CURRENT NOTES ON ANTHROPOLOGY.

NATIVE AMERICAN TEXTILE ART.

A MONOGRAPH of much beauty and interest has lately appeared from the pen of Prof. W. H. Holmes, of the Field Columbian Museum. Its subject is the 'Prehistoric Textile Art of the Eastern United States,' and it a portion of the 13th Annual Report of the Bureau of American Ethnology. The topics taken up are the basketry, matting, cloths, nets, featherwork, embroidery and wattling of the Indians in the region designated, as these arts existed before the arrival of the white man. The primitive methods of spinning and weaving are explained, and the various knots and stitches illustrated by numerous engravings. Incidentally, the styles of clothing in former use are touched upon.

A chapter is added on 'fossil fabrics,' by which is meant those exhumed from caves, mounds, shelters and other deposits supposed by some to be the relics of a pre-Indian population. The result of the investigation here is noteworthy and adds to the evidence that it seems impossible to get away from the Red Indian in the Eastern United States. "Charred cloths from the great mounds are identical in material, combination of parts and texture with the fabrics of the simple savage." Nothing in them indicates a higher development of the art than was possessed by Algonkins and Iroquois.

THE 'SECOND COLUMN' OF THE ACHEMENIDEAN INSCRIPTION.

THE famous inscription in cuneiform characters of the Achemenides is, as most readers are aware, in three columns, each a different language. The first is Old Persian; the third is the Assyrian dialect of the Semitic; but the second has been a standing puzzle. Some claimed it as Dravidian, others as a remote Aryan tongue, but most scholars, following Norris, Rawlinson and Max Müller, looked upon it as 'Turanian,' by which is meant Ural-Altaic. It has been called Susian or Medic, and some have thought it related to the Sumerian or Acadian, of Babylonia.

The first thoroughly satisfactory analysis of its forms which has ever appeared has just been published at Breslau, from the pen of the profound Ural-Altaic scholar, Dr. Heinrich Winkler. He had already announced that this Susic was certainly not Ural-Altaic, nor was the Sumerian. In the present brochure of sixty-five quarto pages he proves that the verb of the Susic is a true verbal, whereas in the Ural-Altaic, like many American languages, it is a noun form; that the relative in the Susic is one that is real and not a mere connective; that the formation of the case relations is wholly distinct; and a number of other vital points.

As the second column is certainly not Altaic, what is it? To this Dr. Winkler replies by assigning a number of cogent reasons for believing it a member of the Caucasic group of related tongues.

His valuable essay, like that which he wrote on the relationship of the Japanese to the Ural-Altaic, has extremely important bearings on the ethnography of Asia. The full title is: 'Die Sprache der Zweiten Columne der Dreisprächigen Inschriften und das Altaische.' D. G. BRINTON.

UNIVERSITY OF PENNSYLVANIA.

SCIENTIFIC NOTES AND NEWS.

ELECTRICAL CONDUCTION AT LOW TEMPERATURES.

IN a Friday evening discourse at the Royal Institution, Prof. J. A. Flemming, F.R.S., recently gave an account of the very interesting researches into the magnetic and electric properties of metals at low temperatures, which have been carried out, during the last four years, in the laboratories of the Royal Institution, by him in conjunction with Prof. Dewar.

According to the report in the London

Times, the lecturer showed that the conductivity of a pure iron wire, at ordinary temperatures only about one-sixth of that possessed by a copper wire of equal size, was increased nine or ten times under the influence of the cold of liquid air. But while pure metals had their conductivity immensely increased by intense cold it was shown that alloys, such as brass or German silver, experienced in the same circumstances a comparatively small increase in conducting power, not more than about ten per cent. By carefully examining with a suitable form of resistance coil the variations in the electric resistance of a large number of chemically pure metals cooled to about 190 degrees, Profs. Dewar and Fleming have established that every pure metal would in all probability have no electrical resistance at the zero of absolute temperature, or, in other words, would become a perfect conductor of electricity. In this condition the passage of an electric current would generate no heat in it. Another consequence would be that a pure metal at the absolute zero would form an absolutely opaque screen to electro-magnetic radiation. These experiments furnished an additional proof that the process by which an electric current was conveyed from place to place was primarily dependent on actions going on outside that which we usually spoke of as a conductor. At the absolute zero any electric power, however large, could be transmitted along metallic wires, however small, without loss of energy, the wire becoming then a mere boundary and the energy-conveying processes being all effected in the non-conductor outside of it. Diagrams were shown illustrating the great increase in the conductivity of mercury on freezing. At its freezing point its conductivity rose fourfold, and beyond that point increased in such a way as to show that at the absolute zero its conductivity would be perfect. The peculiar differences in the resistance of pure and slightly impure bismuth were described, and proof was adduced that the result of taking the electric resistance of a wire of any metal in liquid air afforded a conclusive test of its chemical purity. It was found that the remarkable property possessed by bismuth of undergoing a great increase in electrical resistance when placed in a magnetic field was increased several hundred per cent. by the cold of liquid air. In contrast with metals, carbon and non-metallic bodies increased in electric resistance as their temperature was reduced, this increase continuing to take place as far as the lowest temperature reached. In conclusion, Prof. Fleming laid stress on the value of the knowledge gained about the electrical resistance of metals at low temperatures as a means of testing the purity of a metal almost rivalling the spectroscope in delicacy, and said that the facts collected would prove of importance in judging the validity of existing hypotheses of electric and magnetic action, while at the same time they opened out a wide field for fascinating research in a region hitherto but little explored.

THE DIMINUTION OF CONSUMPTION.

Dr. Arthur Ransome contributes to the *Lancet* (July 11) an article on 'Tuberculosis and Leprosy,' in which he draws a parellel between the two diseases, (1) in their specific causation and in their morphology; (2) in their pathology; (3) in their distribution; (4) in their general history and the conditions favorable or otherwise to their existence; and (5) in their infectiveness and hereditary transmission.

There are many points of similarity between them, and the author states that many authorities are inclined to believe from a study of their morphology that they are identical in character and that their bacilli are modifications of one species altered only by their environment. Dr. Ransome does not, however, regard the diseases as absolutely identical, but believes that they are at least so far alike as to make it permissible from a study of the decline of one complaint and its causes to attempt to glean some idea of the most hopeful means of diminishing the other; and that it is possible to go further and prophesy that as one disease, leprosy, has disappeared from our midst, so the other, tubercle, may also be made to vanish, and that from the recognition of its predisposing causes we may learn in what way it may best be attacked and finally driven from amongst civilized nations.

Leprosy was banished mainly through general sanitary measures and was scarcely affected by direct efforts at preventing contagion. The author considers it, therefore, only necessary

to press forward the general sanitary measures on which he dwells in the article, in order that "we may regard as no Utopian dream the forecast that after only a few more years we may see the total extinction of tubercle in our land."

A chart is appended showing the phthisis rate per 10,000 of the population during the last fifty-eight years. In the year 1838 it stood at the enormous figure of over 38, and in 1894, little more than half a century later, it was only 13.8 —little more than one-third of its former prevalence. A straight line drawn from its highest to its lowest points shows also that its decline has been remarkably steady and generally regular. If phthisis were to continue to diminish in prevalence at the same increasing rate of decline for another thirty years it would then have entirely disappeared.

GENERAL.

IN connection with the proposed railway to the summit of the Jungfrau, it is proposed to establish a series of meteorological stations at which it will be possible to study at various altitudes the relations of temperature, atmospheric pressure, precipitation, etc. The observatory at the summit will cost $20,000.

ACCORDING to *Nature* Dr. N. Busch, of Dorpat, has undertaken, at the request of the University of Dorpat and the Russian Geographical Society of Petersburg, a botanical investigation of the Caucasus. He proposes to visit the hitherto unexplored sources of the rivers Teberda and Maruch in northern Caucasus.

AN expedition under the direction of Lieutenant Werther, accompanied by two geologists, is about to leave Berlin to spend a year or more in exploring Northeast Africa.

Die Natur states that the Austrian deep-sea expedition under the charge of the ichthyologist Dr. Franz Steindachner, the Director of the Royal Vienna Museum, has now returned. The expedition has for seven months been engaged in explorations of the Red Sea on the warship *Pola*.

THE Société Scientifique Antonio Alzate, of Mexico, elected the following honorary members at the recent general meeting: M. Cuenot, professor in the Faculty of Nancy; MM. Fizeau and Lippman, of the Institute of France; M. Ch. Richet, of the Faculty of Medicine, Paris; Dr. G. Brown Goode and Prof. F. H. Bigelow, of Washington; Prof. Röntgen, of Wurtzburg; Lord Rayleigh and Prof. William Ramsay, of London.

THERE will be held, at Sables d' Olonne, from the 3rd to the 7th of September of the present year, an International Congress of Fisheries.

TWO new year books are announced from Paris, one *Annuaire des Musées scientifiques et archéologiques des Départements*, the other *L'Année biologique*, edited under the direction of M. Y. Delage.

SIR WILLIAM MACCORMAC, of St. Thomas' Hospital, has been elected President of the Royal College of Surgeons of England.

THE MACMILLAN CO. announce for early publication a translation of Dr. von Zittel's elaborate Paleontology, by Dr. Charles R. Eastman, of the Museum of Comparative Zoology at Harvard University.

AT the sixty-fourth annual meeting of the British Medical Association, which was held at Carlisle on July 28, 29, 30 and 31, the address in medicine was to be delivered by Sir Dyce Duckworth, lecturer on medicine, St. Bartholomew's Hospital, and that in surgery by Dr. Roderick Maclaren, senior surgeon to the Cumberland Infirmary. The scientific business of the meeting was conducted in nine sections.

THE Millennial Congress of Hygiene and Medicine will be held at Buda-Pesth, September 13th to 16th, under the Presidency of Profs. Koranyi and Ketli. Among the subjects proposed for discussion are the organization of medical aid for the poor, pension and sick funds for medical men, medical councils, etc.

THE third *Congrès Français de Médecine* meets at Nancy on August 6th to 9th. The subjects announced for discussion are The Application of Blood Serums to the Treatment of Diseases, Intravascular Coagulation of Blood and Prognosis of Albuminuria.

IF certain conditions are fulfilled by the City of Chicago the Field Columbian Museum is to receive $2,000,000 as an endowment fund from Marshall Field, the founder of the institute.

THE London Goldsmiths' Company have contributed £1,000 for the extension and better equipment of the scientific laboratories at the Imperial Institute. A research fellowship of the value of £150 annually has been established by the Salters' Company, in connection with the scientific department, for the investigation of new or little known natural products.

IT is stated that Mr. T. Ruddiman Johnston, a Fellow of the Royal Geographical Society, will erect in London a terrestrial globe, showing the earth's surface on a scale of about eighty miles to the inch. Every geographical feature of importance will be shown and named, as well as every city and town having 500 inhabitants or more. The globe will take nearly two years to construct, and Mr. Johnston hopes to have the assistance of all those having a special knowledge of any portion of the earth's surface. The globe will revolve slowly, and will be observed from the upper end of a spiral gallery to be erected for this purpose.

THE Tokyo Botanical Society is doing excellent work in making known studies of the native flora carried on by its members. The last number of the journal of the Society, *The Botanical Magazine*, contains the following articles: Notes on the Plants collected in Suruga, Totomi, Yamato and Kii, by M. Shirai; On the Smut of Japanese Cereals, by S. Hori; Salix of Hokkaido, by Y. Tokubuchi; Plants employed in Medicine in the Japanese Pharmacopoeia, by K. Sawarda; Contribution to Knowledge of the Marine Algae of Japan, by K. Okamura; Phanerogams of Shonai, by T. Kawakami. The first four articles are in Japanese.

THE first part of the 9th volume of the Proceedings and Transactions of the Nova Scotia Institute of Science contains an account of the work of the session of 1894–95. The papers are of interest, as they contain chiefly observations regarding the local geology, antiquities, flora, etc., of the region. The address of the President, the late Prof. George Lawson, reviewed the history of the Institute, which was founded in 1862, with special reference to the work of the preceding session.

M. WILLIAM VOGT has prepared a biography of his father, Carl Vogt, which has been published by Reinwald under the title *La vie d'un homme—Carl Vogt.*

IT has been decided to erect a statue of Jenner in Tokyo; 1000 yen have been subscribed by the private Sanitary Association, and it is estimated that 2,500 yen will remain after the expenses of the recent centennial have been defrayed, which will be devoted to the purpose. The statue is to be ordered from London.

WE quote the following from *Nature:* "Dr. Brown Goode makes the following comparison in a report of the U. S. National Museum, lately issued: 'There is not a department of the British government to which a citizen has a right to apply for information upon a scientific question. This seems hard to believe, for I cannot think of any scientific subject regarding which a letter, if addressed to the scientific bureaus in Washington, would not receive a full and practical reply. It is estimated that not less than 20,000 such letters are received each year. The Smithsonian Institution and National Museum alone receive about 6,000, and the proportion of these from the new States and Territories, which have not yet developed institutions of learning of their own, is the largest. An intelligent question from a farmer of the frontier receives as much attention as a communication from a Royal Academy of Sciences, and often takes more time for the preparation of the reply.' It is little to the credit of the British government that Dr. Goode's comparison should be so much to our disadvantage."

LAST year Mr. George W. Breckenridge, of San Antonio, presented to the University of Texas 'The Singley Collection of Texas Mollusca.' This unique gathering of shells was the work of Mr. J. A. Singley, who devoted much time and energy to its production. It is unrivaled, we believe, in the world, embracing 309 species, represented by 6143 specimens from 977 localities. This year the same generous donor has added to his previous gift the remainder of the 'Singley Collection,' consisting of shells from all parts of the world: Marine shells, 750 species and varieties, represented by 2350 specimens; land shells, 1101 species and varieties, represented by 3839 specimens; fresh

water shells, 702 species and varieties, represented by 1947 specimens. In this collection there are, it will be seen, over 2500 species and varieties. It is safe to say that the University of Texas has now the largest and finest collection of recent mollusca in the South or West.

THE 'Bibliography and Index of North American Geology, Paleontology, Petrology, and Mineralogy for 1892 and 1893,' by F. B. Weeks, has been issued as Bulletin No. 130, of the U. S. Geological Survey. This Bulletin is a continuation of the annual publication heretofore known as the 'Record of North American Geology' (Bulletins Nos. 44, 75, 91, 99). The extended scope of the work necessitated a change in its arrangement. It is divided into two parts, a bibliography and a subject index. The bibliography is arranged alphabetically by authors' names. The index comprises geographic, geologic mineralogic, paleontologic and petrologic subdivisions, arranged alphabetically; and lists of economic products, minerals, rocks and fossils described in the various papers listed in the bibliography are given. A similar bibliography and index for the year 1894, and another for the year 1895 (Bulletins Nos. 135 and 149, respectively), are in press and will be delivered soon.

THE deficiency of rainfall in Great Britain is this year even greater than last, being so far 4.69 inches. The East London Water Works Company has been compelled to shut off the supply of water during the night, and lack of sufficient water in the east end of London is apt to be followed by an increased mortality.

THE *Lancet* states that an important Royal Commission has just been appointed. Its object is to enquire into the administrative procedure available for controlling danger to man through the use as food of the meat or milk of tuberculous animals. The Commission will further consider what should be the proper action of the responsible authorities in condemning for the purposes of food supplies, animal carcasses or meat exhibiting any stage of tuberculosis. The Commissioners are as follows: Sir Herbert Maxwell, Dr. Thorne Thorne, C. B., Mr. G. T. Brown, C. B., Mr. H. E. Claver, Mr. Shirley F. Murphy, Mr. John Speir and Mr. T. C. Trench. Dr. T. M. Legge will act as Secretary to the Commission, the work of which, from a sanitary point of view, should be of the highest possible value to the community.

ACCORDING to *Nature* General M. Rykatchef has been appointed Director of the Central Physical Observatory, St. Petersburg, in the place of Dr. H. Wild, resigned. For many years General Rykatchef has had charge of the maritime meteorological branch of the Observatory.

UNIVERSITY AND EDUCATIONAL NEWS.

FOREIGN STUDENTS IN THE FRENCH UNIVERSITIES.

OFFICIAL information has been received in Washington by the Franco-American Committee, organized for the purpose of securing fuller privileges for American students in the educational institutions of France, that in all probability the faculties of letters will soon be open to Americans as freely as the other faculties that have already been opened. The Compagnie Transatlantique offers a reduction of 30 per cent. in its rates to duly certified American students who intend to study in France.

There are already fifty or more American students enrolled in the French faculties. Since the promulgation of the decree of January last, changing the regulations in the faculties of science, the number of German students in the French faculties has increased from fifty-two to one hundred and twelve, of whom only sixteen are students of medicine.

The admission of foreign students to the medical schools gave rise to a serious debate in a recent session of the Chamber of Deputies, it being claimed that French students were exposed to undue competition on account of the influx of foreigners, who, by reason of graduation, became entitled to practice medicine in France, and this without being subjected to military duty. It is probable that the regulations will be modified so that foreigners will not be hereafter entitled to the privilege of practice, although the facilities for study and the obtaining of degrees will be as good or better than heretofore.

GENERAL.

DISPATCHES to the daily papers from Lansing, Mich., state that the Supreme Court de-