and probably did, for many centuries, but there is no satisfactory evidence found in the monuments that there were two distinct mound-building ages. On the contrary, the historical, traditional, and archæologic testimony is decidedly in favor of the theory that our prehistoric works are attributable to the Indian tribes found inhabiting this country at its discovery, and their ancestors. CYRUS THOMAS.

NOTES AND NEWS.

SINCE the article on the Kiowa County meteorites was published (*Science*, June 13, 1890), we learn that another mass, weighing 219 pounds, has been found at Brenham Township, Kiowa County, Kan.

—We learn from *Nature* of June 12 that the measurement of the Rhone glacier in a comprehensive and systematic way has been carried on since 1874 by the Swiss Alpine Club, and the abundant data obtained will shortly be published in separate form. It appears that the glacier was in recession till 1888, but since last year it has been advancing.

—By the new law on education of 1891, Sloyd is made obligatory in all the schools of Norway. The Norwegian Government has invited Mr. Akkel Mikkelsen, director of the Danish Sloyd-training College, to give a course of instruction at Christiania to the teachers of all the training-colleges in Norway. The courses for Sloyd at Nääs, in Sweden, will be held from May 27 to July 8, from July 29 to Sept. 8, and from Nov. 4 to Dec. 15.

—The Appalachian Mountain Club has issued a special circular relating to the twenty-fifth field meeting, at the Deer Park Hotel, North Woodstock, N.H., July 1–8, and excursion to Randolph July 8–14. Further information may be obtained by addressing John Ritchie, jun., Box 2725, Boston, Mass., or J. Allen Crosby, 70 Boylston Street, Jamaica Plain, Mass. Members of the club who would be interested in a trip to the Dead River region, Maine, in September or October, visiting Mounts Abram Bigelow, Snow, and Parlin Pond Bald, are invited to communicate with R. B. Grover, 11 Durham Street, Boston, Mass.

—A noteworthy event in the movement for the higher education of women, as we learn from the London *Journal of Education*, was the laying of the foundation stone of the Janet Clarke Buildings at Trinity College, Melbourne, Australia, on March 17. In 1883, Trinity College authorities decided, with some misgivings, to admit women students to their lectures. The next step was the establishment of a collegiate home, and a house in the neighborhood of the college was rented as a residence for lady students. To put this home on a permanent basis, Lady Clarke promised a donation of £5,000, which will go far towards defraying the cost of the new building. Sir M. H. Davies has given £2,000 as the nucleus of an endowment fund. Miss Hensley, a former student of Newnham College, has been engaged by the council as lady principal of what will be the first Australian women's college.

—In the *Journal of the Bombay Natural History Society* (vol. iv. No. 3) Mr. E. Giles records a curious fact, which ought to have some interest for entomologists. In June, 1888, he was standing one morning in the porch of his house, when his attention was attracted by a large dragon-fly of a metallic blue color, about two inches and a half long, and with an extremely neat figure, who was cruising backwards and forwards in the porch in an earnest manner, that seemed to show he had some special object in view. Suddenly he alighted at the entrance of a small hole in the gravel, and began to dig vigorously, sending the dust in small showers behind him. "I watched him," says Mr. Giles, "with great attention; and after the lapse of about half a minute, when the dragon-fly was head and shoulders down the hole, a large and very fat cricket emerged like a bolted rabbit, and sprang several feet into the air. Then ensued a brisk contest of bounds and darts, the cricket springing from side to side and up and down, and the dragon-fly darting at him the moment he alighted. It was long odds on the dragon-fly, for the cricket was too fat to last, and his springs became slower and lower, till at last his enemy succeeded in pinning him by the neck. The dragon-fly appeared to bite the cricket, who, after a struggle or two, turned over on his back and lay motionless, either dead or temporarily senseless. The dragon-fly then, without any hesitation, seized him by the hind-legs, dragged him rapidly to the hole out of which he had dug him, entered himself, and pulled the cricket in after him, and then, emerging, scratched some sand over the hole and flew away; time for the whole transaction, say, three minutes."

—In a lecture on "Foam," Lord Rayleigh insisted that foaming liquids were essentially impure, for pure liquids will not foam. For instance: neither water nor alcohol can be raised into a froth, although a mixture of the two may be to a certain extent. The addition of gelatine to water in the proportion of 1 in 100,000 develops the foaming quality quite noticeably. Of course, the best-known foaming liquid is a solution of soap, such as the children use for blowing bubbles. A liquid foams when its films have a certain durability. In all liquids these films exist, since a bubble as it rises is covered with a thin film. Now, the most striking property of films is their tendency to contract, and they may be regarded as being in the condition of a stretched membrane, as of India-rubber, with the difference that the tendency to contract never ceases. An air-bubble will force the air back through the pipe, and a loop of silk floating on a film will be forced into a circle the moment the film inside it is ruptured. Oil forms a film on the surface of water, and covers it entirely, even if the mass of the oil be collected into drops. This is well shown by dropping a particle of oil on to a vessel of water lightly covered with sulphur flour. The sulphur will be immediately driven to the edge by the spreading film. The reason of this is that the tension of the water air film is greater than the combined tensions of the water-oil and oil-air films, and consequently pulls out the oil-film. It is possible to reduce the surface tension of water by mixing it with various substances, such as ether and camphor. Camphor scrapings placed on the surface of pure water enter into vigorous movement, because the dissolved camphor diminishes the surface tension of the water; but, if the water be contaminated by the least quantity of oil or grease, the motion ceases. Lord Rayleigh made several experiments to find what thickness of oil-film would accomplish this: he found it to be about $1\frac{1}{2}$-millionth of a millimetre. This thickness bears to an inch the same ratio that a second of time bears to half a year. Lord Rayleigh explains the calming action of oil on the sea as follows: as the waves advance, the surface has to submit to periodic extensions and contractions. At the crest of a wave the surface is compressed, while at the trough it is extended. So long as the water is pure, there is no force to oppose this; but, if the surface be contaminated, the contamination strongly resists the alternate stretching and contraction. It tends always, on the contrary, to spread itself uniformly, and the result is that the water refuses to lend itself to the motion which is required of it. The film of oil may be compared to an inextensible membrane floating on the surface of the water, and hampering its motion.

—The visit of the Iron and Steel Institute of Great Britain to the United States in the autumn is likely to be in every way most successful. There will be three different sets of meetings,—the meetings of the American Institute of Mining Engineers, which take place in New York on Sept. 29 and 30; the meetings of the Iron and Steel Institute of Great Britain, which take place in the same city on Oct. 1, 2, and 3: and the international meeting promoted jointly by those two societies, which will take place about the middle of October at Pittsburgh. The excursions which have been planned by the American reception committee, of which Mr. Andrew Carnegie is chairman, provide for about three thousand miles of free transportation through the United States. According to *Nature*, the principal excursions will take place to the iron ore and copper regions of Lake Superior; to Philadelphia, Harrisburg, and Chicago, where there are large iron and steel engineering works to be inspected; and to the new iron-making district of Alabama. About three hundred members of the Iron and Steel Institute and one hundred German iron-masters have intimated their intention of taking part in the meetings; and already many have booked passages in the Hamburg-American Company's

steamer "Normannia," leaving Southampton on Sept. 12. The meetings and excursions will last altogether over a month, and will practically embrace every point of interest in the United States within a distance of fifteen hundred miles of New York. Papers have been promised for the meetings by Sir Lowthian Bell, Sir Nathaniel Barnaby, Sir Henry Roscoe, and others. Among those who have intimated their intention of being present at the meetings are Sir James Kitson (president of the institute), Lord Edward Cavendish, Sir John Alleyne, Sir James Bain. Mr. Hingley, M.P. (president of the Iron Trade Association), Mr. Theodore Fry, M.P., Sir J. J. Jenkins, Sir Thomas Story, Mr. Windsor Richards, Mr. Snelus, F.R.S., and Mr. Edward P. Martin.

—We learn from the *Journal of Education* (London) that a model school has recently been built at Mannheim, Germany, at a cost of £45,000. It contains 42 school-rooms, 2 drawing-rooms, 2 singing-rooms, 2 rooms for manual instruction, and a gymnasium; further, a large hall, 2 private rooms, 2 sets of rooms for the servants, and 4 subterranean prisons. The latest hygienic improvements and precautions against fire have been introduced. Iron has been used instead of wood, except in the roof. The ceilings are all of beton. The floors are parquet floors laid in asphalt. The accumulation of dust and the development of bacteria are hereby minimized. Underground there are two bath-rooms, one for boys and one for girls, with a dressing-room for each; also a large dining-room where 700 poor children can be fed in winter. The number of children in the *Volksschule* at Mannheim has increased from 4,650 in 1880, to 9,220 in 1890.

— The next meeting of the American Society of Microscopists, instead of being held at Louisville, Ky., will be held at Detroit, Mich., Aug. 12 to 15 inclusive. The outlook for the meeting is most encouraging, from the papers already promised. The subjects for discussion are "Representation of the Society at the World's Fair, Chicago, 1893," to be opened by Ex-Gov. Jacob D. Cox, Cincinnati, O.; "Micrometry," by Professor William A. Rogers, Waterville, Me.; "Proposed Standing Committee on Medico-Legal Microscopy," by Professor Marshall D. Ewell, Chicago, Ill.; "Uniformity in Tube-Length," by Professor Simon H. Gage, Ithaca, N.Y.; "The Advisability of adding more Members to the Publication Committee," by Professor D. S. Kellicott, Columbus, O.; "Proposed New Constitution," by Dr. William J. Lewis, Hartford, Conn.; "The Advisability of meeting at Same Time and Place of the American Association for the Advancement of Science," by Professor W. H. Seaman, Washington, D.C.; "Advisability of sending Copies of the Publications to Some of the Great Colleges and Libraries of the World," by Dr. Lee H. Smith, Buffalo, N.Y.; and "Fees of Experts with the Microscope," by C. M. Vorce, Esq., Cleveland. The general session for the reading of papers will be held in the new building of the Detroit College of Medicine, corner of St. Antoine and Catherine Streets and Gratiot Avenue. The mayor of Detroit will deliver the address of welcome, to be followed by the response of the president of the society, George E. Fell of Buffalo, N.Y. On Wednesday the forenoon and afternoon sessions will be devoted to the reading and discussion of papers and special topics; and in the evening the president will deliver the annual address, the subject being "The Influence of Electricity on Protoplasm." Thursday forenoon will be devoted to the reading and discussion of papers and special topics; and the afternoon, to the various technological features of microscopy, as preparing, staining, mounting of specimens, section-cutting, manipulative methods, etc. These demonstrations will be conducted by experts in the different branches of work, and will form a valuable feature of the meeting. In the evening there will be an exhibition of microscopes and objects, popular in character, and tendered by the society to the citizens of Detroit. Friday will be given over to the reading of papers, discussions, etc., until 4 P.M., when, by invitation, the members and friends of the society will take a trip on the Detroit River, followed by an inspection of the laboratories of Park, Davis, & Co. The headquarters of the society will be at the Hotel Normandie, and the Russell House and Hotel Cadillac will also be open to the guests. Negotiations relating to reduced railroad fares have been in progress. Should they be successful, due notice will be given. The local committee of Detroit will issue circulars relating to the working session and the exhibition. They will supply badges, and look after the general welfare of those attendant upon the convention.

—The January number of Flecheisen and Masius' *Neue Jahrbücher für Philologie und Pädagogik* contains a short but interesting report by E. Vogel on Spanish *Gymnasia*. The writer commences with a few details on the Spanish *Volksschule*. He says that elementary education is not compulsory, but that the *Volksschulen*, whether conducted by the municipality or the Church or other societies, are not so bad as might be expected. The Spanish child is unusually sharp, and, not being burdened with several alphabets or a complicated orthography, learns to read and write easily in a few months. After this, he makes some progress in arithmetic and geography, and other branches of instruction; while the German teacher is still laboring, in the sweat of his brow, "seine buben durch die disteln und dornen eines sogenannten lesebuchs zu lavieren." There are some establishments for higher elementary teaching; but these are little patronized, children being usually put out apprentices at the age of twelve. Secondary education is given in the *institutos*, organized some thirty years ago. The curriculum covers five years, with a very singular time-table: viz., First year, Latin and Spanish, 9 hours weekly; geography, 4½. Second year, Latin and Spanish, 9; Spanish history, 4½. Third year, rhetoric and poetic, 9; arithmetic and algebra, 9; history, 4½; French or English, 4½. Fourth year, geometry and trigonometry, 9; psychology, logic, and ethics, 9; French or English, 4½. Fifth year, physical science, 9; biology and hygiene, 9; agriculture, 9. The school-year is 37 weeks. The text-books are said to be good, all except those on Spanish grammar, the best of which is ludicrously incorrect and antiquated. The teachers lecture, but the boys cannot understand the words they are obliged to use. The leaving-examination is ridiculous; so much so, that a moderately clever boy can become "bachiller" at fourteen, and most boys do so at fifteen. The *instituto* is consequently, in popular opinion, "ein humbug." Mr. Vogel, with the true German belief in pedagogy, concludes his observations with the remark that "a good middle school would, in twenty-five years, make this talented nation one of the first in Europe."

—Professors F. W. Clarke and H. W. Wiley, representing committees appointed by the Chemical Society of Washington, the Chemical Section of the American Association for the Advancement of Science, and the Association of Official Agricultural Chemists, respectfully submit the following statement: During the past two years the formation of a national, or rather continental, chemical society has been much discussed. A committee, of which Professor A. B. Prescott was chairman, presented a report upon the subject at the last meeting of the American Association, and that report was in the main favorable. A new committee, however, was appointed to secure fuller information, and will report at the next meeting of the association, in August, 1890, at Indianapolis. A larger attendance of chemists is there expected. The plan which has so far been chiefly considered is in brief as follows: to organize a continental chemical society, representative of all North America, by affiliating together as far as possible existing local organizations; the society as a whole to hold an annual meeting at such time and place as may be agreed upon from year to year; while local sections, like the sections of the British Society for Chemical Industry, shall have their regular, frequent gatherings in as many scientific centres as possible, all publishing their work in one official journal. The opinions of chemists are sought as to whether they regard the project favorably; and, if modifications or objections occur to them, it is desired to have them formulated. Upon the basis of the replies, the committees named will prepare their reports to the organizations which they represent. Other existing societies, having appointed similar committees, may take action independently; if so, their views will be considered also, as it is desirable to secure the fullest co-operation among the chemists of America. Complete unity of action is essential to success. Replies should be addressed to Professor F. W. Clarke, United States Geological Survey, Washington, D.C.