

of the digit to be guessed. This confirmed the conclusion otherwise reached, that this case of success, called case E in the first report of the committee on thought-transference, was the effect of coincidence. It was further shown that this same person had marked preferences for certain digits, as is seen in the following table :—

Digit.....	1	2	3	4	5	6	7	8	9	0
Number of times guessed.....	97	92	122	117	106	101	112	90	85	78

The order of preference then was, 3, 4, 7, 5, 6, 1, 8, 9, 0. Moreover, in this series, 532 odd numbers stand against 478 even ones. That the number-habit, or the tendency to guess certain digits over-often, is actual and constant, was proven by the fact that these idiosyncrasies were shown in each set of 100, although made at various times. Similar examinations of the digits guessed by other experimenters showed in every case a more or less marked and constant number-habit, distinct for each individual, thus giving more evidence that in every instance there had been an absence of mind-reading. Putting about 9,000 guesses by thirteen persons together, and averaging them, it was found that the digits are to be ranked in the following order of preference, which is certainly very curious : 3, 5, 4, 6, 2, 7, 8, 9, 1, 0. About as many prefer odd as even numbers ; but most persons prefer one or the other. Thus one guesses 466 odd and 534 even, but another 526 odd and 574 even. It is evident that the power of unconscious habit extends into details the most minute, and plays a much greater rôle in our mental life than is commonly admitted.

Professor Royce, on behalf of the committee on apparitions, announced the completion of a circular asking for the communication of stories to the committee. The speaker's remarks well expressed the attitude of the committee, which is sufficiently unlike that of the corresponding English committee to deserve mention. The starting-point is the viewing of the experiences in question as actual psychological facts ; in going further, the tendency will be, at least on Professor Royce's part, to study how far these experiences are governed by the dictates of folk-lore, and to eliminate those stories which belong in the already well-known class of hallucinations. The search for an objective basis for the experience, for a specific external cause, is incidental only, and must follow after the exclusion of cases explicable by folk-lore hallucinations, etc. The English investigators wish too obviously and too eagerly to demonstrate the objective foundation of apparitions, and so have quite omitted to subject their material to the study which must come first, if the work is to be sound. Apparently they already

accept an apparition seen by several persons as a *bona-fide* ghost, at least very probably. It need hardly be pointed out that the position taken by Professor Royce is much higher, his attitude more scientific, than this. The result of the committees' labor will therefore be awaited with great interest.

The meeting closed with some remarkable experiments by Dr. William James, who mesmerized Mr. Carnegie, one of the committee on hypnotism. While the latter was in the trance, Dr. James told him he could not see the chairman, with the effect of rendering him blind to that officer. Placing a prism in front of Mr. Carnegie's eye, so as to produce two images on his retina, Dr. James asked what he saw. The answer showed that he saw only one chairman, and therefore remained blind to one of the two images. This is believed to be quite a new fact in hypnotism. To show that although the subject adopts any suggestions made to him as to his sensory images, no matter how false the suggestion, yet he has extreme delicacy of perception, the following experiment was made : the subject was made to see an imaginary photograph of President Cleveland on a blank sheet of paper ; the photograph was made, in the subject's vision, to leave the sheet of paper and travel round the room ; behind Mr. Carnegie's back the paper was turned upside down ; the photograph was now made to seem to Mr. Carnegie to return to the paper, which was handed to him ; he immediately turned it about to its previous position. Thus an hypnotic subject can be made to believe in a sensation which is unreal, and yet can distinguish between the two ends of a blank piece of paper. Of course, the interest of these experiments is genuine only for those who have faith in the honesty of the two gentlemen. Those who do not wish to believe, may remain agnostic ; but even they have to submit to the truth when experiments are made with animals. It may be added incidentally that Dr. Minot, in his studies on the growth of animals, habitually, he informs me, hypnotized his hens upon the scale-pan to keep them still while being weighed, — a useful practical application of hypnotism.

V. P.

THE AMERICAN ENGINEERS' MEETING.

THE annual meeting of the American society of civil engineers was held in New York, Jan. 20–21. The last meeting of this society was held at Deer Park, Md., on June 24–26. At that meeting, it was reported, more business was transacted and more discussion elicited than at any previous convention of the society. It was a meeting in a

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