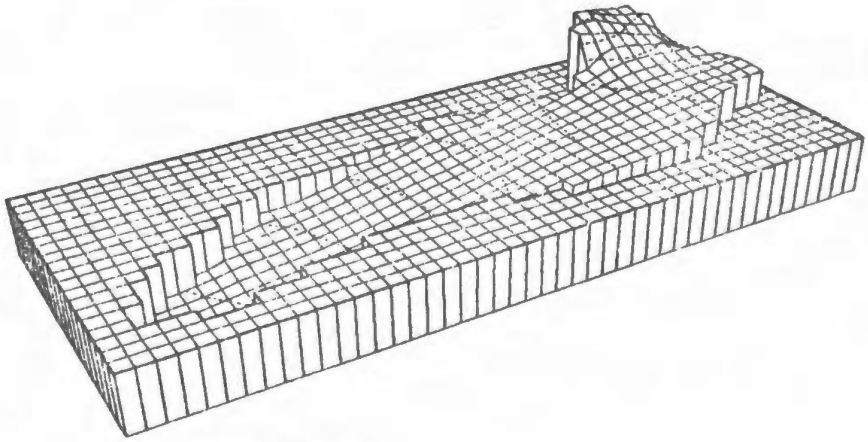
Figure 5



1600 Hours



1630 Hours



1700 Hours

Figure 6

David Monahan
Canadian Hydrographic Service
Department of the Environment
Ottawa

The original version of this paper was presented to the 14th Annual Meeting of the Ontario Institute of Chartered Cartographers.

Footnotes

[1]Umbach, Melvin J. and William D. Harris, 1972. Underwater Mapping through block aerotriangulation and stereocompilation. Proc. 38th Annual Meeting, Amer. Soc. Photogrammetry. pp. 150-151 (Abs.)

[2]Ross, D.I., D.F. Wells, G.R. Douglas and R.M. Eaton, 1970. Navigation at Bedford Institute. Unpub. Man., Atlantic Oceanographic Laboratory Report 1970-2, 35p.

[3]Bhattacharyya, P.J. and D.I. Ross, 1973. Mid-Atlantic Ridge near 45°N., computer interpolation and contouring of the bathymetry and magnetics. Marine Science Paper 11, Information Canada, Ottawa. 9p.

[4]Wells, D.E. and D.I. Ross, 1969. Experience with satellite navigation equipment during summer 1968. Unpub. Man. Bedford Institute Report 1969-6 102 p.

[5]Belderson, R.H., N.H. Kenyon and A.H. Stride, 1972. Comparison between narrow-beam and conventional echo-soundings from the Mediterranean Ridge, Marine Geology, Vol. 12, pp. M11-M15.

[6]Switzer, Paul, 1967. Reconstructing patterns from sample data. Annals Mathematical Statistics. vol. 38, pp. 138-154.

[7]McCammon, R.B., 1971. Environment pattern reconstruction from sample data. I. Mississippi Delta Region. Tech. Rept. No. 1, Geography Programs Branch, Office of Naval Research, Washington.

[8]Taylor, D.R.F., 1972. Computer mapping applied to statistical sampling techniques. (abs.), in S.A. Yoskowich, ed., Progress report on research in surveying and mapping in Canada. Surveys and Mapping Branch, D.E.M.R., Ottawa.

[9]Monahan, David, N.M. Finlayson and K.J. Greenaway, 1973. Reading between the sounding lines. Proc. 12th Annual Can. Hydrographic Conf., pp. 41-68.

[10]Haworth, R.T., 1974. Gravity and magnetic national resource maps (1972) offshore eastern Canada. Philosophy and technique in preparation by computer. Int. Hydrographic Review, vol. (in press)

[11]McCullagh, M.J. and R.J. Sampson, 1972. User desires and graphics capability in the academic environment. Cartographic Journal, Vol. 9, pp. 123-135.

[12]after Haworth, R.T., 197, Natural Resource Series B, Gravity. Canadian Hydrographic Service, Ottawa.

[13]see, for example, the Bathymetry Editions of the Natural Resource Series produced by the Canadian Hydrographic Service.

[14]see, for example, the Bottom Contour Charts produced by the United States Oceanographic Office on the Coastal Series Bathymetry Charts produced by the New Zealand Oceanographic Institute.

[15]Haworth, R.T., 197. Natural Resource Series B, Gravity. Canadian Hydrographic Service, Ottawa.

[16]Perhaps the most widely distributed of these are the series produced by the National Geographic Society. Inspiration for this series seems to have come from Heezen, B.D., M. Thorpe and Maurice Ewing, 1959. The floors of the ocean. I. North Atlantic. Geol. Soc. America Spec. Paper 65, 122 pp.

[17]for example, Monahan, David, 1971. Three-dimensional representation of submarine relief: continental margin of eastern North America. Marine Sciences Paper 9, Information Canada, Ottawa.

[18]Kuen, K.B. Marine Sciences Directorate, Ottawa, Work in progress.

AUSTRALIAN MAP CURATORS' CIRCLE

Miss Dorthy F. Prescott, University of Melbourne has requested that the A.C.M.L. published this report of the A.M.C.C.'s third annual seminar and workship:

This, the third gathering of persons working with maps, was held at St. Mary's College, University of Melbourne, from February 19 - 21 inclusive.

The A.M.C.C. owes its origins to a meeting for map keepers held at the National Library of Australia in April 1973. The proceedings of the first meeting appeared as Proceedings of the Map Keepers' Seminar and Workshop, Canberra, 1973. The second meeting was held at the Department of Geography, University of Sydney in February, 1974. The proceedings for this meeting are also available from Mr. T. Knight, the National Map Curator, National Library of Australia. The Proceedings of the third annual Seminar and Workshop will appear seriatim in issues of the 'Globe', the journal of the Australian Map Curators' Circle, available from Mrs. A. Turner, Hargraves Library, Monash University, Wellington Road, Clayton, Victoria, 3168.

Over sixty persons attended, and for the first time participants came from New Zealand and Papua, New Guinea. Papers and workshops included the following topics: the role of the map curator, map user needs, mapping data and the National Mapping Programme, the bibliographic description of maps, survey of mapping in Victoria, map libraries in Australia, map conservation, map sources, education for map librarianship, the Tooley collection, co-operation in map making, the Union List of Topographic Map Series, and map seminars for specialists.

One afternoon was set aside for visits to various map making organizations and to the Department of Geography at Monash University, which latter showed us the University cartographer's working environment.

It was heartening to see so many map producers represented at the Seminar. The A.M.C.C. is beginning to fulfil its function of developing and fostering closer relationships between map producers, map curators and map users.

MINUTES OF THE EIGHTH ANNUAL MEETING

Monday, June 10, 1974, University of Toronto, Toronto, Ontario.

The meeting was called to order by the President. Mrs. Betty Kidd, adjourned at 12:15; reconvened at 8:15 a.m. Wednesday, June 12, 1974. The meeting adjourned at 9 a.m.

Minutes of the 1973 - Business meeting

The minutes of the 1973 meeting were accepted as printed and circulated prior to the meeting. Kate Donkin moved the minutes as circulated be adopted seconded by Dave Dairon.

Officers, Reports:

(1) Presidents Report

This is the 8th Annual Conference of the A.C.M.L. Eight years ago a number of map curators and a few other interested people were invited to gather in the new Public Archives - National Library Building in Ottawa. At that meeting the A.C.M.L. was born, and three major projects begun. In 1969 the Directory of Canadian Map Collections was published. It is now "Out of Print", and a committee has been charged with producing a new edition. Work has progressed on the National Union Catalogue project to the point where a new catalogue code will soon be produced, enabling work on the MARC format to be completed. It is hoped that our Tenth Anniversary will see the National Register of Maps in full swing. The success of this programme, of course, depends heavily on the cooperation of A.C.M.L. members. Unfortunately our third project, a manual for Map Libraries has not been completed, and is now abandoned. Some chapters appeared in our Newsletter, but all the chapters now need revising. With the appearance of the Drexel Library Quarterly issue in "Map Librarianship". The Cartographica editors are no longer interested in publishing our manual. Also members of W.A.M.L. (Western Association of Map Libraries) have produced a manual for map collections in historical societies, and the British Map Curators Group is producing a manual.

Still two out of three is not a bad record, but there is much more to be done. Our membership is growing, as there is an increasing awareness of the importance of maps and an increasing realization of what needs to be done.

In May a National Conference on the State of Canadian Bibliography was held in Vancouver. At a session on maps the need was discussed for some guidelines in citing maps in bibliographies, for bibliographies of carto-bibliographies as well as maps and for information on research in progress, among other problems. It is hoped that this Association can make a start this year towards solving some of these problems.

(?) Treasurers Report to May 31, 1974

Balance from 1972/73		$ 1,791.?-
Revenues		
Membership fees, 1973	$ 819.50	
Membership fees, 1974	1,176.00	
49 subscriptions to the Canadian Cartographer 1973/74	196.00	
Balance of 1972 Conference account	100.51	
Balance of 1973 Conference account	118.97	
Exchange on U.S. currency	.01	2,410.99
		4,202.?-
Expenditures		
60 Canadian Cartographer subscriptions 1973 and 1974	240.00	
Typing of Proceedings, 1972	60.75	
Typing of Proceedings, 1973	70.00	
Printing of Newsletter, 1973	30.00	
IFLA membership fees, 1973	18.15	
Telephone charges	65.06	
Printing and Mailing of NUC letter and ACML Constitution	32.26	
Printing of 1974 invoices and membership list	29.36	
Office supplies and stamps	58.33	
Printing of Proceedings, 1972	422.77	
Presentation gift	16.85	
Refund for overpayment	5.00	
Tapes for tape recorder	9.95	
Check returned	5.00	
Travel funds for 1974 Conference Speaker	145.63	
Bank charges	2.00	
Discount on U.S. Currency	6.35	1,217.46
Balance		$ 2,985.?-

Submitted by Carl Harvey,
Treasurer, 1973/74

Carl Harvey moved the adoption of the report. Seconded by Bill Oppen.

(3) Publications

In the absence of the Chairman, Edward Dahl, Heather Maddick read the report of this committee as follows:

As has already been reported earlier, the position of Publications Officer was expanded to become a Publications Committee this year. Bob Hayward and I have edited the proceedings of the last annual conference; Heather Maddick became responsible for the distribution of our publications.

The proceedings have been edited and will be printed later. I regret that I didn't maintain the tradition which has been established of having the proceedings available in time for the following conference.

The statistics for publications sold in the past year are as follows:

1. Proceedings sold since the A.C.M.L. conference June, 1973

1967 -	10
1968 -	7
1969 -	9
1970 -	10
1971 -	14
1972 -	40
	90

2. Newsletters sold since March 1974

Vols. 1 - 4. $8.30.

The revenue realized from the sale of 90 copies of the annual proceedings since the conference last June was approximately $350.00. Some newsletters have also been sold. This follows the decision taken at the executive meeting of March 5, 1974, to sell back copies of the newsletter at approximately 10 cents per page. (Newsletters available only to members).

At the present time, the financial position is this:

Publications bank account as of June 6, 1974	$ 555.21
Outstanding invoices (1971-1974)	119.30
	$ 674.51

The cost of printing of the 1973 proceedings is the major expense anticipated.

As of June 6, 1974, an inventory of the A.C.M.L. holdings of back copies of publications indicates the following:

Inventory A.C.M.L. holdings
as of June 6 1974

1 st annual conference ----- 1967 ----- 35
2 nd annual conference ----- 1968 ----- 1
3 rd annual conference ----- 1969 ----- 14
4 th annual conference ----- 1970 ----- 83
5 th annual conference ----- 1971 ----- 51
6 th annual conference ----- 1972 -----111

Directory of Canadian Map Collection ----- 1969 ----- Nil

Plotting the land of Ontario ----- 1864-1919(1971) ----- 18

Ms. Maddick moved the report's adoption. Seconded by Ronald Whistance-Smith.

(4) Awards Committee

Lorne Leafloor presented a report of the Awards Committee dealing primarily with the terms of reference constituting an award as follows:

The Awards

- Two awards of $100.00 each would be awarded each year. One award would go to a technical paper concerning some aspect of map curation and the other would go to a paper on some other subject relative to maps. For example topics that may be suitable for the technical paper include; map classification; cataloguing; conservation techniques; map control etc. Examples of topics for the general paper could include; history of cartography; map uses; new types of mapping; map research; cartobibliographies; toponymy etc.

- Both papers would be open to any contributors however it is hoped that most of the technical papers would be submitted by members of the association.

Judging

- All papers will be judged by an independent panel of judges or by experts in the given fields. Final decision as to awards, will however, be made by members of the Awards Committee of the A.C.M.L. All decisions will be final.

Rules

- All papers should be written in response to the awards and must not have been previously published.

- The maximum length for papers is 5000 [?] words and the papers must be double spaced typing on regular 8 1/2" x 11" paper. Illustrations and maps may be included [If we decide to publish maps etc. in the proceedings] but they must be properly numbered and labelled.

- When submitting a paper a contributor must indicate for what award he is applying. Should he not indicate his preference the committee has the right to place the paper in the category that is felt to be appropriate.

- Only one entry per contributor will be accepted. Should two or more be submitted the committee has the right to make an arbitrary decision as to which paper will be judged.

- The papers may be written in either English or French however a synopsis (150 words) in both languages should be included with the paper.

- All papers should be submitted no later than April 30th [?]. Any papers received after this date will be judged only if time permits.

Number of Entries

- Should the number of entries received in either one, or both of the categories, be insufficient the A.C.M.L. reserves the right to withold the award or awards for that year. Possibly those papers received could be held over for another year.

- Similarly should the quality of all the entries be poor in the eyes of the judges and the committee the A.C.M.L. reserves the right to withold the awards.

Winning Papers

- The two papers judged the best should be presented at the annual meeting of the A.C.M.L. Should a winning contributor be unable to deliver his paper in person a reader should be appointed by him or by the committee.

- Both papers will also be published in the Proceedings of the A.C.M.L. Other papers submitted may also be published in the proceedings and read at the conference.

- The A.C.M.L. reserves the right to first publication of any material submitted. After publication by the A.C.M.L. in the Proceedings the rights of publication revert to the author. Also should the A.C.M.L. decide not to publish any of the submitted material the rights of publication revert to the author.

NOTES

Advertising:

In order to attract as may entries as possible it is felt that the awards program should be advertised. A short add could be placed in a number of publications including: The A.C.M.L. Newsletter, The Special Libraries Association Bulletin, "The Canadian Cartographer", "The Canadian Geographer", and other publications.

Judging:

Efforts should be made, after the papers have been received, to contact experts in the field to see if they would be willing to judge papers. The marking of the papers should use as criteria; originality, importance, contribution, format, accuracy, writing style etc. The judges would mark the papers however the final decision would pass to the Awards Committee.

Mr. Leafloor moved the adoption of the report. Seconded by Barbara Farrell.

(5) Membership Committee

Betty Kidd reported that approximately 75 membership campaign letters had been sent to persons and institutions who could be considered potential members of the Association of Canadian Map Libraries. In each case the letter was accompanied by an application form, details about the June Conference and a copy of a recent newsletter. Only 8 new members were attracted.

There are approximately another 20 to 25 names to whom letters should be sent at this time. The letters have been awaiting the printing of the Newsletter and will be sent out during the third week of June. At that time, this committee proposes that it be dissolved and that the executive for 1974-75 decide on a future membership campaign.

A second aspect of a membership campaign is to arrange some type of co-operation and exchange of publications and notices with other associations of Map Libraries and curators. Communication was established with the British Map Curators and the new Australian Group. The Map Curators Group of the British Cartographic Society is now on exchange member and we trust that arrangements can be finalized with the Australian group. Betty Kidd moved for the adoption of this report seconded by Vivian Janes. It was suggested that each member should encourage membership in the Association at every opportunity.

(6) Directory Committee

It was agreed that a start on the revised edition of the Directory of Canadian Map Collection would be made. Ralph Daehn will chair the Committee assisted by Yves Tessier. Regional editors were to be established.

(7) Library Layouts Committee

Serge Sauer reported that considerable work had gone into planning a folio of Map Library Layouts. Submissions of some major map libraries were received and were being processed. It was planned to have a folio available at a cost of $5.00 in the near future. The folio would be arranged in such a way as to have additional plans added from time to time as they are received and processed. Serge Sauer moved the adoption of his report. Seconded by Lorne Leafloor.

(8) National Union Catalogue Committee

Huge Stibbe presented his report as follows:

1. Activities

The Chairman continued the draft of the MARC format for maps through September, October and November, 1973. The draft of the format has been completed up to the first descriptive cataloguing element: the title area tag 245). It became apparent at this point that no further progress could be made in the design of the MARC format maps until cataloguing rules for the material are drafted. Consequently, the emphasis of the Committee's work was shifted towards a draft of "Canadian Rules for Entry and Description of Maps, Charts, Plans, Atlases and Related Cartographical Non-literary Materials".

The first part of the draft, comprising rules for entry and rules for description of the single or single-thematic map, up to, but not including the "Notes area" were completed by early February 1974 and distributed to Committee members for study. A Committee working session was subsequently held at the Public Archives in Ottawa on March 4, 5 and 6, 1974, to discuss the first draft of the rules. Amendments to the draft, resulting from the working session were drafted during the months of April and May, 1974, and distributed to the Committee members by the end of May.

2. Other Committee business

At the March 4, 5 and 6 meeting of the Committee, the Chairman, Hugo Stibbe, again stated his position with regards to his resignation as Chairman of the Committee, i.e., that he could not work with a committee as long as there was any feeling that a change of employer from an education institution to a Government institution (the National Map Collection) has resulted in a conflict of interest situation on his part. Because of this feeling at the previous annual business meeting of the Association in Banff, he agreed to resign on January 1, 1974. He considers himself a "caretaker chairman" in the interim period. Since no indications to the contrary have emanated from individuals with regards to the conflict of interest feeling, the Chairman called for nominations for a new Chairman for the Committee and submitted as well a draft for new terms of reference for the Committee which include a change of name and change in status of the Committee. Three candidates were nominated: M. Yves Tessier, Mr. Dave Dairon and Mrs. Beverly Chen. The latter two nominees attached personal conditions to their candidacy. Because of the conditions attached to two of the nominees candidacy, the Executive asked Hugo Stibbe to remain chairman until the next A.C.M.L. Annual Business meeting. The draft for the new terms of reference was discussed and amended. The draft as well as the names of the nominees for Chairman were submitted to the Executive for consideration. Because the Constitution of the A.C.M.L. states that committee chairmen may be appointed or elected by the Executive, the names of the nominees for chairmanship of the Committee are merely the Committee. The Executive and/or the membership at large of the A.C.M.L. through a business meeting have the right, therefore, to reject or ratify these suggestions, and may decide to make further nominations from the floor of the business meeting and hold an election.

3. Other related activities which occurred during the 1973 - 1974 term of the Commit

The Chairman of the Committee, in his capacity of Registrar of Canadian Map Resources, attended a meeting of the Ontario University Libraries Cooperative System (Map) Group (OULCS Map) held on August 23, 1973 at Guelph University. The preliminary Canadian MARC format maps was discussed at this meeting. Hugo Stibbe explained that the format is very preliminary indeed and that at this stage the Ontario Group could not really contribute much to the format as such. It was agreed that keeping each other informed of what is happening would be mutually beneficial. Mr. Ralph Daehn who is chairing the Map Group is also a member of the N.U.C. Committee. This will insure proper communications between the Ontario Group and the N.U.C. Committee.

Because the N.U.C. will, internally, use U.D.C. as the classification for its catalogue, a working group for the expansion of the Common Auxiliary of Place tables for Canada (71) was established under the chairmanship of Hugo Stibbe, early in November, 1973. This group has held one meeting on May 16, 1974.

The meeting was primarily called to explore the work to be done. It was agreed that the best approach to the work would be to first bring together and list all what is already available in the UDC schedules which directly or indirectly affects the "Place" classification for Canada. This list will then be distributed to the members of the work group. Secondly, that, independent of the UDC classification, an as much as possible hierarchical and schematic outline be compiled of a) political administrative areal realities presently existing in Canada and b) existing physiographical areal realities in Canada. The second step would then be to try to fit these realities into the UDC schedules and assign the classification notation to the realities. This procedure would assure the schedules to be hierarchical and at the same time reflect reality of the Canadian situation. Some work on the political-administration schematic outline has already been done. The Canadian work group has been sanctioned by the International Federation of Documentation in The Hague.

The Geography and Map Sub-Section of the International Federation of Library Associations (IFLA) is ready to commence work on a International Standard Bibliographic Description for Maps (ISBD-Maps). A work group of experts is presently being established. Members of this working group are selected not on the basis of representation from countries, language spheres, associations or other common interest groups, but on the basis of individual expertise in the field. There is a good chance that Hugo Stibbe will be asked to participate in the work which this group is to commence fairly soon.

Finally, the Chairman, in discussions with a representative from the Netherlands, drew the attention to a need for an International Standard Number for Maps (ISMN) similar to the ISBN and ISSN. Such numbers, printed on maps by their publishers, are the only effective means of identifying machine-readable bibliographic or carto-bibliographic records for the same maps emanating from different sources. The numbers carried in the records would induce greater use of magnetic tape, carrying machine-readable records from other sources than ones own and, therefore, encourage international exchange of such data. I am happy to report that the suggestion for the need of a ISMN has been carried forward and that a ISMN is in the making.

Proposed terms of reference for the changed N.U.C. Committee

Amended version, March, 1974.

1. That the Committee be a standing committee of the Association of Canadian Map Libraries under the new name:

   "Permanent Committee on the Revisions of the Canadian Cataloguing Code for Maps, Charts, Plans, etc. and the Advisement on the National Union Catalogue of Maps".

   That the short form of the name be: "Catalogue Code Revision Committee" and the abbreviation: "CCRC".

2. That the membership of the Committee be composed of:

   i. A Chairperson (a member of the A.C.M.L.) shall be a non-voting member of the Committee and the total membership of the Committee, including the Chairperson be composed of an even number. It shall be the duty of the Chairperson to maintain the total membership of the Committee as designated.

ii. persons who are members of the A.C.M.L. in good standing and who are selected by the Chairman of the Committee on the basis of their willingness to serve and on the expertise represented and/or needed.

iii. one permanent representative of the organization who maintains the Canadian Register of Map Resources and the N.U.C. (i.e., the National Map Collection). This person cannot be the Chairman of the Committee.

iv. one member of the Executive of the A.C.M.L.

v. one member elected at the Annual Business Meeting from the membership at large of the A.C.M.L.

vi. that this Committee acts in an advisory capacity to the Association of Canadian Map Libraries.

3. That the tasks of the Committee be:

a) The maintenance of the "Canadian Rules for Entry and Description of Maps, Charts, Plans, Atlases and Related Cartographical Non-literary Materials", which consists of:

i) Receiving, studying and considering requests for additions, deletions and changes in specific rules and/or appendices.

ii) Subsequent writing and recommending to the A.C.M.L. for approval such additions, deletions and changes as have been deemed necessary or useful in view of requests received.

iii) The official incorporation of such approved amendments into the body of the Rules and the dissemination of these amendments to the users of the Rules.

b) To receive, assess, process and respond to requests for advice from the organization who maintains the National Union Catalogue (i.e., the National Map Collection) on certain aspects of the National Union Catalogue. E.g., relating to, initially, the content and lay-out of N.U.C. cards; communication and feed back problems; and later, relating to services which may be introduced by the N.U.C.; equipment compatibility problems; surveys of users, etc.

c) In addition, that the Committee at the request of the Association members can forward suggestions and proposals to the National Map Collection related to the N.U.C. of Maps. Such suggestions and the proposals will be considered by the National Map Collection, but possible implementation by the National Map Collection must be guided by budget constraints, practicability, current government policy, etc.

4. That the Committee may create any number of sub-committees in order to create specific task groups for specific problem solving purposes.

5. That the Committee can engage any outside expert help in order to perform a certain task or study, but that i) such outside expert help can only act in an advisory capacity to the Committee or any of its sub-committees and ii) any financial renumeration for work done by such outside expert help be first ratified and cleared by the Executive of the A.C.M.L.

Hugo Stibbe moved for the report's adoption. Seconded by Beverly Chen.

(9) Newsletter Committee

During the year 1973-74, three Newsletters were produced appearing in October, March, and June. It had been hoped to have four, but this was not possible for various reasons. Material for each newsletter was gathered in Vancouver, and copy was mailed to the National Map Collection, Ottawa for final typing printing and distribution.

After the appearance of the first issue in October, it was discovered that there was a discrepancy in the numbering system. It was decided that the March Executive meeting to switch to a consecutive numbering. Thus the May issue is Number 15.

It is my recommendation that the Editor be a member of the Publications Committee, and that the Committee look into the possibility of changing the name of the Newsletter, or of reducing it and starting a Journal, which could include the Conference proceedings as one number. Frances Woodward moved the adoption of her report. Seconded by Barbara Farrell.

(10) Nominating Committee: The Nominating Committee, consisting of
Beverly Chen
Kate Donkin
Carl Harvey, Chairman
Betty Kidd, ex-officio

prepared the following slate of officers for the 1974-1975 term. This was mailed to members in March and at that time further nominations were requested. As no further nominations were received this slate was sent out as the ballot. Ballots were sent to all active and Institutional members whose names appeared on the December 31, 1973 membership list. The results of this ballot are:

President:	Frances Woodward - University of British Columbia
Vice-President:	Barbara Farrell - Carleton University
Secretary:	Wm. McKee - City of Vancouver Archives
Treasurer:	Lorraine Dubreuil - McGill University

The meeting was adjourned at 9 a.m., Wednesday, June 12, 1974.

BOOK REVIEWS

Reviewer: John Clarke, Assistant Professor, Carleton University,Ottawa (Geogr

Johnson, Adrian. America Explored: A Cartographical History of the Exploration of North America. Viking Press, New York, 1974, 252 pages, 350 illustrations plus an index, $28.75.

America Explored is written by a British author for an American publisher. While it treats Canada as part of that continent all of South America is by some curious oversight ignored! However, the reader opening the pages of this book soon learns that a much more limited geographical area is intended, namely North America. Admittedly, this is indicated in the sub-title of the volume but the cover carries the truncated title and the sub-title is not printed for those with an average degree of stigmatism. Perhaps this can be dismissed as poor design, as indeed it is. It is in fact one of a number of unfortunate occurrences which are to be found in this book.

There is no table of contents in the traditional sense,but on a page which follows the place and date of publication one learns that the book is divided into four distinct chapters. In what would normally be called the preface,but what is here entitled "About this book",the reader learns that the strategy adopted is to give accurate pictures of exploration and cartographic achievement at particular points in time rather than trace individual themes through time. The four chapters are sub-divided into 24 sections which deal with cross-sections or time-slices from the sixteenth to the mid-nineteenth century. It is therefore strange to find the first chapter, which deals with the first European contacts, dealing with the voyages of the Norse in the eight and ninth centuries! Within this chapter, we are told that there are no definite Viking remains on the American continent. In the light of this we must ask if Helge Ingstad made a serious blunder and if the Governments of Canada and Newfoundland are about to waste millions of tax-payers dollars on furthur futile archaeological excavation at the L'Anse aux meadows site in Newfoundland. Here too we learn that in January 1974 chemical analysis of the ink used on the famous Vinland map, proves it to be one of the greatest forgeries known to modern scholarship. We are not told where or by whom this analysis was conducted. The authenticity of this map has long been doubted by such eminent authorities as Samuel Eliot Morison whose logic is more convincing to this reader than such a bald, unsubstantiated statement. From here Johnson moves on, totally ignoring the differing opinions between Professors Morison and Oleson about the authenticity of claims for the pre-Columbian discovery of North American on behalf of such individuals as Madoc, the Zeno Brothers, Pining, Pothorst, Scolvus and Corte Real. Section two of this chapter deals with the Columbian voyages, section three with the voyages of the Cabots, sections 4 and 5 with the French and Spanish voyages of discovery in the sixteenth century and the chapter culminates with the circumnavigation of the world by the English adventurer Sir Francis Drake.

The Canadian reader will be particularly interested in Sections one and five of the second chapter which is concerned with the earliest attempts to colonise North America. Similarly in the third chapter, on the penetration of the continental interior, section one on the French seventeenth century voyages will be of interest, as will section three on the rivalry between the French and English on the Ohio and section four entitled Canada in maps during the eighteenth century. The treatment is not nearly as generous in chapter four dealing with the impact on cartography of various American expeditions to the west. As might be expected the matters discussed are the Lewis and Clarke expedition of 1804-1806, the Zebulon. M. Pike explorations in the same period, the role of the American Fur Trading Company, the fur trading forays of William Henry Ashley and Jedediah Smith in the second decade of the nineteenth century, the Fremont and Bonneville expeditions in the 1830's and 1840's and the Mormon trek of 1846 and 1847. In a book purporting to deal with the continent this seems a little parochial, but then, so too does the section of chapter three which deals with the Revolutionary War. While we learn nothing of the effects of this war on the exploration of the interior continent and little of the cartographic legacy of this time, we are regaled with a history of the outbreak and conduct of the Revolutionary War. This includes details of "masterful two pronged retreats", "virtual pincer movements" and whole lists of possible names for the newly independent territory including Assenisipia, Metropotamia and Washington. What relevance has this section in a book dealing with the history of exploration and cartographic achievement? Can there be other unstated aims?

America Explored contains 350 illustrations, all but four of them reproduced in black and white. In a book dealing at least in part with the theme of cartographic achievement such restraint, while regrettable, in understandable in view of the great financial costs involved. Yet many of the illustrations are needless packing. Do we need a copy of the title page of Cartier's Report (P. 57), a drawing of a Spanish galleon (P. 67), a copy of Sir Walter Raleigh's emblem (P. 77), an engraving of corn, to fire our imaginations. Can we survive without an artistic impression by an unknown artist of Cabot describing his voyage to King Henry 7th? Spanish and British monarchists alike will rejoice in the copies of the signature of Ferdinand, King of Spain (P.9) and Elisabeth I (P. 79) and loyal Americans will swoon at the sight of a copy of the Declaration of Independence but are these necessary in a book on exploration? Surely these could well have been omitted and the money saved, put to better use.

Setting these unnecessary illustrations aside the remaining illustrations are extremely useful and the text which accompanies them, often challenging and instructive. However, these are removed from the main body of the text which as a consequence is often weak. Perhaps this book might have seemed more coherent had the maps, captions and text been more closely integrated. Occasionally the captions are repetitive and despite statements of aims to the contrary several maps are to all intent repeated. Thus Abraham Ortelius, admittedly one of the more important cartographers of the time, has two of his maps reproduced on pages 46 and 47 and pages 140 and 141. These are undoubtedly different maps but so little different that one wonders if the inclusion of both maps is justified. Why has a third Ortelius, his world map of 1587 been included (P. 167)? In short one wonders at the criteria for selection.

The dust jacket of this book speaks glowingly of the authors authoritative text. Yet as noted earlier no attempt is made to substantiate particular statments and no bibliography is included. This reviewer finds it hard to take this work seriously. It may do well on the coffee circuit. Perhaps that is what the publisher had in mind.

REVIEWER: D.R.F. Taylor, Geography Department, Carleton University

Bertin, Jacques Sémiologie graphique. Paris, Mouton and Gauthier-Villas, 1973. 2ne edition 431 pages.

The first edition of this outstanding book was published in 1967. There have been few major changes in the second edition. It is an outstanding contribution to cartography and is still possibly the finest cartographic text extant. Jacques Bertin in his introduction outlines the philosophy which the title of his book in part suggests. He points out that the last public letter writer went out of business in Paris in 1962. He sees this event as making the end of an epoch in Frances during which the ability to read and write was not universal. Thereafter, the universal utility of writing was apparent to all. Bertin argues that in the light of the complexity of modern life the ability to communicategraphically is becoming increasingly important. Just as the public letter writer served the public in the past, so do graphical designers and cartographers today. The universal utility of graphics will become increasingly apparent and gradually more and more people will master graphic communication methods.

Graphic representation allows information to be stored, analysed, manipulated and presented in a variety of different ways. The basic principles behind this form of communication must be understood and the first part of Bertin's book examines and outlines these in an admirable fashion. In the second part of the book, Bertin concentrates on various applications of the graphic system.

As it perhaps fitting, the book is dominated by magnificent graphic illustrations in both black and white and colour. The language is clear and Bertin states his views clearly, strongly and unambiguously. There are no ponderous references of the type usually associated with a textbook and no bibliograhy given. The book itself is an outstanding example of the kind of communication which Bertin advocates.

Many of his views are controversial and this is a controversial book. Perhaps that is one of the reasons that this reviewer enjoyed it so much. To my mind this is a book which no library, especially a map library, can afford to be without. It is unfortunate that even in Canada, because this book is in French, many English speaking readers are probably not aware of Bertin's work. There is perhaps a need for an English edition although this would be a mammoth and expensive undertaking.

The book, because of the high quality and number of illustrations, is an expensive one retailing at approximately $40.00. Despite this I felt that it must be purchased by any library of quality which has not already done so.

NINTH ANNUAL CONFERENCE

ASSOCIATION OF CANADIAN MAP LIBRARIES

DATES	June 15 - 20, 1975
PLACE	Mount Allison University, Sackville, N.B. University Centre.
ACCOMMODATION	Windsor Hall, Mount Allison University. Single rooms are available at the university resident for $13.00 a day including meals (American Plan - meals are paid for in advance at registration, meal tickets supplied). Please complete the enclosed room registration form for your reservations and return to address printed on the form.
ARRIVAL	Moncton airport is the closest Air Canada terminal. Arrangements can be made for transportation from the airport to Sackville by writing Brad Fay, MRMS, P.O. Box 310, Amherst, N.S. and informing him of your time of arrival. Ample free parking is available for persons arriving in private automobile and including camper or trailer.
MEALS	McConnell Hall, Trueman House, Mount Allison University, (American Plan $13.00 a day including single room). Meal serving lines open: B - 7:15-8:15 a.m., L - 12:00-1:30 p.m., D - 6:30-7:30 p.m. (Dinner not served evenings of banquet and lobster party).
CONFERENCE TELEPHONE	During the Conference, you may be reached at (506) 536-0349.
SOCIAL EVENTS	Informal receptions have been scheduled.
REGISTRATION FEES	Members $15.00 Non-members $20.00 Single day attendance $ 5.00
INFORMATION	1975 A.C.M.L. Conference c/o Brad Fay Maritime Resource Management Service P.O. Box 310 Amherst, N.S. B4H 3Z5

PRELIMINARY PROGRAMME

9TH ANNUAL CONFERENCE ASSOCIATION OF CANADIAN MAP LIBRAIRES

Sunday June 15,	p.m.	8:00	Reception, Windsor Lounge
Monday June 16	a.m.	9:00	Registration, Hesler Hall, University Centre
		9:45	"Welcome"
		10:15	Coffee, East Lounge
		10:45	Panel Discussion - Evaluation of 1:250,000 N.T.S. Map Series Lou Sebert, Energy, Mines & Resources and others.
		12:00	Lunch
	p.m.	1:30	"The Land Registration & Information Service" R. Simmonds, Manager, Systems & Planning Division
		2:45	Coffee
		3:15	"Maritime Resource Management Service" C.W. Raymond, Director
Tuesday June 17	a.m.	9:00	"Business Meeting"
		10:15	Coffee
		10:45	"The Other Revolution, 1775" Walter K. Morrison, Nova Scotia Land Survey Institute Lawrencetown
		12:00	Lunch
	p.m.	1:30	"Historical Maps of Nova Scotia" George T. Bates, Nova Scotia Land Surveyor, Halifax
		2:45	Coffee
		3:15	"The Map of Cabotia and its Place in the Mapping of New Brunswick" Richard Malinski, Simon Fraser University
		6:00	Pre Banquet Reception
		7:00	Banquet
Wednesday June 18			Tour of local area and lobster party

Thursday June 19	a.m.	9:00	Historical Geography Paper. Title and Speaker to be confirmed.
		10:15	Coffee
		10:45	Annual Report - Energy, Mines & Resources. Lou Sebert
			Annual Report - National Map Collection. Betty Kidd
		12:00	Lunch
	p.m.	1:30	Business Meeting Continued
		2:45	Coffee
		3:15	Panel Discussion - Cartobibliography Lorraine Dubreuil, McGill University and others
Friday June 20			Should sufficient interest prevail, an informal tour may be arranged of the facilities of the Surveys and Mapping Branch, Land Registration and Information Centre, Summerside, P.E.I.

WESTERN ASSOCIATION OF MAP LIBRAIRES / ASSOCIATION OF CANADIAN MAP LIBRARIES

School of Librarianship, University of British Columbia, Vancouver, B.C.

May 8 - 10, 1975

Tentative Programme

Thursday, May 8

9:00 - 9:15	Welcome, etc.
9:15 - 10:15	Dr. Coolie Verner (topic concerning West Coast cartography)
10:15 - 10:45	Coffee
10:45 - 12:00	British Columbia Mapping: report by D. Pearson ARDA - CLI
12:00 - 1:30	Lunch
1:30 - 3:00	Canadian Hydrographic Service; paper by R.M. Sandilands
3:00 - 3:30	Coffee
3:30 - 5:00	British Columbia Air Survey; paper by G.S. Andrews

Friday, May 9

9:00 - 10:15	Urban Teaching in British Columbia; paper by L. Evenden
10:15 - 10:45	Coffee
10:45 - 12:00	Reports: a) National Map Collection - report by B. Kidd; b) A.C.M.L.; c) Canadian Mapping
12:00 - 1:30	Lunch
1:30 - 3:00	Genealogical Research in Canada and British Columbia; papers by B. Kidd and W. Teese
3:00 - 3:30	Coffee
3:30 - 5:00	W.A.M.L. Business Meeting

Saturday, May 10

9:00 - 10:15	Vancouver City Archives; tour by Bill McKee
	Tours can be arranged to Simon Fraser University for those wishing to visit there.

Accommodation has been reserved in the university residences near the Library. Me
may be had in the Student Union Building, nearby, or in the Faculty Club, for thos
with reciprocal privileges.

SLA GEOGRAPHY AND MAP DIVISION CONFERENCE

Chicago, Illinois June 8-12

Sunday, June 8

8:00 - 10:00 PM Geography and Map Division Reception for members.

Monday, June 9

10:00 AM - 12:00 Geography and Map Division Business meeting - PDR 5

12:00 - 2:00 PM Luncheon
Dr. Walter C. McCrone, Walter C. McCrone Associates, Inc. Chicago, Illinois. "The Vinland Map Case"

2:00 - 4:30 PM International Resource Sharing - Panel
Moderator: Serge A. Sauer, Map Librarian, Dept. of Geography, University of Western Ontario, London, Ontario.

Speakers:

The International Geographical Union: Chauncy D. Harris.

The International Cartographic Association: Arthur H. Robinson.

International Federation of Library Associations, Geography and Map Libraries Subsection: Walter W. Ristow.

International Society for the History of Cartography: David A. Woodward.

Pan American Institute of Geography and History: Arthur L. Burt.

Tuesday, June 10

10:00 AM - 12:00 Cooperative Information Services. Conbributed Paper 1.
Moderator: Mary E. Fortney, Northwestern University.

The Ontario Universities Library Cooperative System (OULCS) Maps - The Regional Approach: A System to Share $. Ralph M. Daehn, Social Sciences Division, University of Guelph, Guelph, Ontario.

Some Application of the Ohio College Library System Network to the Geography and Map Collections at Kent State University. Edward J. Hall, Kent State University Libraries, Kent State University, Kent, Ohio.

Map Cataloging Methods. Marsha L. Selmer, University of Illinois at Chicago Circle, Chicago, Illinois.

Map Cataloging at New York Public Library. Alice C. Hudson, Map Division, New York Public Library, New York, New York.

12:00 - 2:00 PM Lunch

2:00 - 4:30 PM Map Librarianship - Contributed Papers II. Moderator: Andrew M. Modelski, Geography and Map Division, Library of Congress, Washington, D.C.

Brief Listing of Maps, W. David Voorhees, Portage County Public Library, Hiram, Ohio.

Acquisition Lists, Lewis A. Armstrong, Map Library, Kenneth Spencer Research Library, University of Kansas, Lawrence, Kansas.

Reference Service in the Map Library, Mai Treude, Map Division, Wilson Library, University of Minnesota, Minneapolis, Minnesota.

Who Borrows Maps from a University Map Library--and Why? Jean M. Ray, Science Division, Morris Library, Southern Illinois University. Carbondale, Illinois.

The Franklin Survey Company. Jeremiah B. Post, Map Collection, The Free Library of Philadelphia, Philadelphia, Pennsylvania.

4:30 - 5:30 PM Newberry Library - Map exhibit and cocktails.

Wednesday, June 11 Annual Programme and Exhibits.

12:00 noon - 2:00 PM Luncheon and Program Aerospace Division and Geography and Map Division Parlor A
Fun and Facts of Satellite Communications
Joachim J. Kaiser, Senior Staff Scientists, Communications Satellite Corporation, Clarksburg, Maryland.

Thursday, June 12

9:30 AM - 5:00 PM Field Trip

INTERNATION FEDERATION OF LIBRARY ASSOCIATION

41st GENERAL COUNCIL MEETING

Oslo, Norway August 11 - 16, 1975

The conference will take place at the University of Oslo Congress Center, Blindern. The theme will be "The Future of International Library Co-operation". Number of participants limited to 500. Conference postal address before July 15 : IFLA General Council Meeting, Sørbyhaugen 3, Oslo 3; and after July 15 : University of Oslo Congress Service, P.O. Box 55, Blindern, Oslo 3.

Note: At the A.C.M.L. Executive Meeting on April 22, Hugo Stibbe was named as the official A.C.M.L. delegate to this I.F.L.A. meeting.

OTHER MEETINGS OF INTEREST:

1. Canadian Assocation of Geographers
   Simon Fraser University — May 26-29

2. Society of the Study of Architecture in Canada
   University of Alberta, Edmonton — June 2-8

3. Canadian Historical Association
   University of Alberta, Edmonton — June 4-7

4. Sixth International Conference on the History of Cartography
   National Maritime Museum, Greenwich, England
   September 7-11

5. British Canadian Symposium in Historical Geography
   Queen's University, Kingston — September 19-21

CATALOGUING NOTES

Bibliographic helps

All of us come across things while cataloguing which are puzzling and it would be a good idea to share our information with one another. To this end perhaps we could use the Bulletin for such a purpose.

The London Geographical Institute.
Letter from H. Fullard, George Philip and Son Limited to Velma Parker, September September 9, 1974.

Dear Madam,

The name "London Geographical Institute" was a Victorian name chosen by George Philip & Son Ltd. to describe their Cartographic Works set up in London about 1900. Other firms adopted similar names - e.g. Bartholomew's called their works The Edinburgh Geographical Institute.

Use of London Geographical Institute has declined in the past 30 years. However, some publications based on keys produced when the Institute name was in fashion still carry this imprint - it is exactly synonymous with George Philip and Son Ltd, London.

VEB Hermann Haack publication dates.
Below is a letter to Velma Parker from Haack, January 31, 1975, ré: The code used for recording publication dates etc. The examples sent to them are as follows:

Ex. #1 VLN 1001 LIZNZ-Nr. 2/64
Gen. Nr. 8/30/67 - 6/67-900

Ex. #2 Verlog: VLN 1001 GEN. Nr. 8/32/66.
Druck: K2/64 6/66 500 7A Redationsschluss 6/66.

Dear Madame,

We thank you very much for your letter dated December 9th, 1974, and allow us to try to explain our codes for publishing and printing information to your both examples as follows:

Every first stroke in your examples is without any value for the registration in your library, because they are licence-numbers only. Of the approval-number (in three parts) is the last number that of the year of publication. The next number in two parts (example 1=6/67, example 2=6/66) means month and year of last corrections or additions. This information will in future be given in all cartographical editions of our house.

We hope to have given you some help by this information to make your future cataloguing easier and more accurate.

Press Release concerning

AACR REVISION POLICY STATEMENTS

The Joint Steering Committee for Revision of AACR held its first plenary meetings with the editors of the proposed Second Edition of the 1967 Anglo-American Cataloguing Rules, in Chicago, January 23-24, 1975.

In these meetings, the Committee determined the detailed program of work which it is aimed to complete by the end of 1976, and developed guidelines for the editors and for the national committees of the United States, British and Canadian organizations and institutions participating in the revision. They included the following four policy statements:

1. The Joint Steering Committee resolves that the Second Edition of the ANGLO-AMERICAN CATALOGING RULES will maintain general conformity with the Paris Principles on which the 1967 rules are based.

2. The Joint Steering Committee resolves that the Second Edition will take particular account of developments in the machine processing of bibliographic records.

3. The Joint Steering Committee affirms its commitment to conformity with the International Standard Bibliographic Description for Monographs (ISBD(M)) as the basis for bibliographic description of monographs, and to the principle of standardization in the bibliographic description of all categories of materials.

4. The Joint Steering Committee accepts the commitment entered into by the predecessors to base the revision of relevant chapters of Part 3 of AACR primarily on the following four sources:

   DRAFT REVISIONS OF CHAPTER 12 and 14 of the AACR(U.S.):
   NON-BOOK MATERIALS CATALOGUING RULES (U.K.);
   NONBOOK MATERIALS: THE ORGANIZATION OF INTEGRATED COLLECTION (Canada);
   STANDARDS FOR CATALOGING NONPRINT MATERIALS (U.S.).

NEW PUBLICATIONS:

Harris, Channey D., Guide to Geographical Bibliographies & Reference Works in Russian or on the Soviet Union. University of Chicago, Department of Geography, Research Paper. 1975. No. 164. ($5.00. Dept. of Geog. University of Chicago. 5258 Univ. Ave. Chicago, Illinois 60637, U.S.A.) An annotated list of 2660 Bibliogra or Reference Aid.

From Preface:

This Guide to Geographical Bibliographies and Reference Works in Russian or on the Soviet Union is offered as an aid to individuals outside the Soviet Union who wish to become informed on the corpus of serious scientific work in geography and related disciplines published in Russian or in other languages of the Soviet Union or dealing with the geography of the Soviet Union. It is a relatively comprehensive inventory of bibliographies published in the Soviet Union on all fields of geography. It includes also a selection of the more important reference materials in Russian of particular geographic value, such as atlases, statistical sources, encyclopedias, handbooks, gazetteers, geographic dictionaries, and biographical directories.

Although the Russian and Soviet geographical literature is rather skimpily treated in Western bibliographies of geography, this literature is vast and of great importance. The Soviet Union itself covers a sixth of the ice-free land surface of the earth and its geography thus forms a significant fraction of the total geography of the globe. It encompasses a larger area than any other single political unit. It contains the largest contiguous area in the world in which the major scientific literature is predominantly in a single language. Soviet regional bibliographies and literature are rich also on the adjacent countries of Europe and Asia. In many fields of physical geography, and bio-geography, Soviet scientists occupy a leading international position and their publications are important to anyone wishing to be well informed on scientific advances in these systematic fields.

Journal of Historical Geography. Editors: Andrew Clark and John Patten. A new quarterly journal. Subscription rate, U.S.A. $19.75. Available from Academic Press, 111 Fifth Avenue, New York, N.Y. 10003.

Noted from advertisement:

The Journal of Historical Geography will be welcomed by scholars and students working in an already well established area which has, to date, had no journal devoted specifically to it. With the increase in recent years in both the quality and quantity of the teaching and research on the geographical past of the world, a journal to cover historical geography is badly needed. Previously, work done in this field has appeared in journals concerned primarily with history, anthropology, ecology, industrial archaeology, sociology, economics and of course, geography.

In addition to being the first full scale journal covering historical geography, this will also be one of the first truly international geographical journals, being edited jointly from the UK and the USA with a multi-national editorial board. The main language of publication will be English and contributi from all countries will be welcomed.

The journal will publish full-length articles, bibliographical and review articles, notes and comments and will include book reviews. It will not only welcome articles based on original research, but also papers from geographical methodologists, theoreticians and philosophers concerned with the study of matters of interest related to the past.

Artibise, Alan and Edward Dahl, Winnipeg in Maps/Winnipeg par les cartes, 1816-1972. Ottawa, Public Archives of Canada, 1975. $2.50 Canada, $3.00 other countries.

A CATALOGUE OF MAPS AND ATLASES OF THE MIDDLE WEST PRINTED BEFORE 1900

The National Endowment for the Humanities has awarded a grant of up to $130,000 to the Newberry Library and eight midwestern historical societies to prepare a catalogue of approximately 14,500 maps and atlases of the Middle West printed before 1900. The two-year project, which began on February 1, 1975, is directed by Dr. David Woodward, Program Director of the Hermon Dunlap Smith Center for the History of Cartography at the Library. Project Coordinator is Robert W. Karrow, Jr., Curator of Maps, The Newberry Library.

In addition to The Newberry Library, the following institutions are involved: Chicago Historical Society, Illinois State Historical Society, Indiana Historical Society, State Historical Society of Iowa, Michigan State Archives, Minnesota Historical Society, Ohio State Historical Society and the State Historical Society of Wisconsin.

To ensure consistency of cataloguing, which is based on Anglo-American Cataloguing Rules and Library of Congress practice, cataloguers from each participating institution are attending a one-month training period at the Newberry Library under the supervision of Mr. Karrow.

Each state historical agency is responsible for compiling a complete card catalogue of maps and atlases of their respective state printed before 1900. These include state, county and township maps and atlases as well as city plans. The Newberry Library is cataloguing the maps of the Great Lakes region as a whole. In addition to coordinating the project, the Newberry Library has compiled a manual of map cataloguing that it hopes to publish. All card typing for the project will be done at the Library on a IBM Mag II typewriter, and each institution will be supplied with copies of the cards pertaining to its own state. A central authority file will be maintained at the Newberry to ensure consistency of personal names and subject headings.

The project is intended to help raise the general level of professionalism in map cataloguing and curatorship in the Middle West, and to foster cooperation between the rich but underused collection of historical maps in the area. If successful, it could serve as a model for other regional projects of this nature.

NEWS NOTES

Marriages: On January 18, 1975, Lorraine Dubreuil, (Treasurer of the A.C.M.L.) to Wayne LeBel at the McGill University Chapel, Montreal.

On May 3, 1975, Ralph Daehn (Chairman of Directory Committee) to Lynda Pentelow in Kitchener.

Congratulations to both couples from the A.C.M.L.

Birth: To Beverly and Patrick Chen, on April 15, 1975, a baby girl, Lisa Lynn, 6.7 lbs. Both well. Beverly is map librarian at the University of Ottawa, formerly secretary of the A.C.M.L., formerly editor of the A.C.M.L. Newsletter (now Bulletin), and formerly Chairman of the National Union Catalogue of Maps Committee.

Chairperson, OULCS Project: Joan Winearls, Map Librarian, University of Toronto, has been selected as the chairperson of the OULCS Map Project.

Map Librarianship Course: To be offered during the summers of 1975 and 1976 at the Catholic University of America, Washington, D.C. The instructor will be Richard W. Stephenson from the Library of Congress. The 1975 course is entitled "Maps in libraries", and that in 1976, "History of maps and map collectin

Australian Researcher: Mrs. Winty Calder, Research Fellow, Centre of Environmental Studies, University of Melburne, will visit North America for several months from April. She is preparing a book on the natural vegetation of the Momington Peninsula, Victoria, and has used computer mapping techniques to correlate locations of extant natural vegetation into potential natural vegetation systems. During her visit to Canada she would like to discuss such computer mapping techniques with local practitioners.

She would like names of persons working in this field who are located in Canada or northern U.S.A. Any suggestions would be welcomed. Please contact Betty Kidd, National Map Collection whom Mrs. Calder will be meeting later; and who will pass on your suggestions.

Ottawa Reception: A successful wine and cheese reception was held by the Ottawa Chapter of the A.C.M.L. on Monday, April 21 at 6:30 p.m. in the auditorium lobby, Public Archives of Canada. Special guests were the members of the N.U.C. Committee, the A.C.M.L. executive and the Historical Atlas of Canada Committee who were meeting in Ottawa the week of April 21. The organizers of this reception were Tom Nagy of the National Map Collection and Lorne Leafloor of the Department of Energy, Mines and Resources.

Letter to the editor from Betty Kidd, James Knight, Heather Maddick and Tom Nagy:

In the November 1974 Bulletin, our reviews of the eighth annual conference appeared; we would like to emphasize that the opinions expressed were our own and should not be considered as official statements of the Association of Canadian Map Libraries.

The A.C.M.L. was very pleased to meet with the S.L.A. G&M Division whom we acknowledge did the planning for the session, except for the morning of June 10 and the whole of June 12. If our statements were found ungracious by S.L.A. members, we trust that they will accept our apologies at this time. A good working relationship between our two associations is essential to our field.

In our opinion, the Bulletin has been a worthwhile publication because it provides an opportunity for A.C.M.L. members to express their opinions freely; we would hope that it will continue to do so.

Policy change concerning the education discount for maps:

Following is the substance of a letter, dated March 25, 1975, from Barbara Farrell to the Deputy Minister of the Department of Energy, Mines and Resources.

May I draw to your attention a matter which is causing considerable concern in both education and map circles.

The attached circular recently announced a new policy of the Department of Energy, Mines & Resources concerning the education discount for maps. It seems rather sad that, at a time when so many people are working hard to promote cartographic education and to develop in young citizens a knowledge and awareness of their country, the department should see fit to remove a discount which, in so many cases, will make the simple difference of whether or not topographic maps will be made available to students.

The problem which ensues for educational establishments is as follows. The number of copies of an individual map sheet required varies according to the proposed use. One requirement is, indeed, for the provision of class sets of map sheets for detailed study by a large group of students working at the same educational level - but even today few elementary or secondary school classes have reached fifty in number! More important than this, however, is the fact that present educational trends emphasize individual progress and small group learning. It is therefore very important that a few copies, (the precise number varying with the specific needs of the teacher), of a wider variety of maps be made available. Thirdly, each school should have a small reference collection of maps at various scales relating to the local area and, where possible, to other areas emphasized in the particular school curriculum. In this case only a single copy of each sheet may be required.

It would seem that the announced policy will have a serious detrimental effect upon the quality of education that can be provided in our schools and universities. This effect will be felt not only in studies directly related to the comprehension and analysis of maps but also in all studies related to geography, planning environment, resource development and land utilization which themselves depend on adequate map knowledge. In the light of this, I would like to request that this policy be reconsidered.

The following reply has been received from G.M. MacNabb, dated April 16, 1975. Perhaps others concerned should write directly to the Deputy Minister, at 615 Booth Street, Ottawa, Ontario K1A 0E9.

Thank you for your letter of March 25, 1975, expressing the concern of Canadian map libraries regarding the revised discount policy on maps and air charts.

We recognize the valuable job that the educational institutions are performing in promoting cartographic education and as an aid in your programs we maintain 111 map depositories across Canada. The majority of these

depositories are located at university libraries, such as the one you have in the Geography Department at Carleton. The total and considerable cost of supplying maps for these depositories is borne by the Department of Energy, Mines and Resources. During the calendar year 94,000 maps were supplied free of charge.

Further, I am sure you realize that the sale price of maps and charts represents only a small percentage of the total cost of their production and in this latest change in discount policy we are attempting to maintain this small percentage in the face of rising costs. The 50% discount for educational institutions on 50 copies of a single map still compares favourably with the 20% discount allowed to the general public for similar purchases.

While I am not prepared to change our recently announced discount policy at this time, map prices and discounts are subject to an annual review and your views will be considered at that time.

Note from the Conservation Committee: A useful tape for repairs to maps and other documents is Filmoplast P tape, available from Vinilux Distributor Reg'd, P.O. Box 1896, Station "B", Montreal, Quebec. It is self-adhesive paper, non-acidic and non-conductive. It does not yellow nor discolour. Since the tape is available in varying sizes, quotations should be requested.

Notes from the National Map Collection:

Bibliographie cartographique international, 1974: The National Map Collection has just completed the Canadian contribution to the B.C.I. for 1974, and copies will be available, as in other years, for $3.00. The 1974 contribution consists of 247 entries, describing 2,924 cartographical items, in 88 pages.

During the year, entries for separate sheet maps are prepared by Heather Maddick and Linda Camponi, and for series sheets, by Maurice McCauley and Denis Voyer. Heather Maddick does the final compilation and editing, and Louis Cardinal checks the French. Requests for copies should be sent to Ms. Heather Maddick, Editor B.C.I., National Map Collection, Public Archives of Canada, 395 Wellington Street, Ottawa, Ontario K1A 0N3.

"Ottawa in Maps" exhibit: Because of minimum security and safety, the Public Archives of Canada does not wish to have its original, valuable cartographic resources exhibited in "people places", like shopping centres and other commercial or institutional buildings. We therefore decided to assemble an exhibit of archival maps relating the early history of Ottawa by utilizing full scale, colour, photographic reproductions. The photography was carried out by the Canadian Government Photo Centre. The exhibit was designed to be light weight and attractive by the Exhibition Services staff of the P.A.C. After detailed negotiations with Publicity and Information Services at Ottawa City Hall it was decided that they would host the exhibition in the foyer of Ottawa City Hall and provide a "gala" opening. The senior city controller Mr. Gary Guzzo and the Dominion Archivist, Dr. W.I. Smith participated in the opening ceremonies. Over five hundred citizens of Ottawa were invited to this opening on January 10, 1975. These included people affiliated with the P.A.C., City Hall, community groups, the media, government officials, church officials, etc. This opening was a great success. Since that time the exhibit has travelled to major shopping centres, universities and will keep

moving around the city in an effort to reach as many citizens as possible.

Press Release

NEW BOOK DEPICTS

WINNIPEG'S HISTORY IN MAPS

Ottawa, April 23--Winnipeg's Portage and Main has long been one of the more impressive intersections in Canada. A new book reveals that this heart of the Prairie metropolis was "just where the furrunners' trail coming down the Assiniboine to Fort Garry crossed the trail running down the Red River."

It's just one of the many relevations about the city's history contained in "Winnipeg in Maps-Winnipeg par les cartes 1816-1972" published by the Public Archives of Canada. The book is the second in a series of volumes being published by the Archives to bring to the attention of the public some of the wealth and variety of cartographical materials to be found in the Public Archives of Canada. The first volume featured Ottawa.

The authors of the Winnipeg book, historian Alan Artibise and Edward Dahl, an archivist with the National Map Collection in the Public Archives, selected 61 maps to depict the evolution of the city from a small trading post to the largest city on the prairies. Most of the maps are from the National Map Collection in Ottawa and a number are housed in the Public Archives of Manitoba. Originally the maps came from several sources including newspapers, published journals, insurance atlases, and the Hudson's Bay Company.

The maps and the accompanying text touch on the influences of the Hudson's Bay Company and the Canadian Pacific Railway, major land-holders in the city's centre, and the role of planning and non-planning. The authors also document the impact of land speculation, the destruction of Upper Fort Garry, urban decay, and the controversy over the location of the University of Manitoba.

A number of the maps dating from the latter part of the 19th century are illustrated and provide a graphic portrait of the city at the time.

The city's Centennial year occurred in 1974 and this volume has been published for those whose interest in Winnipeg's history was sparked by the year of celebration. City dwellers across the land will also be captivated by the city's development around the junction of the Assiniboine and Red Rivers.

Accompanying the maps is 15,000 words of explanatory text. The 80-page volume costs $2.50 and is for sale at Information Canada bookstores.

For information:

Albert Rorai
(613) 992-9359

Communiqué

NOUVEAU LIVRE SUR L'HISTOIRE

DE WINNIPEG PAR LES CARTES

Ottawa, le 23 avril - L'intersection des rues Portage et Main de Winnipeg est depuis longtemps l'un des plus impressionnants carrefours au Canada. Un nouveau livr nous révèle que ce noyau de la métropole des Prairies est "l'endroit exact où se croisaient le chemin des coureurs des bois descendant l'Assiniboine en direction du fort Garry et le sentier longeant la rivière Rouge." C'est là l'une des nombreuse révélations sur l'histoire de la ville que renferme le livre "Winnipeg in Maps- Winnipeg par les cartes, 1816-1972" publié par les Archives publiques du Canada. Le livre est le deuxième d'une série de volumes que publient les Archives dans l'espoir de faire connaître au public la richesse et la variété des documents cartographiques dans les Archives publiques du Canada. Le premier volume portait sur Ottawa.

Les auteurs du livre sur Winnipeg, l'historien Alan Artibise et Edward Dahl, archiviste attaché à la Collection nationale de cartes et plans des Archives publiques, ont réuni trente et une cartes qui décrivent l'évolution de la ville, du petit poste de traite jusqu'à la plus grande ville des Prairies. La plupart des cartes font partie de la Collection nationale de cartes et plans, à Ottawa, et certaines sont conservées aux Archives publiques du Manitoba. Elles furent tirées à l'origine de journaux, de revues publiées, d'atlas d'assurance ou obtenues de la Compagnie de la baie d'Hudson.

Certaines des cartes datant de la fine du XIX^{e} sont illustrées et donnent un aperçu intéressant de ce qu'était la ville à l'époque.

La célébration du centenaire de Winnipeg, en 1974, a stimulé l'intérêt de Canadiens pour l'histoire de cette ville et c'est à leur intention que ce volume a été publié. Les citadins de tout le pays seront également fascinés par l'expansion de la ville au confluent des rivières Assiniboine et Rouge.

Un texte de 15 000 mots accompagne les cartes. Le volume de 80 pages se vend $2.50 aux librairies d'Information Canada.

Pour renseignements:

Albert Rorai
(613) 992-9359

PUBLIC ARCHIVES OF CANADA NATIONAL LIBRARY OF CANADA

Ottawa, Ontario
April 21, 1975

ANNOUNCEMENT

The National Library and the Public Archives of Canada are cooperating in the development of cataloguing rules, machine-readable formats and authority files for use in the processing of maps.

Revised cataloguing rules for maps, based on the Anglo-American Cataloguing Rules and taking cognizance of the principles of International Standard Bibliographic Description (ISBD) have been prepared in draft form for single maps by the Association of Canadian Map Libraries - National Union Catalogue Committee. These will be discussed with the Office of Library Standards of the National Library for presentation via the Canadian Cataloguing Committee, the Canadian representative, to the Joint Steering Committee for the revision of AACR.

In addition to work on revised cataloguing rules, work on the international level is also being done to develop an International Standard Bibliographic Description for maps. The chairman of the Joint Working Group on ISBD (Maps) of the International Federation of Library Associations is Hugo Stibbe of the National Map Collection, Public Archives. Developments in this area are expected at the IFLA meetings in August and at a special working group meeting in September, 1975.

A considerable amount of work on machine readable format for maps has been done by the Association of Canadian Map Libraries in conjunction with the National Map Collection of the Public Archives. Before a definite machine-readable format for processing and exchange of bibliographic records for maps can be devised, it is necessary to have the cataloguing rules and the ISBD(Maps) in a fairly stable form.

This is expected to be possible in the late fall of 1975 or early 1976. At that time, the Canadian MARC Office of the National Library and the Public Archives will, in consultation with interested bodies and institutions in Canada, work on the development of a Canadian MARC format for maps which will be consistent with Canadian MARC formats for other types of materials (books, serials, authority files, audio-visual material) and which will be issued in the regular series of Canadian MARC formats published by the Canadian MARC Office. It is expected that the format will be able to satisfy the requirements of access both by geographic area and corporate and personal author.

The National Library and the Public Archives will also be cooperating in the area of authority files for the processing of bibliographic records for maps. The National Library will accept the geographic area name authorities established by the Public Archives as applicable in records of all materials presently handled by the automated cataloguing system and the Public Archives will accept authorities established by the National Library for personal and corporate names used in the Public Archives records as applicable.

The Canadian MARC format for authority file information and the system based on it developed by the National Library will be used for maintenance of both authority files.

BIBLIOTHEQUE NATIONALE DU CANADA ARCHIVES PUBLIQUES DU CANADA

Ottawa, Ontario
le 21 avril, 1975

COMMUNIQUÉ

La Bibliothèque nationale et les Archives publiques du Canada élaborent en collaboration des règles de catalogage, des formats ordinolingues et des fichiers d'identification pour le traitement de cartes et plans.

Le Comité du Catalogue collectif national de l'Association des cartothèques canadiennes a rédigé un projet de règles révisées de catalogage des cartes et plans individuels basées sur les Règles de catalogage anglo-américaines et conformes aux principes de la Description bibliographique internationale normalisée (ISBD). Ces règles feront l'objet de discussions avec le Bureau des normes de bibliothèque de la Bibliothèque nationale avant d'être présentées au Joint Steering Committee for the revision of AACR par le représentant canadien, le Comité canadien de catalogage.

Outre la révision des règles de catalogage, l'élaboration d'une Description bibliographique internationale normalisée pour les cartes et plans est aussi en voie de réalisation. Hugo Stibbe, de la Collection nationale de cartes et plans, des Archives publiques du Canada, préside le Groupe de travail mixte sur l'ISBD (cartes et plans) de la Fédération internationale des associations de bibliothécaires. On espère accomplir des progrès dans ce domaine aux réunions de la FIAB en août et à une réunion spéciale du groupe de travail en septembre 1975.

L'Association des cartothèques canadiennes et la Collection nationale de cartes et plans des Archives publiques du Canada ont consacré beaucoup de temps à l'élaboration d'un format ordinolingue, mais avant de pouvoir établir définitivement ce format pour le traitement et l'échange de notices bibliographiques de cartes et plans, il faudra attendre que les règles de catalogage et de l'ISBD (cartes et plans), soient elles-mêmes déterminées, ce qui devrait être possible à la fin de l'automne 1975 ou au début de 1976.

Le Bureau MARC canadien de la Bibliothèque nationale et les Archives publiques pourront alors, de concert avec les institutions et organismes canadiens intéressés, entreprendre la mise au point d'un format MARC canadien pour les cartes et plans, compatible avec les formats MARC canadiens pour les autres catégories de documents (monographies, publications en série, fichiers d'identification, documents audio-visuels) qui sera ajouté à la collection régulière de formats MARC canadiens publiés par le Bureau MARC canadien. On prévoit que le format répondra aux exigences d'accès par région géographique et par auteur individuel ou collectivité-auteur.

La Bibliothèque nationale et les Archives publiques collaboreront également à l'établissement des fichiers d'identification pour le traitement des notices bibliographiques de cartes et plans. La Bibliothèque nationale utilisera les vedettes de noms de lieux fixées par les Archives publiques du Canada dans les notices de toutes les catégories de documents comprises dans le système de catalogage automatisé et les Archives publiques accepteront dans leurs propres notices les vedettes de noms de personne et de collectivités-auteurs fixées par la Bibliothèque nationale.

Le format MARC canadien des vedettes d'identification et le système y afférent, élaboré par la Bibliothèque nationale, serviront à la tenue des deux fichiers d'identification.