small, out-of-the-way place, and the opportunities for having a good time were insignificant. The meeting in New York was apparently of a different character, very possibly not less beneficial to the members. Wednesday was devoted to the routine business of the society and the discussion of papers; but on Thursday the members of the society took advantage of the invitation of the managers of the new Croton aqueduct, and made an excursion of inspection along the line of the work.

Two prizes were awarded at the meeting, — one for a paper by Mr. Elliot C. Clarke of Boston, on a report on cement tests; and the other to Mr. A. M. Wellington, for a paper on experiments on journal friction at low velocities. The committee on uniform standard time reported encouraging progress, and stated that seventy-one managers of railways in America have favorably considered the twenty-four o'clock system, and that the Canadian Pacific railway has adopted it, and has changed its time-tables, its clocks, and the employees' watches, to adapt them to the new standard.

At the last meeting, Prof. T. Egleston of Columbia college presented a paper on the cause and prevention of the decay of building-stone. At this meeting Professor Egleston had something to say in regard to the disintegration of the surface of the obelisk in Central park, and took ground similar to that of Mr. Arnold Hague, whose views were published in *Science* for Dec. 11, and held that the disintegration was due to the great changes in temperature to which the obelisk is now exposed, and that the coating of paraffine might arrest the decay, but that nothing short of housing would stop it entirely. He stated that granite will absorb about one per cent of moisture, but that he had found that specimens from the side of the obelisk in London will absorb over seven per cent, this increase being due to its disintegrated condition. So far as the paraffine keeps out moisture, and thus prevents the formation of ice in the cracks, it would aid in the preservation of the stone.

Dr. Rothwell exhibited a system for submarine tunnelling. The company which Dr. Rothwell represents is contemplating tunnelling the Northumberland Straits to Prince Edward Island, which is now often cut off from all communication with the rest of the world for a month at a time, on account of the ice.

The next meeting of the society will probably be in or near Denver. The officers for 1886 are: president, Henry Flad; vice-presidents, T. F. Rowland, T. C. Keefer. The secretary and librarian, John Bogart, was re-elected.

ACCESSIONS TO THE NATIONAL MUSEUM.

THE most complete catalogue ever printed of the Catlin collection of Indian paintings, now in the national museum, will shortly be issued, and will be profusely illustrated. The manuscript is now in the hands of the printer. This catalogue will form an appendix to the 'Report of the national museum for the half-year ending July 30, 1885.'

The national museum has recently received from Paris four life-sized models of Africans, executed by Jules Hebert, — a Wolof, from Cape Verde; a Bambarra, from the upper Niger; a Soumali, from Cape Gardafui; and a Masai, from Lake Victoria Nyanza. These models are clad in native costume, and form a very attractive group in the museum.

An interesting example of the manner in which the Eskimo amuse themselves is afforded by a collection of twenty-five ivory carved figures, made by Mr. J. W. Johnson at Fort Alexander, Alaska. The group represents the game, 'the tug of war.' Two Eskimo on a raised platform are pulling at a drum-hoop, each one trying to dislodge the other from his position. A group of musicians are playing instruments in the foreground, and the spectators are located on the sides, enjoying the fun. The effect is very spirited, and the whole scene exhibits rare ingenuity.

One of the old tally-sticks used by the bank of England to keep account of loans, before the present system of banking was invented, has recently been acquired by the museum. This specimen bears the date of 1776, and represents a hundred thousand pounds of a loan made at that time. The stick is about four feet in length, and notches are cut on both sides of it. The stick is then split, the government holding one half, and the creditor the other. It is impossible to make any change in the condition of the loan by either party, because the notches on the two sticks would no longer fit, and thus fraud would be detected.

WORTHLESS BAYONETS.

THE examination of bayonets at Aldershot has revealed a state of affairs which is disgraceful to the English war-office, and most discouraging for the public. Three regiments have submitted their bayonets to the test, — the first Royal Lancashire, the second West Riding, and the first Seaforth Highlanders. All turned out very badly, but the badness was not uniform. Out of 700 bayonets belonging to the West Riding regiment, 55 broke under test, and 180 were found soft and otherwise defective, giving an average of failures of a little

over 33 per cent. The Seaforth Highlanders were a little better off, 169 of their bayonets and some sergeants' swords being condemned. The Lancashire regiment had 600 bayonets examined, of which 223, or rather more than 37 per cent, were found to be unfit for use. Altogether 2,000 bayonets were tested, out of which 611 had to be condemned. This number, taken at random from the regiments which happen at the moment to garrison Aldershot, is sufficiently large to be considered a fair sample of the whole supply of bayonets to the British army.

The London *Times* reaches the very unpleasant conclusion that three bayonets in every ten, or, to be accurate, 3,055 bayonets in every 10,000, now in the hands of the British army in all parts of the world, will fail the English soldiers in the hour of need. Or, to put it another way, England, which spends such enormous sums upon its army, may reckon that it has at this moment an entire army corps supposed to be fit to go anywhere and do any thing, equipped with weapons which will double up like a pewter spoon under the impact of a fanatical Arab.

Nor is even this all. The public may be excused for entertaining some suspicions as to the quality of the bayonets which have passed the test. How many of them, the *Times* asks, have just escaped condemnation, and how many are in fact what they are in theory, and what the English government pays to make them, — the best article that can be produced alike as to material and workmanship? It would be decidedly curious were there no intermediate grades to be found between a first-class weapon and one visibly and unmistakably worthless. The probability is that there are many; and until there exist assurances to the contrary, much more convincing than any yet produced, men of business will be disposed to doubt whether the percentage of unexceptionable bayonets is as great as that of downright bad ones.

FARTHEST NORTH.

TAKING all things into consideration, the Greely expedition was the most unfortunate expedition that ever entered the Arctic. Newfoundland was scarcely lost to sight when the men began to grumble about their food. Before the Proteus left Lady Franklin Bay, the second in command quarrelled with his chief. Unfortunately he failed to catch the returning steamer, and remained to add a gloom to the terrible gloom of the arctic night, and to add one more to the useless sacrifice on Cape Sabine. He soon found a confederate in the naturalist, and the two rarely spoke to Greely and Lockwood, the other occupants of the officers' quarters. Kislingbury and Pavy are both dead. We hope that Major Greely will go to the bottom of this matter, and tell us the true cause of so much discontent.

The next great misfortune which overtook the expedition was the death by starvation of the greater part of the force, owing either to the criminal negligence, or no less criminal ignorance, of those who had the relief in charge. The bodies of the dead heroes were brought to this country; but, before they were laid at rest, a noisy celebration was held in honor of the survivors. All honor to Brainerd, to Greely and the rest, but surely they would have preferred to have had better taste displayed in the matter. And now one of the foremost men of that party, a man whose name will forever rank with that of Payer in the annals of arctic discovery, has been most signally unfortunate in his biographer. No doubt, Mr. Lanman, if he had taken the time and care, and had possessed the requisite knowledge, might have written a good book; but the haste with which the present volume has been stuck together is apparent on every page. What is still more to be regretted is the omission of facts and descriptions which would have been interesting and useful to those familiar with the story of arctic exploration. Nevertheless, Mr. Lanman has printed many passages from Lockwood's journal, and there is much in them worth reading and thinking about.

The most noticeable thing in the book is the ease with which Lockwood, Brainerd, and the Eskimo Fredericks accomplished a journey to do a portion of which had cost Beaumont and his Englishmen so much suffering and disease. Why did the scurvy attack Beaumont's party, while leaving Lockwood, and in fact the whole expedition, entirely free? Surely no one will ever question Beaumont's energy and pluck. But why did he fail where Lockwood succeeded? It seems to us that this would be a profitable subject for the pens of Commander (now Captain) Markham, and his cousin (not brother, as Mr. Lanman says), the well-known secretary of the Royal geographical society, Clements R. Markham, — more profitable, indeed, than the assertions that Lockwood did not go farther north than Markham, and farther north and east than Beaumont. Lockwood thought that the weight of Beaumont's travelling equipment was enough to have used up any men. For our part, it seems probable that the cause lay deeper, and should be looked for in the difference between the winter quarters and diet of the two sets of men.

Farthest north; or, The life and explorations of James Booth Lockwood, of the Greely arctic expedition. By CHARLES LANMAN. New York, *Appleton*, 1885. 16°.