

[n]umber of lakes to its source in a small creek. From thence we made a portage of 6 miles, with our canoes, into La Biche or Itasca lake (from a derivation of the expression *veritas caput*) which is the true source of this celebrated stream, being at the same time, its most western and northern head.⁸ This lake is about 7 miles long, having somewhat the shape of the letter Y. It has clear water and pleasant woody shores. It has a single island, upon which I landed, caused some trees to be felled, and hoisted the national flag. I left this flag flying, and proceeded down the N. W. or main fork. A descent of about 180 miles brought us back to our party at Red Cedar, a Cape lake.⁹

Very respectfully, dear sir,
Your friend & obed't serv't,
H. R. SCHOOLCRAFT, I. A.

THE NUMERALS ON THE KENSINGTON RUNE STONE

The numerical symbols on the Kensington rune stone have received surprisingly little attention from critics. These symbols are **ᚠ**, **ᚡ**, **ᚢ**, **ᚣ**, **ᚤ**, and **ᚥ**. Ole Worm has shown that these correspond to 1, 2, 3, 4, 6, 8, and 10, respectively.¹ Worm gives the symbol for 10 as **ᚦ**, but we may well accept **ᚥ** as a variant, since it carries out a similar system of doubling.

It is apparent that the system of forming these numerical symbols is very similar to that of forming Roman numerals, and that it is basically different from the Arabic numeral

⁸ The two preceding sentences vary considerably in *Niles' Register*, where they read: "We ascended the former, through a number of lakes, to its source, in a small creek; being an inlet into a lake. From thence we made a portage of six miles, with our canoes, into *La Biche* or *Ibasca* [*sic*] lake, — (the latter being a derivative from *veritas caput*), which is the true source of this celebrated stream, being at the same time its most northern head."


⁹ In *Niles' Register*, the last three words have been corrected to read, "or Cass Lake."




¹ Ole Worm, *Fasti Danici* (Copenhagen, 1643). Worm's plate is reproduced in Hjalmar R. Holand, *The Kensington Stone*, 185 (Ephraim, Wisconsin, 1932).

system. In the Roman system the values of the symbols are invariant. Thus V and X have the values five and ten whether written by themselves or in combination with other symbols, as, for example, in XIV, XIX, or VIII. The system resembles that commonly used today in making tallies: a stroke is recorded for each of the first four items tallied, and the fifth is recorded by crossing off the first four; the second group of five is tallied in the same way, but at ten the two groups of five are crossed off. Thus fourteen would appear as ~~IIII~~ ~~IIII~~ 1111, and twenty-two, as ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ 11. The value is found by counting the strokes; but for convenience certain symbols are allowed to stand for specified numbers of strokes. Similarly, in the Roman notation, V stands for five strokes, X (X) for two V's or ten strokes, and the like. In the runic system the strokes are horizontal instead of vertical; a loop, Ɔ, stands for five strokes and an oval, O (C) for two loops.

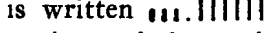

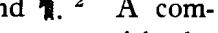
In the Arabic system, however, the values of the symbols are not invariant, but are entirely dependent upon their position. Thus 5 alone represents five, but 5 moved one space to the left, as in 52, represents fifty, and 5 moved two spaces to the left, as in 521, represents five hundred. Thus 14 represents not one plus four, but ten plus four; 22 represents not two plus two, but twenty plus two. Similarly, 1362 represents one thousand plus three hundred plus sixty plus two.

Now, combined symbols appear on the stone in three instances, Ɔ Ɔ, Ɔ Ɔ Ɔ, and Ɔ Ɔ Ɔ Ɔ, which have been interpreted by Mr. Holand as meaning 14, 22, and 1362, respectively. Both the Arabic and the runic systems were in use in the year 1362, though few were familiar with the former, and it seems highly improbable that a person living at that time would have confused them. Yet the three combined symbols definitely represent the use of runic symbols in the Arabic system. In the runic system fourteen would be written not Ɔ Ɔ, but Ɔ, twenty-two would have been written

not FF, but , and 1362 could only have been written by the use of higher symbols.

It appears, therefore, that the values 14, 22, and 1362 would not have been represented in the year 1362 by the three combined symbols appearing on the stone. On the other hand, it appears that these three combined symbols would not have been used to represent any other values either. To make this latter point clear let us attempt to evaluate the symbols. Translating them into the familiar Roman notation, we would have 11111, which would be V, 1111, which would be IV, and 1 111 VI 11, which would be twelve. But if the engraver of the stone had wished to write 5, 4, and 12 he would have written , , and . The three combined runic symbols would, therefore, have no meaning if interpreted according to the runic system. They can only be interpreted in terms of the Arabic system.

It appears from the foregoing considerations that the engraver of the stone was familiar with the Arabic number system but did not understand its basic logic; and that he knew the runic symbols only for numbers less than ten and did not understand the runic numerals he used. Since this is true, then it is very unlikely that the stone was engraved in the fourteenth century, and much more likely that it was engraved in more recent times. The failure of critics of the stone to detect this flaw is a reflection of the fact that the error is just such as a modern fabricator would make in trying to represent the numbers 14, 22, and 1362 by runic symbols.

A consideration of the numbers used in the St. Gall manuscript, dating about the year 900, shows that the old Norse had only very primitive number symbols, as the number 37 is written , , and .² A comparison of the runic symbols used on the stone with the Roman symbols shows them to be an adaptation of the lat-

² George Stephens, *The Old Northern Runic Monuments of Scandinavia and England*, 4:1 (London, 1884).

ter that probably came with the advent of Christianity into Scandinavia. Certainly the use of the symbols 𐌹, 𐌺, and 𐌻 for XIX shows the Latin influence. There may also be considerable doubt whether the symbol 𐌶 was in use as early as the year 1362.

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THE CLIMAX FIRE STEEL

In the March issue of this publication Mr. M. M. Quaife has an article on the distribution of fire steels among the Indians. This leads him to a brief discussion of a fire steel found near Climax, Minnesota, on the bank of the Red River. He mentions that I, in my book concerning the Kensington stone, have included this find among several other ancient implements unearthed in Minnesota as corroborative proofs of the authenticity of the Kensington inscription. He concludes, however, that the "chance discovery of a fire steel near Climax in 1871 sheds no conceivable light on this interesting question." The reason for this conclusion, he asserts, is that "Mr. Holand evidently overlooked . . . the use of fire steels in the Indian trade."¹

This is incorrect. I have mentioned the use of fire steels among Indians in many of my writings, and I did not suppress it in the book which Mr. Quaife refers to for his information. On page 177, in immediate connection with my discussion of the Climax fire steel, I say:

Fire-steels were early introduced among the Indians and specimens may be seen in museums. These fire-steels were very crudely made and quite small, usually permitting only two fingers of the hand to be inserted within the fire-steel. The Climax fire-steel is quite different in size, style, and material from the Indian fire-steels.²

The overlooking is therefore not mine but Mr. Quaife's.

The reason I attach any significance to the Climax fire

¹ Quaife, "A Footnote on Fire Steels," *ante*, p. 41.

² Hjalmar R. Holand, *The Kensington Stone*, 177 (Ephraim, Wisconsin, 1932).



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