

The Guetares were a tribe of moderately high culture in the interior. One of their cemeteries was excavated by Mr. Alfaro, and a large amount of material obtained. They were skilful in dressing stone, and one of their tables (or seats?) pictured in the report is remarkable for symmetry and finish. It is forty centimeters high and seventy-one in diameter. As goldsmiths they were not equal to the tribes near the Chiriqui lagoon, and decidedly inferior to those of Colombia, the Chibchas and Quimbayas. Their pottery, a number of specimens of which are figured, was superior in design and technique. It was of curious forms, and often ornamented with figures in polychrome.

The affiliations of the Guetares are still uncertain, as, except a few proper names, we have no specimen of their language, and they are apparently extinct.

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ASTRONOMICAL NOTES.

The Astronomical Journal of October 6th contains the announcement by Dr. See of his re-discovery of the companion of Sirius at the Lowell observatory. The other astronomers of the observatory have also seen and measured the companion. Dr. See says that, according to these measures, the companion has fallen no less than 30 degrees behind its predicted place in position angle. We suspect that this statement may be due to a misprint or a slip of the pen.

WE have received Vol. IV. of the publications of the Kuffner observatory in Vienna. It contains zone observations between 6° and 10° south declination, together with mean positions derived from them. There are also descriptions, by Messrs. Repsold, of the new prime vertical instrument of the observatory, which is provided with a vertical circle, and of the new heliometer.

Dr. S. Oppenheim contributes to the volume a paper on special periodic solutions in the problem of three bodies, and Dr. de Ball has an investigation of the orbit of Comet 1882 III. H. J.

SCIENTIFIC NOTES AND NEWS.

A SCIENTIFIC session of the National Academy of Sciences will be held in New York, at Columbia University, beginning November 17th, 1896, at 11 o'clock a. m. Members who have papers for this meeting may send the titles to Dr. C. F. Chandler, Columbia University, New York City. A special stated session of the Academy is called for Wednesday, November 18th, in New York, to consider the President's Annual Report to Congress, and other business that may come before the Academy.

THE Honolulu correspondent of the United Associated Presses writes that Mr. C. R. Bishop has authorized the trustees of the Bishop Museum to expend \$750,000 in building an aquarium and marine biological station at Honolulu, for the scientific study of marine life in the Pacific. Prof. W. T. Brigham has just returned from visiting European aquariums and is prepared to complete the plans. A body of professors and investigators will be maintained, and students will doubtless be attracted from Europe and America.

MAJOR J. W. POWELL and Mr. Frank Hamilton Cushing have recently completed a season's archæologic work on the coast of Maine. A number of interesting shell mounds were explored, and their contents are now *en route* to Washington for installation in the National Museum. In addition to the artifacts exhumed from the shell mounds, the collectors were able to obtain, through the aid of the Passamaquoddy or Abenaki Indians, an aboriginal birch-bark lodge, constructed by the natives in primitive fashion, native implements being chiefly employed in its construction.

DR. ALBERT S. GATSCHET, also of the Bureau of American Ethnology, has recently returned from an ethnologic trip through eastern Maine and contiguous parts of British territory. His scientific results include a rich collection of

linguistic material obtained among the Passamaquoddy Indians.

THE United States Coast and Geodetic Survey has completed the measurement of the base line known as the trans-continental arc lying along the 39th parallel of north latitude and extending from a point on the Atlantic coast ten miles south of Little Egg Island lighthouse, below Cape May, to six miles north of Punta Arenas lighthouse, on the Pacific, several miles above San Francisco. The base line is much the longest hitherto surveyed, and has cost the government about \$1,000,000.

MR. J. E. SPURR, of the U. S. Geological Survey, who, with Mr. H. B. Goodrich and Mr. F. C. Schrader, went to Alaska, in May last, to study the geology of the gold deposits of the Upper Yukon region, reports the completion of his work and his arrival in San Francisco. The party spent the entire summer in the field. They reached the Upper Yukon in the middle of June and passed down that river to its mouth, stopping at the various mining settlements on the way. Mr. Spurr satisfied himself that the prospects for profitable quartz mining in the region examined are very good. There is a great ledge running northeast and southwest through the country, similar to the Mother lode in California. Mr. Spurr's report on the Yukon country, and that of Dr. Becker on the good prospects of the region lying along the Pacific coast, may both be looked for during the coming winter or spring, and will, doubtless, together constitute an important contribution to the knowledge of the gold resources of Alaska.

OF his recent extended study of the gold resources of the Transvaal region of South Africa, Dr. Becker says that the Transvaal Republic contains the largest gold deposits in the world. Within fifteen miles of Johannesburg, on what is called the main reef series, there is an amount of gold, practically in sight, estimated to be worth \$3,500,000,000, or nearly as much as the entire volume of gold coin now in the world. The gold is extraordinarily uniform, as uniform as coal in an ordinary deposit, as shown by shafts which have been sunk to a depth of 1,800 feet, and diamond drillings which have gone much further. At present the gold is being

taken out at the rate of \$100,000,000 a year. But the most surprising news which Dr. Becker brings is the testimony of an American, who was formerly his assistant in the Geological Survey, and who is now engaged in mining in the Transvaal, where he has made several millions of dollars. This American mining expert says that, to the best of his knowledge and belief, the gold deposit, instead of being thirty miles long—the region now in sight—is practically 1,200 miles long, except that in the rest of the region later deposits, have come in over the gold. This, however, will not prevent economical mining, but will simply delay it.

THE *Lancet* states that Prof. Liversidge, professor of chemistry in Sydney University, has made an exhaustive series of experiments, finding evidence in favor of gold being present in sea-water of the New South Wales coast in the proportion of $\frac{1}{2}$ to 1 grain per ton, which in round numbers would make 230 to 260 tons per cubic mile. Our contemporary thinks the discovery deserves recording in its columns, "since recently the value of gold salts in therapeutics has been recognized, and it cannot be doubted that the cheapening of gold would lead to their application being extended in this direction." It seems, however, probable that the value of salts of gold in medicine as compared with those of other metals is largely psychological and would not increase with its cheapening.

IT has been found that the weather at Flagstaff, Ariz., is not satisfactory for astronomical observations during the winter, and Mr. Lowell will this month or next remove his observatory to a hill about three miles north of the City of Mexico.

THE International Congress of Hydrology, Climatology and Geology met on September 28th at Clermont-Ferrand. Dr. de Ranse, president of the committee of organization, made a speech and was subsequently elected president of the Congress. The three foreign vice-presidents are Prof. Ludwig, Prof. Kubern and Dr. Rotch, of the Blue Hill Observatory. The Congress meets in three sections, Hydrology, Climatology and Geology, for each of which there is a French and foreign honorary president.

WE regret to record the following deaths: Gustav Kieseritski, professor of mathematics at the Polytechnic Institute in Riga, aged 67 years; C. J. Boone, professor of geometry and higher elocution at Georgetown College, D. C., at the age of 80 years, and Dr. J. P. E. Lieegang, the writer on photography.

A COMMITTEE has been formed in London to arrange an international memorial commemorating the connection of Mr. Cyrus Field, Sir John Pender and Sir James Anderson with submarine telegraphy.

THE Botanical Museum in Berlin, says *Die Natur*, will be enlarged by leasing seven rooms in a neighboring building. There is no longer room in the museum for research work, as the collections have recently grown rapidly and the exhibits from the recent industrial exposition have now been added.

WE learn from *Nature* that the newly formed Society of Sicilian Naturalists will publish a journal of natural history entitled *Il Naturalista Siciliana*. The first number contains articles in Italian and in French on entomology, malacology, botany and crustaceæ. The Society, of which Prof. E. Ragusa is president, proposes to meet monthly in Palermo, and once a year in some other city of Sicily.

The Progressive American is the title of a new monthly journal devoted to the progress of science and invention, published by Hern & Co., New York, and edited by Mr. G. H. Hern. The first issue is largely made up of short items, some new and some old, some good and some bad. All signs of interest in science are encouraging and, though the ground of the new journal seems to be amply covered by *The Scientific American*, we hope that *The Progressive American* will make a place for itself and fill it with credit.

THERE have just been issued two works doing great credit to science in America. One of these is *An American Text-book of Physiology*, published by W. B. Saunders, Philadelphia. It is edited by Prof. W. H. Howell, who had the cooperation of the leading American physiologists. The other is the first volume of a *System of Diseases of the Eye*, published by the J. B. Lippincott Co., Philadelphia; and edited by

Prof. W. F. Norris and Dr. C. A. Oliver. We hope to give adequate reviews of these works, but in the meanwhile it is pleasant to call attention to such admirable results of scientific collaboration.

A COMMITTEE, with the Prince of Oldenburg as honorary president, has been formed to collect subscriptions for a monument to Pasteur in Russia.

THE Croonian Lectures before the Royal College of Physicians of London will be delivered in 1897 by Dr. Hale White. Dr. Sidney Martin will give the course in 1898.

THERE has been published at Paris, in commemoration of the 100th anniversary of the faculty of medicine, a work giving the history of the school. It is written by Dr. A. Corlien with the cooperation of a committee, and entitled *Le Centenaire de la Faculté de Médecine de Paris (1794-1894)*.

THE general treasurer of the British Association, Prof. Rücker, has reported that the treasurer's receipts for last year were £3,773 2s. 3d. The payments included: expenses of Ipswich meeting, £148 10s. 5d.; rent and office expenses, £50 5s. 2d.; salaries, £505; printing, binding, etc., £1,007 5s. 4d.; payment of grants made at Ipswich, £1,104 6s. 1d. The investment account had remained unaltered, and stood thus on June 30, 1896: Consols, £7,537; India Three per cents., £3,600.

WE learn from *La Vie Scientifique* that M. Etienne will shortly present in the French Chamber a bill introducing the decimal subdivision of time. The subject seems to be considered seriously in France, as a maker of watches has patented a double-faced watch, giving on one side the present sub-divisions and on the other the proposed decimal system.

THE *Auk* states that Mr. James M. Southwick, well known as a commercial naturalist, has recently been appointed curator of the Museum of Natural History, lately established by the authorities of the city of Providence, R. I., in Roger Williams Park. A building has been erected at a cost of \$40,000, a portion of which will be devoted to museum purposes, as required. Mr. Southwick will devote special efforts to securing representative collections of

the local fauna, and later to the formation of small loan collections which can be used by teachers in their class rooms.

ACCORDING to *Cosmos*, a new alpine meteorological observatory will be established on the summit of the *Rochers de Naye*. The arrangements are now being made by MM. Ruffy and Hagenbach Bischoff, of Bâle, members of the Swiss Meteorological Commission.

THE Middletown Scientific Association held a meeting on October 13th, at which suitable notice was taken of the death of G. Brown Goode, the founder of the Association.

As announced some time since, Miss Helen Kellar, who, blind, deaf, dumb, has now reached the age of sixteen years, has been removed from a school for the deaf and dumb, and has been placed in Mr. Gilman's Cambridge School for Girls. It is not correct, as stated, in many of the daily papers, that she has entered Radcliffe College or passed the examinations for this, but in a private examination she showed herself competent to answer the questions of examination papers in English, French, German and history.

At the Church Congress (Church of England) which met at Shrewsbury, on October 6th, a session was set apart for the discussion of the bearing of the theory of evolution on Christian doctrine. The Bishop of Litchfield presided, and addresses were made by Archdeacon Wilson, Prof. Bonney and Canon Gore. There seems to have been complete unanimity. Canon Gore said, 'Evolution had taken hold of theology; it had modified our way of thinking about it.' Archdeacon Wilson said, "Christian doctrine could adopt the evolutionary view of creation," that the theory of evolution had taught us to properly interpret "what was related as 'The Fall' *sub specie historiæ*."

WE have already called attention to the formation of the New York State Science Teachers' Association, whose object is the promotion of science teaching and the mutual acquaintance of those interested. A provisional committee has been appointed to conduct the affairs of the Association until the first annual meeting, which will probably be held during the Christmas holidays in connection with the State Principals' Association at Syracuse. All

those interested in the teaching and promotion of science should join the Association and make efforts to attend its first meeting. The officers are: Simon H. Gage, President; Chas. W. Hargitt, Vice-President; Franklin W. Barrows, Secretary and Treasurer (45 Park St., Buffalo, N. Y.).

THE Chicago Institute of Education has appointed a committee of sixty whose duty it shall be to develop some feasible plan for carrying on systematic outdoor, or field work, in connection with nature study. The committee held its first meeting on September 19th, and a permanent organization was effected by the election of Mr. Wilbur S. Jackman as President and Mrs. M. L. T. Baker as Secretary, and the appointment of a number of sub-committees. One of the first works of the committee will be the preparation of maps of the environs of Chicago, which will assist the pupils and teachers of the public schools in a systematic study of the country which lies within a convenient radius of the city. Syllabi will also be compiled giving information for reaching the different points of interest and for study.

UNIVERSITY AND EDUCATIONAL NEWS.

ACCORDING to the Boston *Transcript* the registration at Harvard University is about 3,590, of which number 1,260 are new names. There is a slight decrease in the college, but an increase of about 10 per cent. in the scientific school. There is also an increase in the graduate and medical schools. In the latter 50 per cent. of the students hold college degrees, as compared with 35 per cent. last year.

MR. GEORGE M. WARD has been elected President of Rollin's College, Winter Park, Fla.

DR. R. MEADE BOLTON, now bacteriologist of the Philadelphia Board of Health, has been elected instructor in bacteriology in the University of Missouri.

It is reported that the University of Edinburgh has conferred the degree of M. A. on two women graduates, Miss MacGregor and Miss Geddes.

At the University of Cambridge Mr. W. T. N. Spivey, of Trinity College, has been appointed to succeed Dr. A. Scott as demonstrator to the Jacksonian professorship of organic chemistry.