

NOTES AND NEWS.

WITH this number our report of the meeting of the American association is completed. No session of section G was held, and no vice-presidential addresses delivered in sections C, D, or G. In our next number we shall print in full the promised papers of Messrs. Carhart and Dana. At some future time we may also take occasion to refer more particularly to the report of the committee upon the removal of duties on imported text-books and the discussion of the same, of which we have a full account. Few other committees besides this, and those already announced, made any reports; and the several committees on weights, measures, and coinage, on standard time, on primary meridian and international standard time, and on the records of science, were discontinued, that on standard time in consequence of the favorable action of the railways of the country in the proper direction. The committee on the introduction of science teaching in the public schools, on the registration of deaths, births, and marriages, on stellar charts, and on an international convention of scientific associations, reported progress, and were continued.

A by-law to the constitution was passed, providing that every member should have the privilege of registering the members of his family at meetings of the association (not including men over twenty-one years of age), by paying three dollars for each registration; the person so registered being entitled to all privileges offered members by the local committee. The standing committee also passed a rule that hereafter no paper will be accepted for reading before any of the sections, unless accompanied by such abstract as the writer deems ready for publication.

Sections H and I had, in some respects, a similar experience at Minneapolis. Both were unable to organize until the week of the meeting was half over. To each there came, almost at the very last moment, a paper of unusual interest. In the anthropological section, Miss Babbitt's paper announced the discovery, in Minnesota, of traces of human labor beneath a deposit of twelve or fifteen feet of the material which forms one of the terraces of an ancient river. This seems to be a confirmation of the theory advanced by Dr. Abbott, respecting his similar discoveries in New Jersey, that man existed on this continent during at least a portion of the glacial epoch. There will, of course, be a lively discussion between experts, as to whether these quartz specimens are actual relics of human industry. Thus far, at best, the glacial workman is known only by his chips.

In the section devoted to statistics, Mr. Dodge announced what may perhaps be accounted a discovery in that dry branch of science. He has found that a singular and quite definite relation exists, in large communities, between an excess of non-agricultural over agricultural workers, and an increase of values in the land, products, and wages of agriculture. The figures may soothe the fears of those political economists who from time to time predict national disaster

because so few American youths take kindly to farming pursuits. An obvious inference from the statistics is that prosperity comes where industry is diversified. Weapons of argument may thence be drawn by those who believe in a public policy tending to encourage non-agricultural industries.

— The Royal academy of medicine of Turin has unanimously awarded the Riberi prize of 20,000 francs (\$4,000) to Prof. Bizzozero for his researches on the 'Physiopathology of blood,' the subject proposed by the academy. The commissioners of award received several essays: those of Wharton Jones, Norris, Hayem, and Bizzozero were considered to deserve special consideration. The last two were assigned the first rank. The most important matter in both of these is the investigation of the third morphological element of the blood (Hayem's haematoblasts). The commissioners, all well-known *savants*, judged that Hayem did not completely demonstrate that the red globules are derived from the haematoblasts. Bizzozero solves the important problem of the origin of the red globules, determines the relation of the haematoblasts to coagulation, and throws new light on the formation of thrombi. His memoir was therefore deemed the more important, and to Bizzozero accordingly the very valuable award has been made.

— The officers of the Cincinnati society of natural history inaugurated about June 1 a course of free lectures on botany. The first was given on June 9, to a company of forty-seven, many of them teachers in the public schools. The lectures have been continued weekly, and the last was given on Aug. 11. The object of the society in the establishment of this course was to get the public generally interested in scientific pursuits; and the success of this, the first attempt of the kind in this city for many years, has been most gratifying. The average attendance has been over thirty, notwithstanding the hot weather, lateness of the season, and the absence from the city of many who would otherwise have attended. The officers hope, in the autumn, to have courses in other branches of science, so that a general interest may be awakened among the citizens, and attention called to the importance of the study.

— News has been received from the French meteorological station at Orange Harbor, Patagonia: all were in good health, and work progressing favorably. The cattle which had been brought from Montevideo had perished, but those from Punta Arenas were flourishing. The surgeon of the party, Dr. Hyades, had made full anthropological investigations of the Fuegians who were settled near the station. Casts of heads and limbs had been secured, and many photographs taken. A collection of utensils, etc., had been brought together, including a large canoe with its entire outfit. He was engaged in studying the language, which appeared to be somewhat different from the vocabularies collected by Darwin nearly half a century ago.

— Professor W. A. Rogers wishes us to state that the relation between the imperial yard and the *mètre des archives* is wrongly given in our abstract of his

paper on p. 250. It should have been stated as follows: Imperial yard + 3.37027 inches = *mètre des archives*.

—Matthew Arnold's ingenious argument for the survival of literature, from its relation to conduct, encounters an objection in the apparent effect of scientific pursuits upon the character of his countrymen. When one affirmed of Clerk Maxwell, that "he was free from every taint of the world, the flesh, and the devil," it seemed no exaggeration to those who knew him. Darwin, Balfour, Sir Rowan Hamilton, and H. J. S. Smith, each in his turn was scarcely less endeared by his genial virtues than admired for his lofty powers. None of these was so largely identified with the world, its business temptations, its social allurements, as William Spottiswoode, the late president of the Royal Society; and none left the memory of a purer life, a heart more "full of exercised humanity."

In his funeral sermon, referring to the text, "The world passeth away, and the lust thereof; but he that doeth the will of the Lord abideth forever," the Dean of Westminster Abbey said, "Apart from general considerations of life and death, the words have special reference to that last one of our own time accounted worthy to rest with the illustrious dead within these walls. . . . To his great talents and his profound knowledge were united such graces of character as the most modest unselfishness and the most spotless integrity. He was ever anxious, earnestly and justly, to place before his fellow-men such knowledge as would conduce to their welfare; and so well did he do this work among his countrymen, that it might be doubted whether his philanthropy did not predominate over his love of science."

—M. Pasteur has proved that the burial of diseased animals does not destroy the germs of disease, or obviate the chance of infection to any animals who may afterwards feed on the ground above where the body of the diseased animal was buried. M. Aimé Girard proposes to destroy the germs in the dead bodies of diseased animals by treating the carcasses with cold concentrated sulphuric acid. The destruction of the germs is proved to be complete. Experiments made at St. Gobain show that three hundred and twenty-one kilograms at 60° proof, dissolved in ten days nine sheep, weighing two hundred and four kilograms. The resulting liquid, mixed with four hundred and forty kilograms of coprolites from Ardennes, produced nine hundred and forty kilograms of superphosphate of lime, containing thirty-six per cent of nitrogen. Thus, by a simple process, most dangerous bodies are destroyed, and a valuable fertilizer obtained.

—*Nature* announces that the Lords of the committee of council on education, of England, have, by a recent minute, decided to withdraw the prizes hitherto given to candidates in the science examinations who obtain a first class in the elementary stage of the various subjects of science, substituting certificates of merit, and retaining only the prizes given in the advanced stage. The money hitherto devoted to prizes will be employed in providing thirty-six

national scholarships, — twelve each year, — which will be offered in competition to students of the industrial classes, and awarded at the annual examinations of the department. The National scholarship will be tenable, at the option of the holder, either at the Normal school of science, South Kensington, or at the Royal college of science, Dublin, during the course for the associateship, — about three years. The scholar will receive thirty shillings a week during the session of nearly nine months in the year, second-class railway fare to and from London or Dublin, and free admission to the lectures and laboratories. This is a most important step in advance.

—The Rev. Father Émile Fortuné Stanislas Joseph Petitot, well known for his valuable contributions to American linguistics and his extended journeys over the Hudson Bay territory, has received a medal from the Royal geographical society. He is the first Frenchman thus honored since Francis Garnier. He has now retired from mission-work, and will devote himself to study for some years.

—The Delaland-Guerineau prize has for the second time been bestowed by the French academy upon M. Savorgnan de Brazza, of Congo notoriety. The military medal for 'exceptional services' has been given to the sergeant Malamine, a native of Senegal, for his defence of Brazzaville against all comers during the absence of his superior.

—The last number of the bulletin of Nuttall club contains part of Burrows' list of birds from the lower Uruguay, which is sufficiently full to be of value. The critical list of birds in vicinity of Colorado Springs is of great interest. Mr. Allen's valuable list of minor ornithological publications should also be mentioned.

—Mr. E. H. Miller states, in the *American agriculturist*, that wherever the ornamental shrub commonly called *Deutzia scabra* grows near grape-vines, the rose-bugs prefer the flowers of the *Deutzia*, and thus the grapes are protected. Grape-growers may therefore cultivate a charming shrub with a double purpose.

—Rev. W. W. Meech recommends, in the *American agriculturist*, judicious salting to prevent the blight which troubles quinces, and burning affected parts to overcome the ravages of the fungus *Roestelia aurantiaca*.

—The sixth annual report on the birds of Germany in the *Journal für ornithologie* contains many interesting notes on migrations and breeding-dates.

—At a lecture recently given at Mauch Chunk, Penn., by Mr. Charles A. Ashburner, geologist in charge of the anthracite surveys in that state, the lecturer made some general statements in regard to the amount of coal which has been mined, and which still remains in the region, which we copy from the *Mining herald* of Shenandoah. "The total amount of coal produced from the anthracite fields up to Jan. 1, 1883, was 509,333,695 tons. It is hard to realize this amount. To place it in a popular form, it was stated that it would form a solid compact wall of coal (25 cubic feet = 2,240 pounds = 1 ton) 100 feet wide and 100 feet high for a distance of 241 miles, or it

would form a similar wall along the railroad between Philadelphia and New York 100 feet wide and 268 feet high. It was estimated that the region originally contained 25,000,000,000 tons. If it be assumed that in the production of 509,333,695 tons an area has been practically exhausted which originally contained 1,500,000,000 tons, there is 94% of the coal originally contained which still remains untouched. In comparing the anthracite region with the bituminous fields of England, the estimated contents of the former is about one-sixth of what the most recent estimates assign to the latter. About the same proportion exists between the annual production of Pennsylvania anthracite and English bituminous. Mr. Ashburner stated the estimates were based upon very general, but at present the most reliable data. The geological-survey estimates have not yet extended beyond the Panther Creek basin, between Mauch Chunk and Tamaqua. It was stated that this basin originally contained 1,032,000,000 tons of coal,—double the amount which has already been shipped from the entire region. An area had been mined over in this basin, up to last January, which originally contained about 92,000,000 tons, so that 91% of the original coal still remains untouched. About 88% of the coal which has been mined from this basin was taken from the mammoth bed."

In a subsequent communication to the same paper, Mr. Ashburner disclaims having made any statements with regard to the exhaustion of the anthracite coal-fields of Pennsylvania, with which he had been credited by various newspapers. He adds, however, that Mr. P. W. Shearer, who has probably given this subject more careful consideration than any one else, has made a very general statement that the field still contains about 25,000,000,000 tons of coal. Up to Jan. 1, 1883, he had estimated that the total production amounted to 509,333,695 tons. It has been generally thought that but one-third of the coal contained has been consumed as fuel; so that, up to last January, an area had been exhausted which originally contained about 1,500,000,000 tons, 23,500,000,000 tons remaining untouched. If this same proportion of production to original content be applied to that which still remains, about 8,000,000,000 tons would represent the possible future production. According to the mine-inspector's report, there was produced last year 31,281,066 tons. If this production should remain constant for all future time, the field would be exhausted in a little over 250 years. Such a conclusion is quite untenable, for our yearly production is rapidly increasing. In 1870 there was shipped from the region 16,182,191 tons, and in 1880, 23,437,242 tons. The abrupt exhaustion of the coal-fields is a practical impossibility; nor is it reasonable to suppose, that, if on an average for every ton of coal won there are two lost, this will be the practice in future mining. The geological survey has already in its possession many valuable facts to throw light on this subject; but, as it is hoped that the survey will be completed before this question of ultimate exhaustion will become one of practical concern, it would be folly to make any statement as to how long the coal will last.

—M. Daubr e has been examining an interesting meteorite which fell not far from Nogoya, in the province of Entre Rios, Argentine Republic. Chemical analysis proves that the meteorite contains iron, lime, and magnesia; but its most important feature is, that it is said to contain carbon in an organic form, which is chiefly proved by the action of potash in it. M. Daubr e from this is led to hope that he may yet find organic remains in a meteorite.

—In the September *Atlantic*, Bradford Torrey prints some studies in the temperaments of birds, which will interest ornithologists, as they are made from personal observation. The chickadee, goldfinch, brown thrush, towhee, blue-jay, shrike, white-eyed vireo, and chat, and the New-England species of *Hylocichlae*, are discussed.

—The Florence newspapers announce the acquisition of a skull of *Mastodon arvernensis* by the Istituto di studi superiori. Professor d'Ancona writes to *La nazione*, that it was found through excavations that were making in pliocene deposits in the neighborhood of Percussina, situated about two hundred metres above the sea, between Siena and Florence.

—In his recent work on cultivated plants, DeCandolle says, "In the history of cultivated plants I have found no indication of communications between the inhabitants of the old and new world anterior to the discovery of America by Columbus. The Gulf Stream has equally been without effect. Between America and Asia, two transportations may have been effected; one by man (the batatas), the other by man or by the sea (cocoa-nut)." Drs. Gray and Trumbull, in commenting on this in the last number of the *American journal of science*, say, "Perhaps the banana should be ranked with the sweet-potato in this regard. And we may merely conjecture that the purslain came to our eastern coast with the Scandinavians or the Basques."

—Ostrich-chicks are hatching out at the ostrich-farm near Anaheim, Cal., at the rate of one a day. When they first come out of the egg, they are about the size of a half-grown duck. They have good appetites, and grow rapidly.

—Means of transportation are rapidly increasing on the borders of countries not within the recognized bounds of civilization. Thus it is announced that the journey from Paris to Algiers will shortly be reduced to thirty-three hours rail and steamer travel, of which only sixteen will be by boat. Hitherto passengers by the Marseilles line, in the regular routine of travel, have spent forty hours on the water alone, beside the railway journey from Paris.

—At the meeting of the French entomological society, held July 11, Mr. E. Lef vre showed a large solitary ant allied to *Ponera*, found about Hong Kong, remarkable for the extraordinary development of its mouth parts, and for its power of leaping; being able, when disturbed, to make bounds of twenty to twenty-five centimetres. The statement was confirmed by the experience of earlier observers. As the legs are in no way developed for springing, Mr. Lef vre was inclined to think that it was accomplished in some way by its buccal organs.