

Entirely straightforward were the very admirable performances in muscle-reading by Mr. Charles H. Montague, a gentleman who, in the course of a few weeks' practice, has acquired an extreme skill. He first repeated a mock murder, similar to the repetition recently achieved by Bishop and noticed in our columns (*Science*, viii. p. 506). He then accomplished another feat, that of reconstituting a tableau, which had been arranged by Prof. W. T. Sedgwick while Mr. Montague was out of the room. When he returned, he took hold of Professor Sedgwick's hand, and quickly found the persons and objects, and placed them in the proper positions quite exactly. All of this was done by muscle-reading; and, in reply to a question from one of the audience, Mr. Montague said that mind-reading had nothing to do with his obtaining the requisite information from the subject.

The various committees made brief reports of progress, that of the committee on apparitions being the most interesting, several remarkable cases being read by Professor Royce, who closed his suggestive remarks by stating that the committee was desirous of accumulating a much more extensive material.

The chairman, Dr. Bowditch, called attention to the fact that the society, in order to employ a qualified secretary and meet the expenses of its work, requires at least two thousand dollars, about half of which has already been raised. Under these circumstances, the council had regarded it as safe to engage the service of Mr. Hodgson, who had agreed to come. Mr. Hodgson is well known by his thorough exposure of the Indian theosophical society and the frauds of Madame Blavatsky. The society has hitherto been at a disadvantage, because its leading members have been so pressed by professional duties that they have been able to give very little time to the active work of the committees. But, if the funds which the society asks for are secured, it will be enabled to prosecute its various researches into psychic phenomena with activity as well as zeal.

An appeal to all those interested in the objects of the society to help contribute to the balance of the required sum has been issued by the council, Henry P. Bowditch, Charles B. Cory, George S. Fullerton, Edward G. Gardiner, E. H. Hall, G. Stanley Hall, Charles C. Jackson, Joseph Jastrow, William James, Charles S. Minot, Simon Newcomb, E. C. Pickering, W. H. Pickering, James M. Peirce, Josiah Royce, Minot J. Savage, Samuel H. Scudder, Coleman Sellers, R. Pearsall Smith, William Watson. Subscriptions should be sent to C. C. Jackson, 24 Congress Street, Boston.

We trust that the society will expand its scope,

and turn to the solution of some of those problems of psychology which press on every side for solution. We are therefore glad to learn that a committee on experimental psychology has been appointed.

GOVERNMENT SCIENTIFIC WORK.

THE work upon the report of the Charleston earthquake, to be made by Captain Dutton of the U. S. geological survey, is progressing rapidly. The data collected are very voluminous, and of a character which is quite as satisfactory as could reasonably be expected. The number of separate reports, amounting to about twenty-five hundred, have been card-catalogued, and the plotting for isoseismals has begun. The data are less satisfactory than could be wished, although a few reports of the time of the passage of the earthquake shock in various parts of the country will be sufficiently accurate to determine the velocity of propagation of the earth-wave, and with a much smaller probability of error than in any other earthquakes previously reported. The final computations have not as yet been made, but sufficient is known to indicate with certainty a velocity somewhat in excess of three miles per second. The data relating to the epicentral localities and their immediate neighborhood are quite full, and it is expected they will prove instructive and suggestive. Captain Dutton is reluctant to speak very decisively about the final results, believing that any very specific statements would, for the present, be premature.

Prof. Raphael Pumpelly, chief of the division of archæan geology, who has been on the temporary roll of the U. S. geological survey, has been placed on the permanent roll, in consequence of the resignation of Mr. F. V. Hayden.

The question of successorship to General Hazen is being discussed. Captain Greely is most likely to succeed to the position of chief signal officer. He will at least remain at the head of the service temporarily, until arrangements are perfected for separating the weather-bureau from military control, and establishing it permanently under a civil branch of the government. General Hazen was quite opposed to any such transfer, but changed his mind about six months ago. This leaves the matter now open; and, as no officer of high rank would be affected by the change, it will probably be made. None of the officers of the service would offer any opposition to the movement.

Another important step has been taken in the permanent exposition project in Washington, the select committee of the senate having reported in

favor of commemorating the centennial of the constitution at Washington in 1889. The committee has not reported upon the manner of the proposed celebration, and also in regard to the quadri-centennial of 1892; but the action now taken furnishes sufficient assurance that the entire programme as contemplated by the board of promotion, and including its exposition features, will receive the indorsement of congress.

The department of agriculture estimates of area, product, and value, of corn, wheat, and oats for permanent record, are completed. The corn-crop, in round numbers, aggregates 1,665,000,000 bushels, grown on 75,000,000 acres of land, and has a farm value of \$610,000,000. The yield is 22 bushels to the acre, or $4\frac{1}{2}$ bushels less than last year. There is an increase of area of over 3 per cent, and a decrease in product of 14 per cent; while the average price has increased 12 per cent, or from 32.8 to 36.6 cents per bushel. The aggregate product of wheat is 457,000,000 bushels from an area of nearly 37,000,000 acres, having a farm value of \$314,000,000. The average value is 68.7 cents per bushel, against 77.1 for the previous crop, and 64.5 cents for the great crop of 1884. This is 35 per cent reduction from the average value between 1870 and 1880. The product of oats is 624,000,000 bushels, 5,000,000 less than last year, from an average of over 23,000,000 acres, producing a value of \$186,000,000. The average yield is 26.4 bushels against 27.6 last year. The average value is 29.8 cents per bushel; last year, 28.5 cents.

An effort is being made in Washington to secure the hall of the house of representatives for the opening session of the ninth triennial meeting of the International medical congress on the 5th of next September. About two thousand delegates are expected, including some three hundred from Europe. After the opening meeting the congress will be divided into seventeen sections, meeting in the different halls of the city.

An invitation has been received at the department of state, asking the government to appoint a delegate or delegates to the Fourth international prison congress, to meet at St. Petersburg in the year 1890. The President transmitted a message to congress on this subject last week, favoring the appointment of delegates, and they will probably soon be named.

The following bulletins of the U. S. geological survey are now in the hands of the printer: 'Physical properties of iron carburets,' Barus and Strouhal; 'Subsidence of small particles of insoluble solids in liquid,' Barus; 'Types of Laramie flora,' L. F. Ward; 'Peridotite of Elliott county, Ky.,' J. S. Diller; 'The upper benches

and deltas of the glacial Lake Agassiz,' Warren Upham; 'Fossil faunas upper Devonian Genesee section,' H. S. Williams; 'Report of work done in chemical division U. S. geological survey during fiscal year 1885-86,' F. W. Clarke; 'On the tertiary and cretaceous strata of the Tuscaloosa, Tombigbee, and Alabama rivers,' E. A. Smith and L. C. Johnson; 'Historical sketches of general work in Texas,' R. C. Hill; 'Nature and origin of phosphates of lime,' R. A. F. Penrose, jun.; 'Bibliography of American Crustacea,' A. W. Vogdes.

NOTES AND NEWS.

THE literature of spiritualism has recently been increased by an historical sketch of the subject by Dr. Paul Gibier ('Le spiritisme,' etc., Paris, 1887). The author is not a spiritualist, and takes great pains to state his disbelief in the supernatural in big letters. As a further guaranty of the scientific spirit which prompts his inquiry, he appends a list of his contributions to medical science. For the most part, Dr. Gibier contents himself with the rôle of historian. He gives a rapid sketch of the spiritual theories from the ancient Hindoos down to the researches of Crookes and Zöllner. His account of the modern developments in this strange field is quite convenient and readable. An outsider would hardly credit the statement that in Paris (by no means a stronghold of spiritualism) there are not less than 100,000 spiritualists. The statistics of the periodical literature of spiritualism is also astonishing: 13 such periodicals are in French, 27 in English, 36 in Spanish, 5 in German, 3 in Portuguese, 1 in Russian, 2 in Italian. Besides, a Franco-Spanish journal is published at Buenos Ayres, and a Franco-Dutch at Ostend. While the main portion of the work is historical, a few chapters are devoted to the account of séances mainly with the famous slate-writing medium, Slade. These have convinced the author that there are genuine facts in these phenomena which spiritualistic hypothesis, as well as current scientific knowledge, is unable to explain. More research is necessary before the final verdict can be given, and it is cowardly for science to refuse to study all such facts, and seek their explanation.

—The Indiana state teachers' association began its annual meeting in Indianapolis Dec. 28, extending its sessions through the two succeeding days. The high school section, and country and village school section, held the sessions on the 28th, and on the other days the association held meetings as a whole. A number of papers were presented in