**MAPS RELATING TO ALEXANDER MACKENZIE
AS EXAMPLES IN AN APPLICATION
OF THE PRINCIPLES OF CARTOBIBLIOGRAPHY¹**

There is little written about historical cartobibliography. It has few practitioners. Few people ever think about it, and most have never heard of it before. Therein lies the advantage: the reader is innocent and therefore the author, who is only somewhat less innocent, can pose as an authority.

And it is a pose, because I am no cartobibliographer, lacking as I do the necessary combination of devotion to detail and perseverance. As an appendix to this issue of the *Papers* there is a collection of map reproductions together with some lengthy descriptions. These descriptions are complete and accurate, in so far as I have been able to make them that way, but because I did not have access to original maps in all cases, they are not of a uniform standard. No real bibliographer would give them to the public as I have, but they will suffice as examples.

Perhaps you thought you were going to read something about Alexander MacKenzie. Well, you're not. This paper is about maps relating to Alexander MacKenzie. First, a few words about old maps and the study of them.

I like old maps, and if I have to look for reasons why I do, I can think of several: first, they appeal to the antiquarian instinct. Old things interest me; I am equally happy in a first-rate museum and a third-rate junk store. Age and previous ownership inject objects with a fascination which I can't explain or justify on rational grounds, and if the grounds are emotional, then they are commonly held by most librarians.

Besides exuding the aura of antiquity, maps have historical interest, and I like history. And thirdly, old maps have aesthetic qualities, which have made them objects of decoration for centuries, as witness their appearance in the Dutch interiors of Vermeer and other artists. It is also worth noting that the map is, to put it in contemporary parlance, the oldest audio-visual means of communicating information. Thus they are documents in intellectual history, and their study will lead one both forward and backward in time, and can involve a study of such diverse subjects as surveying, engraving, geography, or social and political history.

When it comes to the study of maps, there are several approaches. One is historical cartography, which is the study of the history of the contents of maps in their relationship to various times and places in history. A separate study might be called cartographical history, which would deal with the history of maps and

¹ This paper is a revised version of a talk given to the Annual General Meeting of the Bibliographical Society of Canada, Jasper Park, June 9, 1968.

map-making. The subject of this paper is historical cartobibliography, which is the making of lists of old maps, and describing them accurately. I'm not sure cartobibliography has any significance or practical purpose. Let's assume that it hasn't, and that like collecting match-box covers, it is an end in itself. In any case, it is attracting more attention than it did in the recent past, and more periodicals and books dealing with historical cartography and cartobibliography are making their appearance. For a bibliographer, it's almost all virgin territory. What's more, there are no accepted rules for description. The technique I will describe tonight is an excellent one in my opinion, and I can say that without appearing vain because it was devised not by me, but by my colleague, Dr. Coolie Verner.

Before I tell you about this method of describing old maps, let us review the methods by which old maps are reproduced. First, there is the manuscript map. Until the principles of printing were discovered in the 15th century all maps appearing in Europe were manuscript maps, for the most part produced on parchment. Each such map was naturally unique, and today examples are of great rarity and expense. Do not let me give you the impression that upon the appearance of the printing press manuscript maps disappeared. To begin with, almost any printed map would have to be in manuscript form, from which an engraver could work. Many maps important in the history of Canada, such as those of Franquelin, Pond and Thompson, never found their way into printed form.

Among the earliest of printed maps are the wood-block maps. These were extremely difficult to execute and can usually be identified by the thickness of the lines and by the crude shapes of the letters. To avoid this latter feature, some printers would inset type into the block. Wood-blocks were quick to wear and when publishers had an alternative they quickly abandoned them. Such wood-block maps are an exception in books after 1500; however, it is interesting to note that the tradition of wood-block maps was carried on in Japan up to the middle of the 19th century. The detailed, sometimes huge wood-block maps of the Japanese would have been beyond the scope of the most expert European wood-block artist at any period.

For a period of almost 400 years in Europe the engraved copper or steel plate held a position of dominance in the printing and reproduction of maps. Maps reproduced in this way are the ones with which most people are familiar. Examples are not uncommon and can be acquired in any interior decorator's shop these days. As is the case with old books, it is the significant maps which are hard to find. The art of the engraved map, for it was an art, reached its quintessence in the 19th century, just at the time that lithography proved to be a more economical way of reproducing maps. Modern cartography has at its disposal now a great variety of ways of depicting the earth's surface, far excelling those available to the craftsmen of previous centuries. But when it comes to beauty, something is missing.

Now let us turn to the maps themselves and the aspects of them that need to be described. The examples I have chosen all relate in one way or another to Alexander MacKenzie. You have probably already looked through the booklet and determined that with one or two exceptions, they are all in a sense the same map. In fact, some appear to be identical. It is worth remembering before we proceed that if one is to do a bibliography of rare maps one is faced with the problem of visiting several libraries. When making a comparison of maps it is most desirable to have all of them before you in one place. But this is seldom possible. Thus attention paid to the detail of the description helps to avoid later confusion. Please turn to Map #1.

As you know, Alexander MacKenzie was the first person to travel the length of the river that bears his name to the Arctic Ocean, and the first person to reach the Pacific Ocean by land. The map before you is taken from the first edition of his voyages, published in London in 1801, and it is the first map to show the results of both his journeys of exploration. From the point of view of making a description, the most conspicuous thing about the map is its title, and this is the safest point at which any description should begin. Unfortunately for cartobibliographers, not all maps have titles, in which case one may use as a title one of the most prominent geographic names on the map which describes the area shown, or in the absence of any prominent name, he may invent a name which generally describes the map. Naturally such invented or adopted names should appear in the bibliography in square brackets. All of the maps in the keepsake have titles and in transcribing them I have used certain conventions which help to discriminate among them. You will see that the description of the title of the first map copies in so far as possible the style of the lettering on the map. Punctuation is copied exactly and strokes are used to indicate the ends of lines. If ornaments or rules are used in the title these are also indicated, but in square brackets. For an example of that see Map #8.

The next feature to be described is the imprint, if one exists. In earlier maps the imprint is usually found within the cartouche or in a separate cartouche, but by the 19th century the imprint was either left out or in most cases placed inconspicuously outside the border of the printed map. In the reproduction of Map #1 the imprint which was at the bottom of the map in centre has been cut off. The statement which was in italics has been transcribed in the description.

The next item to look for is the engraver's name. In most cases this is absent, but if it can be determined it is worth adding in square brackets.

The next item in the description is the source if this can be established. In considering source the origins of maps must be remembered. Some maps were issued separately on one or more sheets. Other maps were specially created to be included in atlases or used as illustrations in books. Particular maps might be issued by the publisher separately and also included in atlases or books. If a map has been detached from a book this is usually easy to determine because one edge of the map will be cut or torn, or if the book in which the map was included was

smaller than the map, the map will be creased. All the maps considered here tonight appear in books but it is not an uncommon experience to see MacKenzie maps listed as separates in dealers' catalogues. It is probable that all of these are detached maps. In preparing a description of the source it is not essential to go into as great bibliographic detail as I have, unless detail will bring out some special points. A note should be made of the copy or copies which have been examined in preparing the description. A location and call number is all that should be required. The specific copy which is reproduced should be noted.

Among the most critical descriptive elements is the size of the map. You will note that both the plate and the map are measured. To print an engraved map it was necessary to coat the plate with ink; to clean off the surface leaving a deposit of ink in the incised lines; to lay a piece of paper over the plate and to submit the paper and plate to pressure. This transferred the ink to the paper but also left the edge of the plate indented in the paper. For those of you who have difficulty distinguishing some of the excellent modern reproductions of engraved maps from originals, this plate line provides a clue to authenticity. To avoid any confusion over the orientation of the map, measurements are given in centimetres in the NS and EW direction. The same applies to the measurement of the map itself, which is taken from one border to the other, the border being the last engraved line on the outside of the map.

Latitude and longitude are also recorded, and to reassure you that no geographical expertise is required to determine this, the figures used are those taken directly from the map. Unfortunately in our reproduction some of the figures are dimmed but I have used the maximum of degrees.

If the person using the description of the map has no facsimile to guide him it would be necessary to make a note of the prime meridian so that he may interpret the latitude and longitude. For the purposes of map-making, any meridian can be used as a prime meridian as long as it is defined, and for several centuries different European countries used different prime meridians. The spirit of nationalism usually decreed that capital cities would be used as prime meridians by the various countries. Fortunately, an international agreement was reached which concluded that Greenwich would be the place through which the prime meridian passed. Only one map, #8, departs from this standard.

As a further assistance to the user of a description, the scale should be noted. Again this is simply taken from the map, if a scale is noted on it. Such scales are of two types. One is the verbal scale which simply defines in words the units of measurement used by the cartographer, e.g., 1 millimetre equals ten miles. The other is a diagrammatic scale, usually in the form of a bar. Diagrammatic scales can be described by measuring the length of the unit on the map in centimetres and recording it. In both cases the position of the scale on the map should be noted.

To relate all of the maps described to one another the natural scale should be determined. This can be done by using a natural scale indicator developed by

S. W. Boggs of Boggs Map Classification fame. The natural scale indicator makes it possible to express the scale of any map by a representative fraction (abbreviated R.F.), in which one unit of the map is equivalent to a number of units on the ground.

The cartouche deserves particular attention. Its location on the map should be noted and the space occupied by the title should be measured and recorded. This is done by measuring in centimetres the longest line from east to west and from the highest letter in the top line to the lowest letter in the bottom line from north to south. The frame surrounding the cartouche should also be described. This is particularly important in the case of the decorative maps of earlier centuries when the cartographer was given to flights of imagination.

The final element in a physical description is the watermark, which may be a critical factor in dating a map that bears no printed date or any other clue to its age.

You may have noticed that no mention has been made of colour. Since all colour in engraved maps was applied by hand, this is a feature which is unique to each map, and should be noted only if it is of some importance in the study at hand. The dark lines in the reproduction of map #1 are a result of colouring, not engraving.

At the end of the physical description is a cartobibliographical note and it is here that the bibliographer establishes the nature of the map in relationship to others under study and provides any other information which is germane to the history of the map.

The work involved in compiling such a detailed description is time-consuming and can be boring, but fortunately for the world of scholarship there are people who enjoy this kind of work. As I have said, I am not of the breed. However, the preparation of such descriptions yields results when it comes to studying a series of maps, as we shall now see.

The first map of 1801, at which you have been staring, is the basic map in this series and, as I have pointed out, it is the first map on which the travels of both Hearne and MacKenzie are recorded. The cartobibliographical note states that this was the work of Aaron Arrowsmith and was a reduced copy of a large three-sheet map which Arrowsmith and his successors used for over half a century. The latter was a truly encyclopedic map and its various states record the development of geographical knowledge in Canada.

The second map in the series appeared in a two-volume edition of MacKenzie's voyages, published by the same firm which published the first edition in the previous year. This second English edition contained some comments by Bougainville and these were directly translated from the French edition of MacKenzie from which map #5 is taken. When I first saw this map I jumped to the conclusion that it was identical to the first edition and was printed from the same plates, which must have been in the possession of MacKenzie's publisher. The first clue I had to the fact that something was different was the absence of

punctuation after the word *West* in the title. This, however, could have been attributed to slight plate damage or to a clogging of the incised lines on the plate. The misspelling of MacKenzie's name in the imprint was the give-away. Closer examination revealed very minor differences in nomenclature and placement of names. A most notable example of the latter may be seen in the final 's' in *Hudson's*. In the first state of the first edition an island appears to the lower left of the letter 's' but in map #2 the island is directly below the letter 's'.

Map #3 is taken from the first American edition of MacKenzie's voyages. In the reproduction it looks quite similar to the first London edition, but in fact it is a smaller map with much of the nomenclature missing. For some reason the engraver substituted the word 'rout' for 'track' in the title.

The fourth map is taken from the Philadelphia edition of 1802, which was the second American edition. Here we come to a puzzle which even the most detailed description cannot solve. The description of the map is identical to that for Map #1. A close comparison of the two maps reveals no changes. Thus this impression appearing in an American edition must have been taken from the same plate that was used to produce the maps for the first edition of 1801 in London. We also know that in the same year, 1802, the English publishers did not use the plate which was used in the first edition. Was the plate sent to Philadelphia? Comparison of the papers upon which the maps were printed tends to suggest that this did not happen, for they appear to be the same paper, although in the absence of a watermark this is difficult to ascertain. The future adventures of the first plate are continued later.

We come now to Map #5, the first and I believe the only French edition. This map is a direct copy and translation of the first English edition. This edition of MacKenzie was produced under unusual circumstances which are described in the note. By an irony of history, Napoleon's own copy of the book eventually found its way back into the hands of the MacKenzie descendants.

Maps 6, 7, and 8 are German editions, all of which appeared in 1802. The editions appearing in Berlin and Hamburg were closely related to one another. The text of the book was the work of the same translator. Although there are differences in the cartouche, the two maps 6 and 7 employ identical translations of the English names and the names themselves are placed on the map in similar positions. This would indicate that either one map was copied by an engraver from the other, or both engravers had access to the same German original manuscript. The translator had a testy comment to make about the engraver and this has been translated in the bibliographical note. Both of these maps are accurate copies of the original.

The third German edition of 1802, which was published in Weimar, is a piece of independent work. Although the Arrowsmith map may have been used as a source, the cartographer has chosen to lay it out on another projection and to ignore some of Arrowsmith's geographical refinements.

Map #9 is taken from the third American edition which appeared in 1803. The

two copies of this edition which I have been able to examine contain different maps. One, at the Provincial Archives in Victoria, contains Map #3. The University of British Columbia copy contains a map which is inappropriate to the text. The book itself bears all the signs of a cheap reprint, and it is significant that the publisher has deleted from the preface MacKenzie's remarks about the map. Only examination of more copies could determine whether the book was issued with one or the other map, or with both.

The tenth map was taken from an abbreviated account of Hearne's and MacKenzie's voyages published in St. Petersburg in 1808. This work is excessively rare.

Considering the great efforts the Russians were making at the time to improve their geographical knowledge, it is puzzling that a direct copy of the first English edition was not made. Instead the cartographer chose to add the detail about Hearne and MacKenzie to a rather unsatisfactory map which derived from Kruzenshtern's voyage. It is interesting to note that seven years had elapsed between the appearance of the first edition in London and this Russian edition, and that fifteen years had elapsed between MacKenzie's actual journey and this representation of it. This was the rate of transfer of information a century and a half ago. It is also worth observing that in the process of transfer, the geographic information has become corrupted.

Whether this observation can act as a basis for a generalization would require further study, but in pursuit of the idea I worked through the University of British Columbia's collection of early Japanese maps, and discovered that a map of 1850 was the first to show evidence of a knowledge of MacKenzie. This map was produced before Commodore Perry opened Japan to the West, thus the Japanese did not have at this time free access to geographic information originating in Europe, nor were they engaged in exploration. Since it sometimes took a century for a new idea to penetrate Japan, a lapse of fifty years was an improvement. Radical changes have taken place since. Now such things as weather maps are electronically transmitted around the globe on a daily basis, with no loss of accuracy.

Please examine now the two final maps in this series. The map is familiar, but the title is different. In the case of Map XI, measurements reveal to us that this is a revision of the plate used to produce Map 1. The engraver has turned the plate over and carefully hammered the unwanted detail out of the soft metal. Then he has engraved the changes and the new information. In the reproduction, the darker lines are a clear indication of his new work, principally in respect to the river systems of the west. He ran over the border, partially effacing the imprint, but MacKenzie's name is still there.

Map XII is a further and more drastic revision of Map XI. The plate has been cut on the east and west edge, and more detail has been added west of the Rockies. At last the confusion between the Columbia and Fraser Rivers has been cleared up; it might never have occurred had Vancouver recognized the mouth of the

Fraser for what it was. As a map of the West it was a good one for its day. The plate had served its owners well for sixteen years. This working over of plates was not uncommon, because the whole process of engraving was time-consuming and expensive, and copper plates were costly. There were cases when a single plate might be used over a century by three or four publishers. Not only could the surfaces be re-engraved and borders reduced, plates could even be extended, so malleable was the copper. All of this lends interest to the work of the cartobibliographer.

But why does a cartobibliographer work? Perhaps the best explanation of that is to ask other questions. Why did MacKenzie want to travel to the sea? Why, for that matter, do flowers grow?

B. STUART-STUBBS