

CRYPTOGRAMS in Runic Carvings

A CRITICAL ANALYSIS

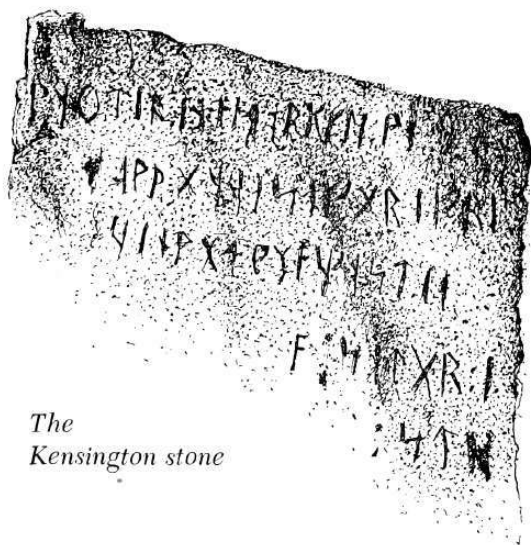
ASLAK LIESTØL

IN AUTUMN of 1967 a privately published book appeared under the title *Norse Medieval Cryptography in Runic Carvings* (Glendale, California. 224 p. Illustrations). Its co-authors are Alf Mongé, a native of Norway and a former cryptographer with the United States Army, and Ole G. Landsverk, president of the Landsverk Electrometer Company and a long-time champion of the Kensington rune stone. The book's jacket claims that the work represents "A solid breakthrough in knowledge of Norse explorations in America" and goes on to list a number of conclusions—including the absolute vindication of the Kensington stone as a fourteenth-century Norse artifact.

Since the subject has particular interest for Minnesotans, the book received widespread attention in the state's press, on radio, and on television, but the complexity of the material and the specialized knowl-

edge required have prevented much critical evaluation. Hoping to fill this gap, the Minnesota Historical Society asked Aslak Liestøl, chief curator of the University Museum of National Antiquities in Oslo and probably the world's foremost expert on medieval Norse runes, to comment upon the theories of Mr. Mongé and Mr. Landsverk. Readers of *Minnesota History* will recall Mr. Liestøl's lecture on the "Runes of Bergen," which was delivered at the society's 117th annual meeting and published in the Summer, 1966, issue. In addition to his scholarly qualifications, Mr. Liestøl has a particular advantage in dealing with the present subject, since he is acquainted at first hand with the original inscriptions upon which most of the authors' work is based, and he has dealt before with the subject of cryptography in runic carvings. Because of the nature of the material, his comments are too lengthy for publication as an ordinary book review. They are here presented as a review article. Ed.

THE PRESS recently announced that two scholars had found irrefutable proof that Norse Vikings had visited the North American continent long before Christopher Columbus and his men set foot in the Western Hemisphere. According to the papers, these scholars had employed entirely novel methods of research which had enabled them to bring to light new features of material already familiar to historians. They had arrived at evidence proving that some hitherto highly controversial finds in North



The
Kensington stone

America were, in fact, authentic traces of medieval Norse visits. It was claimed that the most important single result of their work was to prove beyond doubt that the Kensington inscription was cut in the Middle Ages. These notices concerned the book which will be discussed here.

The authors present their material and the main results of their investigation in a foreword, an introduction, and in the first two chapters. They hold that they have discovered the central purpose of the medieval rune carvers: to date inscriptions, but to tuck away the date in such a way that only a few people would be able to find it. The rune masters are said to have found intellectual pleasure in inventing complicated ways of concealing the date, and those who attempted to solve the riddles were rewarded not only by discovering the date on which the inscription was composed, but also by the satisfaction of having cracked a hard nut successfully.

One cannot simply sweep such an idea aside by declaring it to be improbable, for people have done odd things at all times, and many have struggled hard to reach goals that others did not consider worth losing sleep over. Nor is the problem of leisure solely a modern phenomenon; present-day crossword puzzles surely have an early parallel in the medieval speculation on the mystery of numbers. Much has been written in the course of time about the magic and mystery of numbers and secret writing as they are thought to appear in runic inscriptions, and all kinds of strange conclusions have seen the light of day. The appearance of the present book is therefore not without precedent and interest.

The reader is never in danger of losing sight of the authors' main object: the Kensington stone is mentioned on practically every page. Early in the book we are informed that the inscription was made on Sunday, April 24, 1362, but we learn with some surprise that it contains almost no factual information apart from this date. What we thought we could read about

Goths and Norsemen, blood and death, ships at sea, and so on, is simply a superstructure required by the technique of the cryptographer. Therefore we are no longer obliged to believe in this text. As the readers of *Minnesota History* will know, I did not believe in it before, but I must admit that I was curious to see how the authors had arrived at so sensational a conclusion.

IN CHAPTER 3 we are given examples of how a date can be concealed within a text. Space does not permit me to describe them all here, so I shall merely indicate the main principle involved: Certain letters in a text are stressed in some way. On the basis of these stressed symbols, one may by counting arrive at a sequence of numerals which, correctly interpreted, yields a date. The figures 12, 25, 19, 6, and 3, for instance, may mean December 25, 1963. There are other symbols in the text from which one can verify this date by counting in one way or another. They may, for example, give a number showing how many days were left in the year.

The authors maintain that they have found this system as well as some similar ones in a number of different runic inscriptions. They hold that certain peculiarities in the runes and in their positioning indicate the stressed symbols. Seven inscriptions, genuine beyond doubt, are examined, and the results of these investigations are applied to the doubtful inscriptions from the North American continent.

I have chosen two very simple examples—the Vånga inscription and the Norum inscription—from among the seven genuine texts, and I shall here examine them and discuss the authors' treatment of them. The Vånga inscription is written with Common Germanic runes. This was the earliest type of rune, and to the best of our knowledge it was not used after the eighth century. Runologists normally date this inscription at about 500 A.D., and they transcribe its eight runes as HAUKOTHUR, usually assumed to be a man's name, probably that

H A U K O Th U R

24 ND 3 YDL 2 YGN 15 R

MIRRORED REVERSAL OF THE VANGA INSCRIPTION

The Vānga inscription as interpreted by Mr. Mongé. The original carving is written in reverse.

of the rune master. This is the generally accepted and linguistically satisfactory interpretation.

Mr. Mongé is of the opinion that only the first four runes, HAUk, represent the name of a man, while he would have the remaining half of the inscription a cryptogram giving the date. The sequence of numbers at which he arrives is 24, 3, 2, 15, these figures representing the positions of the runes in the Common Germanic runic alphabet. He states that these figures refer to the auxiliary numbers used by medieval computers in calculating the dates of Easter and of those church festivals whose dates were connected with that of Easter. This involved system of dating operated with golden numbers—the numerals from 1 to 19—and with dominical letters, the first seven letters of the alphabet. Each year had a golden number and a dominical letter assigned to it, and the combination of these two was not repeated in less than ninety-five years. Thus one could identify any year within this period by giving the appropriate golden number and dominical letter.

We know this method of dating, and it must have been considered sufficient, for it occurs often, particularly in late medieval inscriptions from Gotland, where the golden numbers were given not as numerals, but as runes with a numerical value according to their position in the runic alphabet. The first seven runes of the alphabet were substituted for the Latin dominical letters. Mr. Mongé assumes a procedure not previously known: he thinks that the rune masters used numerical values not only for the golden numbers but also for the dominical letters. Numerals of a third type employed by Mr. Mongé are found in some of the Gotland

inscriptions—though not in the form of figures or “number-runes,” but spelled out as words. These are numbers referring to the lines of a perpetual Easter table, which gives the golden numbers and dominical letters arranged according to a system covering the entire *cyclus paschalis*, a period of 532 years, after which the system repeats itself. By giving the three values, golden number, dominical letter, and line in the table, the Gotlanders could identify any year within the great Easter cycle.

In the Vānga inscription Mr. Mongé chooses to interpret the sequence of numbers at which he has arrived—24, 3, 2, 15—in the following way: 15 refers to line fifteen in the Easter table, 2 is the golden number, 3 is the dominical letter C, and the last number, 24, gives the date as November 30, for this is the day on which there were twenty-four days of the year left according to the medieval Norse calendar. Thus the result is November 30, 1008, A.D.

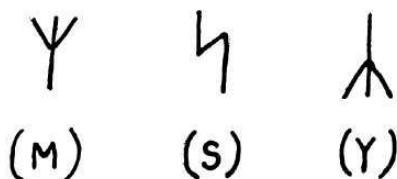
Mr. Mongé does not explain why he chooses to interpret the numerals in this way nor how he is able to establish that the date he gives is, in fact, correct. After a few minutes' calculation I arrived at no fewer than four different dates, having used Mr. Mongé's method for all of them. First I chose to interpret 15 as the golden number, 2 as the dominical letter, and 3 as the line in the Easter table. The result was November 30, 1211. By switching around the numbers to fit other categories, I arrived at November 30, 1523, Tuesday, November 30, 875, and Tuesday, December 9, 1046.

The procedure applied to this inscription illustrates one of the main weaknesses of Mr. Mongé's system. From a number of possible interpretations of the series, he

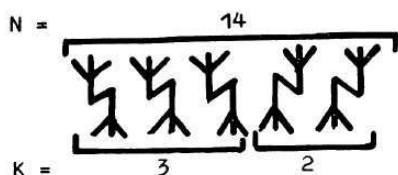
makes his choice apparently at random. He seems to realize this, but oddly enough he does not face up to the implications. When dealing with the Vånga inscription he says that "no cryptopuzzle specifically states which is which among a seemingly scrambled mixture of numerically indicated supplementary details. . . . More often than not they cannot be successfully identified except by first finding the correct year and its exact date. When this has been tentatively accomplished, the solver may obtain the pertinent supplementary details from his Easter Table and his perpetual calendar and thus verify his tentative solution." I must admit that I cannot understand the logic in this statement, nor in the account containing it. It seems to me that one must clearly have good reasons for preferring one of the possible dates to all others.

THE INSCRIPTION from the Norum font undoubtedly contains a cryptogram. (I must here point out that cryptograms are certainly not unknown in runic writing, and even runologists have been aware of the fact for centuries.) The Norum cryptogram, which consists of only five symbols, has not yet been interpreted to the entire satisfaction of scholars. Mr. Mongé thinks that it contains a date, but the method he employs here is different from that which he used for the Vånga inscription. The five symbols of this cryptogram are all composites of three different runes—those for M, S, and Y. Of these Mr. Mongé chooses M and states that this signifies the numeral 14, because M is the fourteenth character in the runic alphabet, or in the sequence of golden numbers. The last two symbols of the in-

The runic symbols for M, S, and Y



The cryptographic portion of the Norum font inscription



Numerical clues in the Norum inscription as interpreted by Mr. Mongé

scription are mirror images of the first three, and they are read to mean 3 and 2. Mr. Mongé uses these numbers in a way he has invented himself, and his arguments for such a method being in use during the Middle Ages are not convincing. This method is also based on the golden numbers, which the medieval computers used as an instrument in calculating the dates of the new moon in any given year. For this reason, a certain sequence of these numbers was set out in the perpetual calendars. According to Mr. Mongé, the numbers 14, 3, and 2 mean that we should take the golden number sequence (3, 11, 19, 8, 16, 5, 13, 2, 10, 18, 7, 15, 4, 12, 1, 9, 17, 6, 14, 3, 11, and so on), find the number 14, and count three places to the right, then two places to the right. In this particular case he begins his counting with the number 14, using inclusive reckoning, although this is not his usual procedure. He thus arrives at the figures 11 and 3, and then he puts these two numerals together, furnishing them with an extra zero, to produce the year 1103.

There was some indecision during the Middle Ages about the relative positions of M and L, neighbors in the runic alphabet. Therefore one may be in doubt as to whether M should stand for 14 or 15. Mr.

Mongé is aware of this, and he realizes that it may lead to different dates, just as different ways of counting, inclusively or exclusively, may also result in other dates. He writes: "If one wishes to amuse oneself by determining the year numbers that would be indicated by all possible combinations of $M = 14$ or 15 , and $K = 3$ and 2 or 2 and 1 , the results, besides A.D. 1103, are 1911, 1012, and 1204. Only the last two are possible and the first of these is extremely improbable. The year 1204, if it were correct, which it quite certainly is not, would make no significant historical difference." This is not the kind of reasoning to which scientific literature has accustomed us, but Mr. Mongé apparently regards his statements as convincing and indisputable.*

According to Mr. Mongé there is yet more to be found in this cryptogram. The numerals 2 and 3 can be combined into 32, which shows how many days there were left of the medieval Norse calendar year. He applies inclusive reckoning here as well and arrives at the date November 23. Mr. Mongé does not explain why he chose 32 in preference to 23 or 14. Neither does he say why he selected M from the runes of which the cryptographic symbols are composed, nor why he never exploited the possibilities offered by $S = 11$ and $Y = 16$.

THESE TWO inscriptions received the least complicated treatment at Mr. Mongé's hand. Most of the others had to be subjected to more involved manipulations before they would yield a series of numerals on which one might base a date interpretation. For the benefit of those who would like to try their hand at Mr. Mongé's method, I shall describe it here and give the possibilities of choice with which one is confronted at the different stages of the investigation.

Let us assume that we have a runic inscription which we suspect of concealing a cryptographic date. First we must try to find a numeral or a series of numerals hidden in the text. As we saw earlier, it is

important to note any peculiarities in the text and then to connect these with some numerical element. Among the means used to set off elements in the text, Mr. Mongé includes the following: (1) connected runes—two or more written together as one symbol; (2) separation points of unusual form—although normal points may also be significant; (3) unusual symbols in the text; (4) small marks and scratches in or around the text; (5) runes out of alignment with the rest; (6) displacement of lines in relation to other lines; (7) division of the inscription in some other way.

When we have found these indicators, we must try to discover how they conceal the numerals. According to Mr. Mongé we can choose from the following methods: (1) We may count all the runes in the inscription, regardless of whether they deviate from the normal. (2) Offset runes may be counted within their groups, or (3) the runes between them may be counted within their groups. (4) Several such offset symbols may be counted separately. (5) Extra strokes on individual runes may also be counted separately. (6) Normal runes may conceal numerals in such a way that the rune should be interpreted as the number of its position in the runic alphabet. (7) If unusual symbols contain parts which may be interpreted as runes, these runes may be read as numerals. (8) The numbers of words in each line can be counted. Mr. Mongé gives other ways of counting, but they are too complicated for quick explanation.

Having tried out all these methods—and that we ought to do, for we cannot know beforehand which one was adopted—we will be confronted with a great many numerals and series of numerals, without any means of telling which is the correct set. If none seems to yield a feasible date, we

*If one wishes to amuse oneself by determining all the possibilities, one ought also to take into consideration the random placing of the zero, and then one obtains the additional results 113, 1130, 112, 1120, 124, 1240, but these are also extremely improbable—a point on which I can agree with the author.

need not despair, for we may find: (1) that the series is to be read in reverse, or (2) that two numbers should be added together, or (3) that only some of the numbers in the series should be used, the rest having been added as trimmings.

Things become rather more complicated when we turn to the golden numbers and employ the method from the *Norum font* inscription in order to "translate" the numerals. We may either (4) start counting at the beginning of the golden number sequence, or (5) assume that one of the numbers gives us the place in the sequence from which we should start counting. And, of course, we are free to choose whether we wish to count inclusively or exclusively.

Mr. Mongé suggests yet a few more possibilities. A series of numerals could, for instance, be converted into runes which would result in a new number written as a word. This would then be the numeral on which further investigation should be based.

Assuming that we have found a series that reads 12, 3, 45, it may be that the figures should be interpreted as 1, 2, 3, 4, 5, or 123, 4, 5, or 1, 234, 5, and so forth. The author includes also the possibility of reading 2, 3, 4, 5, 1, if this is desirable.

Depending on how we decide to read these numerals, we can interpret them as: (1) years, written according to the decimal system (and here, of course, a zero may be inserted in any suitable position); (2) the day and the month, for the numerals from 1 to 365 can designate the number of days left in the year; (3) the day and the month, for the numerals from 1 to 90 can also indicate the number of days before or after the first day of summer (April 14) or the first day of winter (October 14); (4) the numerals from 1 to 31 can stand for the day of the month in the normal modern fashion, while (5) those from 1 to 12 can be the months of the year, or (6) the numbers from 1 to 7 can stand for the days of the week.

In addition, we have the computers' com-

plicated system with golden numbers, dominical letters, and Easter tables. Mr. Mongé operates with two different Easter tables, one with nineteen horizontal lines, the other with twenty-eight. This means that (7) the numerals from 1 to 28, as well as (8) those from 1 to 19 may refer to lines in these two tables, or (9) the numerals from 1 to 19 can also stand for the golden numbers while (10) those from 1 to 7 can represent the dominical letters. As pointed out above, the year is specified by the combination of a golden number and a dominical letter, and thus interpreted, (11) two numerals may mean a specific year. On the other hand, in the perpetual calendars the golden numbers and dominical letters are permanently attached to certain days of the year, and therefore (12) the golden number and dominical letter may also refer to a certain date within the year. Finally, the numerals from 1 to 5 can also indicate lines in the key used for calculating the date of Easter.

I DO NOT imagine that there are still any would-be cryptogram solvers with us. Presumably they began to have their doubts about the system some time ago. To recapitulate briefly: We may choose with a good deal of freedom what we wish to count, after which we are fairly free to choose from a number of methods of counting; then we may convert the numerals according to different rules among which we are free to choose, and the figures we select can then be freely interpreted in a great number of different ways. Incredible as it may seem, the authors assert that they have found examples of all these methods of counting, converting, and interpreting in the inscriptions which they treat in their book. It is not easy to calculate the probabilities posed by these rules of analysis. I cannot but feel, however, that one must be particularly ungifted if one should fail to find a date, complete with day and year, concealed one or more times in any given text. I even believe that in many cases one should be able to find a previously given date.

The authors consider their date results in no way arbitrary, and certainly far from being the product of any conscious choice. But to those of us who know the material here investigated it appears that the authors have committed fatal mistakes before beginning. They do not know enough about the inscriptions they wish to investigate, even though they attach great importance to details and to small irregularities in the inscriptions. It seems that they realize the danger of working with poor reproductions, but they have clearly disregarded their own warning on this point.

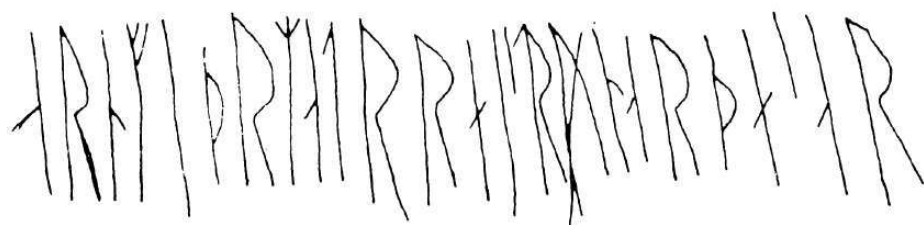
I myself have worked with many of these very inscriptions, and I have compared the reproductions in this book with my own photographs and latex casts, only to find that many of the details which the authors consider significant, and which form the basis of their counting and thus of the cryptograms, simply do not occur in the originals. As an illustration of this point, I would refer to the four inscriptions from Maeshowe on Orkney which are given sufficiently thorough treatment to allow comparison—numbers 8, 15, 16, and 21. In every one of these the original lacks some of the marks or symbols which are essential for the cryptogram as read by Mr. Mongé.

What, then, are we to think of the messages that the authors claim to have found in these inscriptions? We cannot discover them in the originals, only in the reproductions used by Mr. Mongé and Mr. Landsverk. They state that they obtained this material from J. M. Mitchell's publication of 1863. It consists of lithographs made by a Mr. Stuart in 1861 from the plaster casts of one Mr. Laing. Thus the cryptograms must have come into the texts either through Mr. Laing by way of his plaster casts or through Mr. Stuart in the making of his lithographs, and it would seem that any concealed messages date from 1861, the year when the illustrations were made.

THE SAME METHODS used on the genuine medieval inscriptions are applied with

predictable results to the controversial inscriptions from the North American continent and also to the Vinland map. The authors clearly consider these results to be the essential point of the book, and they write at length about the statistical probabilities of such messages occurring by pure chance. The final chapter is by Mr. Landsverk. In it he discusses these computations and ends the book with the following statements: "There is only one point at which human judgment may properly be injected in the solution. This is to determine whether the principles of statistics have been properly applied to the problem at hand. If the answer is affirmative the result must be accepted. It is so with the examples that are given above." This sounds formidable and full of self-assurance, but it is precisely in this sphere that Mr. Landsverk's most serious mistakes occur.

The most important probability calculations in Chapter 21 are based on linguistic interpretations. Yet the authors say about themselves: "Neither makes a pretense of being more than modestly well-informed in the field of medieval Scandinavian languages and runic symbols. Fortunately, such is not required for the purpose of this volume. It does not deal with linguistics and runology which in any event proved to be inadequate and largely irrelevant to the solution of the Kensington enigma." Mr. Mongé thinks he has found two concealed texts in the Kensington inscription—HARREKIVNEME and TOLLIKHOAEARM. The author's interpretation and translation of these two rows of letters is "Harrek made me" and "Tollik carved me." In fact, these letter sequences mean precisely nothing, regardless of which of the Scandinavian languages one chooses as a basis for one's interpretation. Nor are there such names in Scandinavia as Harrek or Tollik. One might equally well read HARREKIVNEME as a straightforward English text—"Harrek made me"—and explain that IVNE happens to be an unusual and unfortunate way of spelling MADE, while taking care to



Above: A photograph of the Orkney inscription known as Maeshowe 15, with a tracing based on the photograph and a latex cast of the carving. Both are by Aslak Liestøl.

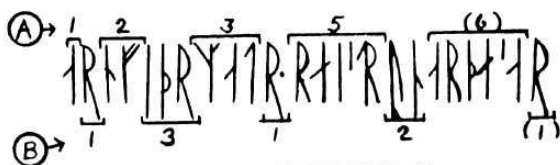
Below: Maeshowe 15 as reproduced in the Mongé-Landsverk book, with diagrams showing the details considered significant in reading the alleged cryptogram.



MAESHOWE NO. 15 TRACED FROM A PHOTO
BY J.M. MITCHELL, 1863.



OFFSET RUNES IN MAESHOWE NO. 15.



ANALYSIS OF MAESHOWE NO. 15

point out that Harrek is a perfectly common name in English-speaking countries. The same applies to the other row of letters.

And so it follows that the information about the probability of arriving at precisely these combinations of letters is completely without interest, save, perhaps, for the fact that they belong to the pronounceable minority among the 5,750,000,000,000,000,000 possible combinations with which Mr. Landsverk operates. To these remarks I would add that none of the texts which the authors claim to read in the undoubtedly genuine medieval inscriptions make, to the best of my knowledge of the subject, any kind of linguistic sense. This also applies to the treatment of the Vinland map. The authors' commentaries on the texts which may be found on this map make it absolutely clear that their knowledge of Latin and of medieval literary tradition is totally inadequate.

In the probability calculation for the calendar cryptogram on the Kensington stone, the errors also occur at the fundamental level. There are many errors, but I shall mention just one, since a full examination would require more space than seems warranted. Mr. Landsverk makes the mistake of constructing rules to conform with a given set of facts, then calculating the probabilities of reaching that particular result according to those rules. A parallel will illustrate it: I throw a pair of dice a number of times, getting, for instance, the result 3-5, 2-2, 5-6, and 3-4. I then say: "The rules of this game are as follows: I throw a pair of dice four times, and I win if I get 3-5 at the first throw, a pair of twos at the second throw, 5-6 at the third, and 3-4 at the last." Then I calculate and find the probability to be $1/6^8 \times 2^{-3}$, which means that I have a chance of obtaining this result only once in 209,952 tries. "What impossible odds," I say to myself, and continue, "Wasn't I lucky to get 3-5, 2-2, 5-6, 3-4 in the first try!" This type of reasoning is repeatedly found in Mr. Landsverk's application of the laws of probability.

To conclude this rather cursory examination of some of the aspects of the book, I can only say that I have found not a single contribution to science or scholarship in it. Nor is such a contribution to be expected when the material on which the work is based misses the mark completely, when the methods employed are erroneous, and when the authors demonstrate throughout the book that their knowledge of the disciplines they attempt to deal with is far from adequate. I shall not try to offer any explanation of how two respected men, who are surely highly proficient in their own fields, could start an investigation of this kind and believe in the success of their venture.

THE LAST THREE diagrams shown on page 41, that on page 36, and the two on page 37, column 2, are reproduced from Mongé and Landsverk, *Norse Medieval Cryptography in Runic Carvings*, with permission. The drawing on page 34 is by Jeremy G. Welsh.

MANUSCRIPTS on MICROFILM

A LANDMARK was reached this spring in the society's microfilm publication program. With the completion of a 34-page *Guide to a Microfilm Edition of the Ignatius Donnelly Papers*, by Helen McCann White, the records of Minnesota's famed "apostle of protest" became available in their entirety on film. The collection has long been one of the society's most widely used manuscript holdings. Comprising 167 rolls, the full set sells for \$1,670.00. Individual rolls are \$12.50, and the guide is \$2.00. This microfilm publication will be reviewed in a future issue of *Minnesota History*.

Like the edition of the Lawrence Taliaferro Papers published in 1966, the work was made possible by a grant from the National Historical Publications Commission. Also scheduled for completion this year is a similar edition of the papers of James W. Taylor, proponent of Canadian annexation and first United States consul in Winnipeg. Work is in progress on the papers of Henry H. Sibley, early fur trader and first state governor, and of Alexander Ramsey, first territorial and second state governor.



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