

better methods, those who have already found good ways, and all who are interested in botanical progress in the United States will do well to correspond with the members of this committee,—Douglass H. Campbell, Palo Alto, California; N. L. Britton, New York, and Jno. M. Coulter, Lake Forest, Ill.

#### EMBRYOPHYTA ZOIDIOGAMA.

A RECENT double number of *Die Natürlichen Pflanzenfamilien* begins consideration of the higher cryptogams, the Embryophyta zoidiogama or Archegoniatae. This grand division of the vegetable kingdom is defined as follows:

"Plants seldom thalloidal, mostly differentiated into stem and leaves (cormophytic), and having two distinct generations. The proembryonal or sexual generation bearing antheridia in which spermatozoa are developed and Archegonia enclosing the egg cell, which is to be fecundated, and the canal cells, which change into slime prior to the act of fecundation. After fecundation the non-sexual embryonal generation or embryo arises by division of the egg cell and further growth, remaining a long time in connection with the proembryonal generation and being nourished by it."

The following subordinate groups are recognized, and the progress of systematic botany during the last forty years cannot be better understood at a glance than by comparing this system of classification with that given in Lindley's "Vegetable Kingdom."

#### (1) SUBDIVISION. BRYOPHYTA (MUSCINEI).

1. Class Hepaticae (Liver mosses).
  1. Sub Class Marchantiales.
  2. Sub Class Jungermaniales.
2. Class Musci (Musci frondosa, or Leafy mosses).
  1. Sub Class Sphagnales.
  2. Sub Class Andreaeales.
  3. Sub Class Archidiales.
  4. Sub Class Bryales.

#### (2) SUBDIVISION PTERIDOPHYTA.

1. Class Filicales.
  1. Sub Class Filices. Genuine ferns (Isosporae).
  2. Sub Class Hydropterides (Two sorts of spores).
2. Class Equisetales.
  1. Sub Class Isosporaeae.
  2. Sub Class Heterosporaeae.
3. Class Sphenophyllales.
4. Class Lycopodiales.
  1. Sub Class Isosporaeae.
  2. Sub Class Heterosporaeae.

This double number (91 and 92) brings Division 3 of Part I down to page 93, and deals with the following groups of liverworts: *Ricciaceae*, *Marchantiaceae*, *Jungermaniaceae anakrogynae*, and *J. akrogynae*. All by v. Schiffner, with many illustrations.

#### SOUTH KENSINGTON.

THE Kew Gardens are well known in the United States as the centre of an enormous amount of a conservative kind of botanical energy, mostly floristic, but it is not so generally known that Kew has a formidable rival at South Kensington. Indeed, in many ways, according to all accounts, and notably in the facilities offered to visiting botanists, and in the extent of its library, it is far ahead of Kew. The botanical library at South Kensington is now one of the best in the world, nearly \$100,000 having been spent on it within the last decade, and the collections are also valuable. The director, Mr. Carruthers, wishes it understood that South Kensington is in full sympathy with the new botany and that specialists from every quarter of the globe are welcome and will be given every possible facility, in the way of books and collections, for the pursuit of original investigation, whether of phænogams or cryptogams.

#### CURRENT NOTES ON ANTHROPOLOGY.—

##### NO. XXXIX.

(Edited by D. G. Brinton, M. D., LL. D., D. Sc.)

#### INSCRIPTIONS ON FRENCH MEGALITHIC MONUMENTS.

THE megalithic monuments of France are divided into great upright stones, *menhir*, groups of these, *gromlech*, and large flat stones superposed on others which are upright, *dolmen*. There are about thirty-five hundred of the latter in France, and still more of the former varieties. They used to be attributed to the Celtic Druids, but later writers hesitate to accept this identification. Some of them have figures inscribed upon them, not generally of men or animals, but apparently of a symbolic or even alphabetic character.

During the year 1893 two suggestive articles on these "alphabetiform" and other inscriptions appeared in the *Bulletins de la Société d'Anthropologie* of Paris, the first by Ch. Letourneau, the other by A. de Mortillet. In comparing the characters on the dolmen "des Marchands," in Brittany, with similar remains elsewhere, M. Letourneau made the interesting discovery that many of them were identical or very similar to those found in what are called the "rupestrian inscriptions" of Tunisia and southern Algeria. These are of Libyan origin, and by most recent scholars are held to preserve a form of writing older than the Punic alphabet, and akin to that which is seen on ancient Numidian mortuary tablets. This discovery is the more important, because the megalithic monuments can be traced from Brittany into northern Africa in an almost continuous line, indicating that those who constructed them followed this path, either in one direction or the other.

The figures reported upon by M. de Mortillet are from a series of these monuments in the vicinity of Paris. They do not present the "alphabetiform" appearance, but are crude representations of human beings, "in which the principal aim of the artist was to indicate the sex."

#### RELATION OF THE GLACIAL AGE TO MAN.

THE great event of the glacial period, or Ice Age, bears an important relation to the calculations of the appearance of man on earth. The most recent studies in post-pliocene geology are, however, far from unanimous on glacial questions, and this has reacted forcibly on writers about the origin of man. One who is generally very careful, the Marquis de Nadaillac, has actually been led in a recent article, of great merit, entitled "Les Dates Préhistoriques," to the extreme conclusion that "the remotest epoch to which we can assign the appearance of humanity on the globe can scarcely exceed 10,000 years."

He bases this conclusion largely on the writings of American geologists, as Warren Upham, Gilbert and Winchell, who from their observations of the gorge of Niagara, and other so-called "geologic chronometers," have reduced the period since the final departure of the great ice mass to six or seven thousand years.

Both these conclusions have very much the air of a *reductio ad absurdum*. They are in conflict with so many known facts and high probabilities in other directions that they disprove themselves, and indicate some radical error of theory. A much more plausible theory, which accounts for the "chronometers," and does not violate probability, is that which is advanced by Mr. F. B. Taylor, of a prolonged subsidence posterior to the ice age, the proof of which is in a continuous coast line from the Atlantic to Duluth. He is preparing to present the full evidence for this.

THE ANCIENT INHABITANTS OF SALT RIVER VALLEY,  
ARIZONA.

A PUBLICATION highly interesting to the ethnic anatomist is a memoir recently published in Washington, entitled, "Human Bones of the Hemenway Collection in the United States Army Medical Museum," by Dr. Washington Matthews and Dr. J. L. Worman.

The valley of the Rio Salado, or Salt River, was explored by this expedition under the direction of Mr. Frank H. Cushing. It proved to be the seat of a pre-Columbian civilization of rather high type, which, according to the opinions of most, must have disappeared at least a thousand years ago. The human bones obtained from the old graves present a curious series of aberrations. Considered as a single series, they are far from presenting a uniform type. If that fact goes for anything, they must have been a tribe of very mixed blood. Generally they were brachycephalic (probably from cradling), and not tall. Their teeth decayed early in life, and were often misplaced and irregular. The Inca and Worman bones were abundant, almost beyond example. As for flattened tibias and perforated olecranons, they break the record for frequency. No other series yet measured equals them in these defects. The hyoid bones offer singular deficiencies in ossification. The cubical capacity of the skull is very low, about 1313.

The impression the anatomist receives from reading the memoir is, that he sees presented a people in a low and sinking stage of physical vigor, drifting toward rapid decadence and extinction. Just such a condition prevailed in Peru at the period of the conquest of Pizarro; and from this analogy in condition, social and physical, not from geographic or ethnic relations, should be explained, I think, the various resemblances in structure and social development which the authors of this memoir note and dwell upon (rather too forcibly) between these widely-sundered nations.

## THE VEDDAS OF CEYLON.

The Veddas are a strange and ancient people, who live in the hottest and most pestilential swamps and forests of Ceylon, leading a thoroughly savage life, nearly naked, in temporary shelters, cultivating nothing, and avoiding as much as they can any intercourse with the other natives of the territory. Out of a total population on the island of two and three-quarters millions, they number only about 2500; but in ethnic interest they are the most noteworthy of all; for in them, it is believed, we have preserved the sole representatives of the original inhabitants of the island.

Excellent studies of them have been recently published by Drs. P. and F. Sarasin, in their large volume on the scientific exploration of Ceylon, and by Dr. Emil Schmidt, in the first number of *Globus*, for the present year. From these sources we learn that the Vedda belongs to the smaller races, the average height being about 1.45 meters; his color is medium brown, his hair slightly curly, his eyes black, his head narrow and small, with an average capacity of about 1200 c. c. His face is not prognathic, and, from the photogravures of Schmidt, he often has pleasing features and an agreeable expression. Except on the head, the hair is scanty, and in the details of his anatomy he betrays a general lack of development, which by some anatomists would be called a "pithecoïd" or ape-like tendency.

The Veddas have few institutions and faint religious observances; but the latter are not absent, as Herbert Spencer has asserted. The language is Singhalese, at least in great part; but it is probable that a certain stratum of it is connected with some of the Dravidian dialects of Southern India. The Veddas, indeed, apparently should be classed with that primitive stock which at some remote time divided into the various members of the Australo-Dravidian family.

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