Mr. William Niven's archæological researches in that State. A sketch of them is given in the periodical *Modern Mexico*, for May, 1898. I have previously referred to his article on Omitlan (SCIENCE, December 10, 1897). West of Chihihualco he found ruins of a similar character, that is, built of stone with firm cement, on all the prominent ridges and hills. He also describes a cave containing old deposits of skeletons, some of the skulls singularly deformed by artificial means. A complete investigation of such relics is much to be desired.

THE QUICHE LANGUAGE.

THIS language is spoken in western Guatemala, and is a dialect of the Maya stock. For archæologists it has peculiar interest, as the ancient Quiches were quite civilized, and their mythology has been preserved in the remarkable 'Popol Vuh,' or National Book, edited by the late Abbé Brasseur de Bourbourg.

For these reasons, students will be pleased to learn that the British and Foreign Bible Society has published in Guatemala a translation of the Gospel of St. Mark into the tongue, the Spanish and Quiche being printed in parallel columns. The translation was made, I understand, by Mr. F. de P. Castells, agent of the Society, or under his supervision. Ordinary type is used, the phonetic values of the letters being sometimes from the Spanish, sometimes from the English, and the gutturals indicated by compound consonants or by different fonts.

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SCIENTIFIC NOTES AND NEWS.

IMPORTANT VERTEBRATE FOSSILS FOR THE NATIONAL MUSEUM.

PROFESSOR O. C. MARSH has recently transmitted from New Haven to the Director of the United States Geological Survey the fourth large instalment of Vertebrate Fossils secured in the West, in 1882–92, under his direction, as Paleontologist of the United States Geological Survey in charge of Vertebrate Paleontology. The collection is packed in one hundred (100) boxes, and weighs over thirteen (13) tons. In accordance with law, the material will be deposited in the National Museum. This collection includes twelve sculls and other remains of the gigantic *Ceratopsia* from the Cretaceous; various *Dinocerata* fossils from the Eocene; a series of rare specimens of *Brontotherium*, *Elotherium*, *Miohippus* and other genera from the Miocene; a very extensive collection of Rhinoceros and other mammals from the Pliocene, as well as various interesting fossils from more recent deposits.

The other important collections of vertebrate fossils secured by Professor Marsh in the West for the Geological Survey, and previously transferred to the National Museum, may be briefly enumerated as follows:

(1) Seventy-two (72) large boxes of Pliocene fossils, weighing about 7,500 pounds, were transferred December 31, 1886, and were stored in the Armory February 8, 1887. The record of these boxes is on file in the office of the Geological Survey, and the Smithsonian numbers of the boxes are 6,601–6,672.

(2) Thirty-three (33) large boxes (weighing 6,960 pounds), of rare vertebrate fossils, ready for exhibition, were transferred July 17, 1891, and were placed in a case specially prepared for them in the National Museum, before the opening of the International Congress of Geologists held in Washington that year.

(3) Forty-three (43) large boxes (weighing 4,380 pounds) of Pliocene vertebrate fossils were transferred April 17, 1896.

These various collections, with other smaller consignments transferred to the National Museum (255 boxes in all, with a total weight of over 20 tons), were secured under the special direction of Professor Marsh, as Paleontologist of the United States Geological Survey in charge of vertebrate paleontology, during 1882–92. The remaining collections thus made, and still at New Haven, will be sent to Washington as soon as their scientific investigation, now in progress, is completed.

PROFESSOR KOCH ON MALARIA.

PROFESSOR KOCH, who, as we have reported, has recently returned from German East Africa, addressed the Colonial Society of Berlin on June 9th, on the subject of malaria in the tropics. He stated, according to the London *Times*, that he had found the study of Texas fever in cattle of the greatest assistance in casting light upon the nature and origin of tropical malaria. That cattle disease had been found to be transferred from one herd to another solely by the agency of that animal parasite, the tick. He had been able to infect sound cattle with ticks taken from diseased ones, and had succeeded in conferring immunity against Texas fever upon cattle inoculated with the ova of ticks taken from cattle which were suffering from the disease. Malaria offered many points of resemblance to Texas fever, and he had arrived at the conclusion that in the case of the human disease mosquitoes probably played the part which ticks played in the cattle disease. It was found that wherever there were mosquitoes there was malaria, and wherever, as in the case of a small island on the German East African coast, there were no mosquitoes there was also no malaria.

He had taken occasion to follow closely the course of cases of tropical malaria in which the use of quinine was dispensed with. He found that, contrary to the view hitherto accepted, the cases where quinine was not used showed that in malaria, as in other fevers, the readings of temperature followed a definite course. Moreover, it had been found possible by a microscopic examination of the blood of the patient to discover from the nature of the microbes it contained the precise stage of the development of the disease. This would be of the greatest importance, since everything depended upon the administration of quinine either shortly before the attack or very shortly after it. It would ultimately, he thought, be possible to administer quinine in a rational manner and so to avoid the injurious consequences of the quinine treatment. Quinine taken at the proper juncture undoubtedly stopped the malarial fever. It did so, not by killing the germs, but by arresting their growth. A rational and scientific employment of quinine, combined with the establishment of health resorts in the mountains, would rob tropical fever of many of its terrors. Professor Koch further discussed what is designated in German *Schwarzwasserfieber*. According to his view this fever is not connected with malaria at all, but is the result, in all probability, of the quinine treatment. In any event, there was no case of this fever in which it could be safely asserted that quinine poisoning was not present.

As to the possibility of securing immunity from malaria, he called attention to the fact that whole native tribes seemed to be proof against the infection. But if a natural immunity existed it was reasonable to hope that an artificial one might be created. It had been observed, for example, that persons who had suffered from malaria and had made a gradual and slow recovery without the aid of quinine often acquired entire immunity from the disease. In order that progress should be made in combating the ravages of malaria, it was indispensable that doctors trained in bacteriology and in the use of the microscope should be sent to East Africa. The administration of quinine by non-professional hands was a great mistake. If science were one day to cope successfully with this disease it would facilitate the prosperous development of some of the most fruitful districts in the world.

BIBLIOGRAPHICAL DATA FOR THE TITLE-PAGES OF BOOKS.

THE Publishers' Association of Great Britain has adopted arrangements for the bibliographical details given on title-pages of books, which we reproduce here, as they are of special importance in the case of scientific books. It is to be hoped that they will be insisted on by men of science and followed by American publishers. The recommendations are as follows:

(1) *Date.*—(*a*) That the title-page of every book should bear the date of the year of publication, *i.e.*, of the year in which the impression, or the reissue, of which it forms a part, was first put on the market. (*b*) That when stock is reissued in a new form the title-page should bear the date of the new issue, and each copy should be described as a 'reissue,' either on the title-page or in a bibliographical note. (*c*)

That the date at which a book was last revised should be indicated either on the title-page or in a bibliographical note.

(2) *Bibliographical Note.*—That the bibliographical note should, when possible, be printed on the back of the title-page, in order that it might not be separated therefrom in binding.

(3) *Impression, Edition, Reissue.*—That for bibliographical purposes definite meanings should be attached to these words when used on a title-page, and the following are recommended: *Impression.*—A number of copies printed at any one time. When a book is reprinted without change it should be called a new *impression*, to distinguish it from an *edition*, as defined below. *Edition.*—An impression in which the matter has undergone some change, or for which the type has been reset. *Reissue.*—A republication at a different price, or in a different form, of part of an impression which has already been placed on the market.

(4) *Localization.*—When the circulation of an impression of a book is limited by agreement to a particular area, that each copy of that impression should bear a conspicuous notice to that effect.

Addendum.—In cases where a book has been reprinted many times, and revised a less number of times, it is suggested that the intimation to that effect should be as follows: *e.g.*, *Fifteenth Impression* (*Third Edition*). This would indicate that the book had been printed fifteen times, and that in the course of those fifteen impressions it had been revised or altered twice.

GENERAL.

THE Academy of Natural Sciences of Philadelphia has received from Miss Anna T. Jeanes a gift of $20,000, to be invested and known as the Mary Jeanes Museum Fund, the income to be used for general museum purposes. This is a gratifying instance of continued interest in the welfare of the Academy, which has received substantial benefits from members of Miss Jeanes' family during the last forty-five years.

THE conference of astronomers and physicists held at the Yerkes Observatory in 1897 was so successful that it has been decided to hold a conference this year at Harvard College Observatory. It will be in session on Thursday, August 18th, and the two following days, being thus simultaneous with the meeting of the American Mathematical Society and immediately preceding that of the American Association.

THE fund collected for the Huxley Memorial now amounts to £3,346. The marble statue to be placed in the Natural History Museum is being carried out by Mr. Onslow Ford, and the medal for the Royal College of Science has been completed by Mr. F. Bowcher. About £1,300, which it is hoped will be materially increased, will be left and will be used for a third memorial. The Scientific Memoirs, making a fourth memorial, are, as we have already stated, in course of publication by Messrs. Macmillan & Co.

THE Academy of Natural Sciences of Philadelphia has conferred the Hayden Memorial Geological Award for 1898, consisting of a bronze medal and the interest of the endowment fund on Professor Otto Martin Torell, the Director of the Geological Survey of Sweden, in recognition of his distinguished services to geological science.

HARVARD UNIVERSITY has conferred the degree of Doctor of Laws on the eminent chemist, President James Mason Crafts, of the Massachusetts Institute of Technology.

PROFESSOR O. C. MARSH, of Yale University, has been elected an honorary member of the Geological Society of London.

THE Paris Academy of Sciences has nominated as its first choice M. Lippmann, and as second choice M. Appell, for the vacant place in the membership of the *Bureau des longitudes.*

PROFESSOR H. A. LORENTZ, of Leyden, and M. Émile Picard, of Paris, have been elected foreign members of the London Mathematical Society.

PROFESSOR A. WEISMANN, Professor B. Grassi and M. Hippolyte Lucas have been elected honorary members of the London Entomological Society.

Nature announces the death, at the age of seventy-two, of Sir James Nicholas Douglass, F. R. S., late Engineer-in-Chief to the Hon. Corporation of Trinity House. During his ten-

ure of this post he carried out many important engineering works, both at home and abroad, such as the Wolf, Longships, Great and Little Basses, Eddystone, and Muricoy lighthouses, and he effected numerous technical improvements connected with lighthouses and their illuminating apparatus, as well as in buoys and beacons. He was elected a Fellow of the Royal Society in 1883, and retired from his post at the Trinity House in 1892.

THE New York Aquarium has received by the steamship *Orinoco* an interesting collection of tropical fish, sent by Professor Bristol, of New York University, from the Bermudas.

THE tables at the Naples Zoological Station, supported by the University of Cambridge, have been given to Mr. C. H. Hadfield, of Trinity College, and Mr. R. C. Punnett, of Gonville and Caius College.

BUSTS of Skoda and Rokitansky were unveiled in the Arcades of the University of Vienna at the beginning of June. The *Philadelphia Medical Journal* states that Professor Nothnagel and Professor Weichselbaum delivered the memorial addresses on the occasion for the respective representatives of their specialties. Of Skoda, Nothnagel said: "He was the Lessing of clinical medicine; at once an originator and a critic, of wonderful clearness of comprehension, of untrammeled devotion to truth for its own sake, and of judicial mental acuity. He was the introducer into clinical medicine of exact scientific methods."

A PRIZE of £2,000 is offered by the North of Scotland malt distillers to chemists residing in any country who will devise a successful method for the purification of their waste products. The distillers have been forbidden to empty these into the streams.

THE United States Civil Service Commission announces that it is desired to establish an eligible register from which a selection may be made to fill the grade of Assistant, Division of Entomology, Department of Agriculture, at a salary of $1,000 per annum. No educational test will be given, but applicants will be graded upon the subjects of drawing of insects and wood engraving of insects, together with their technical knowledge of the order Heteroptera. Applicants will be required to furnish samples of their work covered by the first two subjects, and they will submit on a special form prepared by the Commission a statement showing their technical knowledge of the last-named subject. They will also be required to submit a statement in the form of an affidavit that the work has been performed by them without aid from any one. Application must be made not later than July 21st.

IN connection with a notice of Professor Hale's address on 'The Function of Large Telescopes' (SCIENCE, May 13, 1898) *Nature* quotes from the *Observer* the statement that in the number of refractors exceeding 13.4 inches America comes first, France second, England third and Germany fourth.

THE yacht *Windward* sailed from New York on July 2d and will be met by Lieutenant Peary at Cape Breton. The steamship *Hope* with supplies and coal had previously sailed, and will join the *Windward* at North Baffin's Bay.

THE Norwegian Geographical Society gave a banquet on June 21st to the expedition under Captain Sverdrup, which was on the point of leaving for exploration along the north and northwest coast of Greenland. The London *Times* says that several of the Norwegian Ministers were present, as well as the Presidents of the two Houses of Parliament, and Dr. Nansen and other distinguished men. Professor Mohn, the eminent meteorologist, made an interesting speech in proposing success to the expedition. Captain Sverdrup, in his reply, said that he would do his best, with the aid of his able staff, to bring back varied and valuable scientific results and to put some color on the great white space to the north of Greenland. The speech of the evening was, of course, that by Dr. Nansen, who was listened to with intense interest as he dwelt on the strange feelings which animated him on seeing the *Fram* go out once more under his trusty and brave comrade Sverdrup. He dwelt on Sverdrup's gallant exploits, both on the expedition across Greenland and on that in the *Fram*, in the success of which Sverdrup had so large a share. The *Fram* was now better fitted out in every way

than it had been on the last memorable drift in the great Arctic current, and he was confident that his friend and comrade would bring back great results.

MR. A. P. LOW, of the Geological Survey of the Dominion of Canada, has gone to Labrador, where he will remain for eighteen months, in order to study the geological formations and make a map of the region.

AS we have recently referred on several occasions to the conferring of the Prussion order *Pour le merite*, it may be well to quote from *Nature* the following details regarding this order: Founded by Frederick the Great, it was at first given for military service only, but its statutes were remodeled in 1842 by King Frederick William IV., and the class 'für Wissenschaften und Künste' was instituted. The German knights of this class, with whom the election into the Order practically rests, are limited to thirty in number, and at present are: A. Menzel, Chancellor; T. Mommsen, Vice-Chancellor; the other members in the order of election being, in the Section of Science: R. W. Bunsen, Max Müller, E. Zeller, T. Noeldeke, J. V. du Vernois, A. Auwers, E. Pflüger, H. Vogel, A. v. Baeyer, O. Fürst v. Bismarck, F. Kohlrausch, H. Grimm, H. Brunner, A. v. Kölliker, H. Usener, W. Hittorf, A. Weber, C. Neumann and Schwendener. In the Section of Art: L. Knaus, A. Achenbach, J. Schilling, R. Begas, F. Schaper, E. v. Gebhardt, H. Ende and A. Hildebrand. The foreign knights, limited to the same number, are, in the Section of Science: O. v. Boethlingk, C. Hermite, Sir G. G. Stokes, N. A. E. v. Nordenskjöld, M. Berthelot, O. v. Struve, Lord Kelvin, Lord Lister, V. Jagic, P. Villari, H. Kern, J. G. Agardh, M. J. de Goeje, G. V. Schiaparelli, F. Imhoof-Blumer, J. H. van't Hoff, A. O. Kowalevsky, W. Stubbs (Bishop of Oxford), O. Montelius, Sir ohn Murray and Sir W. H. Flower. In the Section of Art: L. Alma Tadema, G. Verdi, G. Monteverde, E. Wauters, L. Passini and F. Pradilla.

THE French government has appointed the following as delegates to the International Congress of Zoology: M. A. Milne-Edwards, membre de l'Institut, Directeur du Muséum d'Histoire Naturelle de Paris, Vice-Président de la Section des Sciences du Comité des Travaux Historiques et Scientifiques, Président de la Délégation; M. Barrois, Professeur à la Faculté mixte de Médecine et de Pharmacie de l'Université de Lille; M. Bigot, Professeur à la Faculté des Sciences de l'Université de Clermont; M. R. Blanchard, membre de l'Académie de Médecine, Professeur à la Faculté de Médecine de l'Université de Paris, Sec. Général de la Société Zool. de France; M. A. Caullery, Maître de Conférences á la Faculté des Sciences de l'Université de Lyon; M. Y. Delage, Professeur á la Faculté des Sciences de l'Université de Paris; M. Filhol, membre de l'Institut, Professeur au Muséum d'Histoire Naturelle de Paris; M. Girod, Professeur à la Faculté des Sciences de l'Université de Clermont; M. le Baron J. de Guerne, membre de la Société Zool. de France, Sec. Général de la Société d'Acclimatation; M. Joubin, Professeur à la Faculté des Sciences de l'Université de Rennes; M. Lambert, Agrégé près la Faculté de Médecine de l'Université de Nancy; Dr. Lartet, Doyen de la Faculté mixte de Médecine et de Pharmacie de l'Université de Lyon, Professeur à cette Faculté; M. Edmond Perrier, membre de l'Institute, Professeur au Muséum d'Histoire Naturelle de Paris; M. Roule, Professeur à la Faculté des Sciences de l'Université de Toulouse; M. Schlumberger, membre de la Société Zool. de France; M. Léon Vaillant, Professeur au Muséum d'Histoire Naturelle de Paris, Sec. de la Section des Sciences du Comité des Travaux Historiques et Scientifiques de la Société Zool. de France; M. Ch. Janet, Vice-Président de la Société Zool. de France.

IN the Museum of the Scarborough Philosophical and Archæological Society, says *Natural Science*, Mr. C. D. Head has been replacing the old and ruinous collection of birds by cases displaying them, so far as possible, in their natural habitat, with their nests and eggs, when these can be obtained. An improvement has also been made in the cases for the fossils. The Society records the capture of two badgers —one at Cloughton, the other near Folkton. The record of local birds has been placed upon a more satisfactory basis, every item contained in the list being thoroughly authenticated. Fish,

both sea and fresh-water, also are being studied; Mr. F. Grant records the occurrence of various species not hitherto observed. Considerable attention is also paid by members of the Society to the Invertebrata of various Classes, though naturally the land and fresh-water Mollusca and the Lepidoptera come in for the giant's share. The geologists have paid attention to the exposures during the making of the Marine Drive, but not many fossils have yet been found.

We learn from the *Experiment Station Record* that Congress has continued and increased the appropriation for investigations in Alaska with reference to the establishment of agricultural experiment stations there. Professor C. C. Georgeson, formerly professor of agriculture in the Kansas Agricultural College, has been assigned to this office as special agent in charge of the Alaska investigations. He will make his headquarters at Sitka, and will institute experiments with cereals, vegetables and other crops at a number of places in that vicinity. He will also visit Kadiak Island, Cook Inlet and other points north of Sitka, with reference to the selection of land for experimental purposes and the institution of experiments with the cooperation of residents of Alaska interested in the development of its agriculture. Questions relating to the temperature, moisture and drainage of the soil, the curing and storage of forage plants, and the shelter and care of animals will receive early attention. The Weather Bureau will also establish a special climatological service in Alaska during the present season. A meteorological station will be located at Sitka and instruments will be furnished to voluntary observers in different parts of Alaska. In this way observations will be regularly made, which it is hoped will be of much service in the solution of agricultural problems, as well as of great importance to other interests in Alaska.

Lummer and Brodhun, the extreme accuracy of whose work in photometric investigations is well known, have studied Talbot's Law by methods so exact that the mean error of observation is at most ½ %, and find that the departures from the law fall well within that limit. They have before been found to fall within the limit of error, but when that limit was three to eight per cent. the law could not well be considered to be absolutely confirmed. The present confirmation holds only for sectors from twenty-five to ninety degrees in breadth; when the sectors are very narrow, diffraction from the edges has to be taken account of. As rotating sectors present the best method for securing a measurable change of brightness upon the photometric screen (it is easily combined with any apparatus, can be introduced anywhere in the course of the light rays, does not change the character of the light, so that it is not necessary to attend to conditions of polarization, and diminishes all light rays equally and in accordance with a simple law), the authors have devised a very exact apparatus by which the size of the sectors can be continuously varied during rotation; this has been in use for some time, and is found to work well.

Mr. Newstead, Curator of Chester Museum, England, who has made an exhaustive study of the San José scale pest, has been lecturing on the subject before the Zoological Section of the Chester Society of Natural Science. According to the London *Times* Mr. Newstead, who has had an interview with Mr. Long, Minister of Agriculture, and his advisers at the Board, said he had suggested that the government should engage a staff of trained workers to detect suspicious imports of fruit and submit them for expert examination. The origin of the American fruit pest scare was due to the action of Germany in March of the present year. That country had passed a law protecting itself from the importation of infested fruit. The oyster scale which infested some fruit trees resembled the San José so closely that it was impossible to distinguish one from the other except by microscopical examination. If a tree was infested by the insects a sort of scurfy material would come away, which was really their wax-like scales. The actual size of the insect was a millimeter in length, which meant that it would not cover the head of an ordinary pin. Mr. Newstead explained the life-history of the insect, showing that after two days of activity in the larval stage it became an inert fixed mass, living in the same place for the rest of its life

and sustaining itself on the tree juice, which in time stunted and diseased the tree. During one season a single female insect was capable of producing 500 or 600 young, and in some parts of America there were five or six broodings. Its presence had been recorded in three places out of America—Australia, Chile, and one of the Western Islands. He did not think it would thrive in England, but it was very desirable to prevent its introduction.

THE University of London has excluded mental and moral science from the list of subjects that may be offered for the University's degrees in science. A memorial protesting against this action has been presented, in the course of which it is said: "By its attitude in the past the University of London has not a little encouraged the more strictly scientific study of psychology, both as a science of observation and in its relation to physiology. Among students of physical science a certain number have a distinct taste for philosophical study, and it is desirable to encourage such students with a view to the development both of scientific methodology and of psychology on its experimental and physiological side. The student who approaches the mental sciences from the literary side deals with them naturally in a different spirit. For the development of the subject in its relation to the general body of science it is necessary that it should be studied by some who are familiar with the principles and methods of physical science. At the present time much scientific labor of this kind is being spent on psychological inquiry in other countries. In most of the principal universities of Continental Europe and America psychological laboratories have been founded at considerable expense, and foreign journals are published for the express purpose of recording experimental work in psychology. In this country efforts are being made to develop a similar line of study. The University of Cambridge has recently appointed a lecturer in experimental psychology, and a laboratory has been opened this session at University College. To all such efforts this sudden *volte face* of your University is a serious blow. We venture, therefore, respectfully to express our hope that you will readmit mental and moral science into the schedule for the science degrees, with such modifications, should they be deemed necessary, as may serve to accentuate the scientific sense in which the subject should be treated for the purpose of a degree in science." Amongst those who have signed the memorial are the Master of Balliol, Professor Henry Sidgwick, Mr. R. B. Haldane, Q.C., M.P., Professor Burdon Sanderson, Professor William Ramsay, Professor F. Y. Edgeworth, Mr. Francis Galton, Dr. A. Robertson, Principal of King's College, Professor Sully, Mrs. Sophie Bryant, D.Sc., Mr. C. Lloyd Morgan, Professor Foxwell, Mr. Bernard Bosanquet and Professor Oliver Lodge.

THE official opening by Sir Owen Tudor Burne of the exhibition of acetylene gas apparatus and production at the Imperial Institute took place on Wednesday, June 15th, when a considerable number of generators of various types were to be seen in operation. We learn from the London *Times* that these are arranged in a building in the southwest quadrangle, and each set of apparatus is connected by its own separate service pipe to its own gaselier in one of the gallieries so as to enable the public to judge of the quality and steadiness of the light produced by each installation. A number of portable generators and self-contained lamps are also on view, together with several forms of bicycle lamp. All the apparatus, before being admitted to the exhibition, had to fulfil certain conditions of safety deemed necessary by a committee of scientific men appointed by the Society of Arts and including, among others, Sir Frederick Bramwell, Professor James Dewar, Mr. Harry Jones, Professor Vivian B. Lewes and Mr. Boverton Redwood. This committee formulated certain rules to be observed in the construction of all generators, and the London County Council gave it permission to use a portion of their premises at 211 Harrow-road for the purpose of carrying out the necessary tests. While the committee in this way sought to ensure that none but safe types of machine were shown at the Institute, it did not touch the question of the efficiency of the various designs. This is to be tested during the exhibition. It is intended to keep a daily record of all apparatus at work, in accordance with the directions laid down by the committee,

and to issue a report on the results of the working. The exhibition will remain open till August 15th.

The acetylene exhibition, which was originally planned for Cannstadt, near Stuttgart, took place at Berlin on the Kurfürstendamm, says the *Scientific American*, in connection with an acetylene conference. Acetylene generators were exhibited by thirty firms, but most of them were not shown in operation, owing to the strict regulations enforced by the police. The generators in action had each to be shown in a special compartment not accessible to the general public, behind a strong wall. This was not in itself calculated to inspire the citizens of Berlin with a very happy idea of the safety of the new illuminant. Progress could be recognized in the exhibits, but as yet there does not appear to be any special type which is the favorite. Acetylene purifiers proved to be necessary adjuncts. Among the impurities of acetylene less thought of in general is phosphureted hydrogen. In spite of purifying, the hall every evening was foggy with the fine dust of the phosphoric acid. Next year the meeting will be held at Budapest.

It is, perhaps, not generally known, says the *British Medical Journal*, that Professor Charles Richet, who delivered an address on The Work of Pasteur and the Modern Conception of Medicine at the annual meeting in Montreal, is a novelist and a dramatic author as well as a physiologist of the first rank. Under the pseudonym of 'Charles Epheyre' he has gained a considerable reputation in contemporary French literature. His most successful novel, *La Douleur des Autres*, was published in 1896, having first appeared serially as a *feuilleton* in the *Indépendance Belge*. Among his other works of fiction may be mentioned *Sœur Marthe*, the plot of which turns on the love of a physician for a hypnotizable patient; *Amour de Garnison*, *Bonne et Mauvaise Étoile*, *A la Recherche de la Gloire*, and *Le Microbe et le Mirosaurus*. 'Charles Epheyre's' last play, *Judith*, written in collaboration with M. Octave Houdaille, was produced at the Bodinière Theatre on March 28, 1898. Professor Richet is also the author of *L'Homme et l'Intelligence* and other works on psychology, and the Editor of the *Revue Scientifique*.

At the Royal Geographical Society, on April 27th, a paper was read by Dr. Sambon on 'Acclimatization of the white man in tropical lands.' Within recent times, he said, according to the report in the London *Times*, sanitation had wrought wonderful changes in the healthiness of all tropical countries. They had been considered unfit for the permanent settlement of white men on account of their climate, or, to be more correct, on account of their heat, because the word climate had been used as synonymous with heat. Heat was supposed to induce deterioration and diseases, such as anæmia, liver abscess and sunstroke. But anæmia was not due to heat, being in the tropics a symptom common to several parasitic diseases. Liver abscess was likewise of parasitic origin and sunstroke was a microbic disease, however paradoxical the statement might appear, on account of the mistaken etiology perpetuated by an erroneous nomenclature. As for deterioration, it was far more alarming in the overcrowded cities of the Old World than in tropical colonies. The geographical distribution of tropical diseases was of the greatest importance in the study of acclimatization. Diseases being due to living organisms that had their peculiar dissemination like all other forms of life. This distribution was likewise determined by a variety of circumstances, among which meteorological conditions were certainly important, but association and competition more so. Under proper management European children did very well in tropical colonies, in the most unhealthy of which infant mortality was lower than in some districts of Europe. The belief, again, that white men could not labor in the tropics was disproved by facts. That man was capable of adaptation to a new climate was shown by the fact that he had constantly moved from one region to another. If attempts at colonization in the past had often been unsuccessful and always cost immense sacrifice in lives and money, it was because they had been made in complete ignorance of the conditions essential to success. Acclimatization was a mere question of hygiene, and what was needed above all was a complete

knowledge of tropical diseases. A discussion followed.

UNIVERSITY AND EDUCATIONAL NEWS.

THE University of London Commission Bill has passed the second reading in the British House of Commons without a division.

CAMBRIDGE UNIVERSITY has received a bequest of £10,000 for the foundation of a scholarship or prizes.

THE Wawepex Society has given $200 for a scholarship in biology at the Coldspring Laboratory of Biology, to be filled by a graduate student of Columbia University. Mr. F. B. Sumner has received the appointment.

THE chair of botany in the University of Wisconsin, vacant by the removal of Professor Charles R. Barnes to the University of Wisconsin, has been filled by the election of Dr. R. A. Harper, of Lake Forest University.

DR. ALEX. HILL, master of Downing College and an eminent physiologist, has been re-elected Vice-Chancellor of Cambridge University for the ensuing academical year.

MR. R. PENDLEBURY and Mr. A. E. H. Love, F.R.S., fellows and lecturers in St. John's College, have been appointed University lecturers in mathematics.

PRINCIPAL CAIRD will on August 1st retire from the principalship of Glasgow University.

MISS GERTRUDE HALLEY has been appointed one of the demonstrators in anatomy in Melbourne University.

M. P.-M. LABATUT has been given charge of the instruction of physics and chemistry in the medical school of Grenoble.

SCIENTIFIC LITERATURE.

La Mathematique; philosophie, enseignement. Par C.-A. LAISANT, repetiteur à l'école polytechnique, docteur és sciences. Paris, George Carré et C. Naud. 1898. Pp. 292.

The above work consists of three parts: the philosophy of pure mathematics, the philosophy of applied mathematics, and the teaching of mathematics. The first part is subdivided into the following chapters: Mathematics and its Divisions, Arithmetic and Arithmology, Algebra, Infinitesimal Calculus, Theory of Functions, Geometry, Analytical Geometry, Rational Mechanics. The second part is divided into General Considerations, Application of the Calculus, Application of Geometry, Application of Mechanics, and the third into General View of the Teaching of Mathematics, Teaching of Arithmetic, Teaching of Algebra and the higher Calculus, Teaching of Geometry, Teaching of Analytical Geometry, Teaching of Mechanics, the Hierarchy of Education.

In an introductory chapter M. Laisant sets forth the aim of the book. He says that he does not write for those who are deeply versed in mathematical science, nor those who are ignorant of it, but for a middle class, namely, those who are studying mathematics or have studied it and whose knowledge and interest are kept alive by teaching it or by being engaged in work requiring its application. It may be said, however, that whatever is written on the philosophy of mathematics by so eminent a master of geometric algebra and distinguished investigator of the hyperbolic functions cannot fail to be of interest to the professional mathematician; and even the mere seeker after culture will find in this volume many things to arouse his interest in the most perfect of all the sciences.

In traversing the domain above described the author discusses many questions of scientific and educational interest; in this notice there is only room to mention a few. One of the first points he makes is that it is not correct to speak of the mathematical sciences, as they all aid one another, give mutual support, and in certain parts blend together; there is but one vast science, which no one can flatter himself to master completely, for its conquests are infinite in nature.

M. Laisant does not pretend to be a professional philosopher, but he has read the works of Leibnitz, Descartes, Pascal, D'Alembert, Diderot, Condorcet, Comte, each of whom was a philosopher, and likewise left a brilliant record in mathematical science; in this volume we have the digested results of his reading and reflection. Work of the character described is the most valuable kind of philosophy, and very rare in these times, for the saying of Leibnitz