the lake is wearing away a bluff at a rate which has been ascertained. The submerged stump of the bluff permits a measurement of the whole cubic contents removed. From this and the rate of erosion, the time required appears to be 2,720 years. The material of the bluff was deposited in a terrace at the south end of the lake, and this, therefore, has the same age as the erosive process. Next, he finds above the bluff, at a higher level, two sand beaches which must have been deposited when the lakes were at flood. How long a time was required for their deposition? By comparing their volume with that of the sand beach at the south end of the lake, whose age is known as 2,720 years, he finds the high beaches required about 2,570 years. Therefore, from the beginning of high water to the present, the interval is expressed by the sum of the age of the upper beaches and the age of the erosion, that is 5,290 years. Dr. Andrews thinks the real interval is somewhere between 5,300 and 7,500 years.

As the upper beaches must have worn away to some extent during their prolonged exposure; their age is somewhat greater than Dr. Andrews has estimated. Making allowance for this, the result is not far from that based on the recession of the Falls of St. Anthony.

We have then several results based on rates of erosion, which stand satisfactorily accordant. For myself, these methods appear more reliable than those depending on mathematical calculations. The results of mathematics are so precise and demonstrative when the data are adequate, that we are tempted to trust them. But very slight errors in the constants assumed often lead to enormous errors in the result; and it must be admitted that we discover too many chances of error in the data involved in mathematical calculations respecting the age of the world, to feel that the results are trustworthy, or equally trustworthy with the results based on observed data which bear a larger ratio to the unknown quantity.