

yellow to orange-red color, according to the length of time of heating. The depth of penetration of the color depends upon the duration of the reaction. Such glass is yellow by transmitted light, but by reflected light shows a yellowish-green to violet-blue fluorescence. By using a silver photographic plate on red glass colored with copper, it is possible to obtain a picture, visible by reflected light, but not by transmitted light, since the yellow of the picture is obscured by the red glass. Gold, copper and iron give results similar to silver; indeed, all metals experimented with, except manganese, were absorbed by the glass imparting to it color.

A CONTRIBUTION to the effect of light upon the union of hydrogen and chlorin is made by A. Gautier and H. Hélier in the *Comptes Rendus*. A mixture of carefully purified chlorin and hydrogen was kept in sealed tubes in absolute darkness for over fifteen months. No trace of hydrochloric acid was found, and the result was the same, whether the mixture was dry or moist. Similar experiments were tried, but the mixtures were exposed to the light of a candle, four meters away from the tube, and again one meter away. At the end of ten days it was found there had been no hydrochloric acid formed, showing that sunlight, or some source of light containing the more refrangible rays of the spectrum, is necessary for the union of hydrogen and chlorin at ordinary temperatures.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

AN INTERNATIONAL ASSOCIATION.

THE meeting of the British Association in Canada in 1884 was thought a favorable opportunity for the proposal of an International Scientific Association, and the plan was editorially commended in this JOURNAL and supported by Professors Newcomb, Hunt, Minot and other American men of science. At that time Mrs. Elizabeth Thompson gave a fund to be

administered by the Association when organized. The second meeting of the British Association in America and the plans for an exchange of courtesies between it and the American Association and between the British and French Associations in 1899, together with the development of international congresses for the separate sciences, seemed to make it desirable again to call attention to the importance of an international association for the advancement of science, and this was done in an article published in the issue of this JOURNAL for October 9, 1896.

The plan was approved in editorial articles in the *Scientific American* and *Appleton's Popular Science Monthly* and was quoted and discussed in foreign scientific journals. For reasons which we need not repeat, the advantages of an international conference seem to outweigh the difficulties, and we should like to see steps taken at the meetings of the American and British Associations for the organization of a congress to meet in 1900. Should it, however, be thought that the time has not yet come, then we should be glad to see the National Associations undertake in alternation to give their meetings an international character. This will to a certain extent be accomplished this year by the British Association. Arrangements should be made next week to secure the representation of foreign associations and societies by delegates at the next meeting of the American Association on the occasion of its fiftieth anniversary.

THE NEW TARIFF LAW.

THE tariff bill, now printed, fortunately contains none of the provisions inimical to science and education, against which we protested when the bill was first presented to the House of Representatives. The present bill does not materially alter the regulations in force during the last four years. The sections of the free list which concern apparatus, books, etc., read as follows:

Philosophical and scientific apparatus, utensils, instruments and preparations, including bottles and boxes containing the same, specially imported in good faith for the use or by the order of any society or institution, incorporated or established solely for religious, philosophical, educational, scientific or lit-

erary purposes, or for the encouragement of the fine arts, or for the use or by order of any college, academy, school or seminary of learning in the United States, or any State or public library, and not for sale, subject to such regulations as the Secretary of the Treasury shall prescribe.

Books, maps, music, engravings, photographs, etchings, bound or unbound, and charts, which shall have been printed more than twenty years at the date of importation, and all hydrographic charts and scientific books and periodicals devoted to original scientific research, and publications issued for their subscribers or exchanges by scientific and literary associations or academies, or publications of individuals for gratuitous private circulation, and public documents issued by foreign governments.

Books and pamphlets printed exclusively in languages other than English; also books and music, in raised print, used exclusively by the blind.

Books, maps, music, photographs, etchings, lithographic prints, and charts, specially imported, not more than two copies in any one invoice, in good faith, for the use or by order of any society or institution incorporated or established solely for religious, philosophical, educational, scientific, or literary purposes, or for the encouragement of the fine arts, or for the use or by order of any college, academy, school, or seminary of learning in the United States, or any State or public library, and not for sale, subject to such regulations as the Secretary of the Treasury shall prescribe.

It may also be noted that the free list includes specimens of natural history, when imported for scientific public collections and not for sale, and wild animals imported for zoological gardens. Personal effects of travellers purchased abroad are limited to the value of \$100, but professional books, implements, instruments and tools of trade, occupation or employment, in the actual possession at the time of persons arriving in the United States are free of duty.

THE GOLD RESOURCES OF THE YUKON REGION.

THOSE interested in the gold resources of the Yukon region in Alaska should secure, from the Geological Survey, the report of the expedition made under the direction of Mr. J. E. Spurr last summer; a brief account of which was published in this JOURNAL on November 27, 1896. The party crossed the Chilkoot Pass, about the middle of June, to the headquarters of the Yukon, and proceeded down the river

to the chief gold-bearing localities. The principal producing districts, those of Forty-Mile Creek and Birch Creek, were thoroughly explored, as well as other less important localities. The party then continued down the Yukon, examining the younger sedimentaries which overlie the gold-bearing formation, as far as Nulato. One of the principal results of the expedition was the recognition of the gold-bearing rocks from which the gold in the river gravels is derived. These gold-bearing rocks constitute a distinct broad belt running northwest into Alaska from British territory. They are in their lower portions schists and gneisses, with intrusive rocks, and in their upper portion somewhat altered sedimentaries. They are all older than Carboniferous, for the Carboniferous and younger rocks overlie them on both sides of the gold-bearing belt. In this belt the gold occurs partly in quartz veins, partly in deposits formed along shear-zones; in both occurrences it is contained in pyrite, and becomes free on weathering. The quartz veins are distinctly older than the shear-zone deposits, and were formed before the alteration of the enclosing rock to a schist; they have, therefore, partaken of this shearing, and have been broken and sheared so that they are typically non-persistent. The deposits along shear-zones are, however, of later date than the shearing, and can be continuously followed. The younger beds which overlie the gold-bearing belt consist in part of conglomerates, and some of these conglomerates are fossil placers, which give promise of being productive.

GENERAL.

THE French Association for the Advancement of Science is holding its annual meeting simultaneously with that of the American Association. The meeting is at Saint Étienne, under the presidency of M. Marey, the eminent physiologist.

At a meeting summoned by the Lord Provost of Glasgow, and attended by representatives from the magistrates, the University, St. Mungo's College, the Philosophical and other scientific societies, it was unanimously decided to invite the British Association to meet in Glasgow in the autumn of 1901.

THE German Botanical Society will this year hold its annual meeting at Brunswick, beginning September 21st, in conjunction with the sixty-ninth meeting of the German Society of Men of Science and Physicians.

WE have published programs of the meeting of the British Medical Association at Montreal, beginning August 31st. The Sections of the Association devoted to scientific subjects will undoubtedly attract to Montreal many of the British and American men of science attending the Toronto meeting of the British Association. The annual business meeting of the Medical Association was held in London on July 27th and 28th, and the reports of the Council and of the committees have been published in the *British Medical Journal*, the official organ of the Association, to which journal its great success is in large measure due. The membership of the Association is now 16,955, and the revenue for the past year amounted to \$190,000.

WE are requested by the Secretary of the American Society of Naturalists to publish the following communication, read at the last meeting of the Society :

TORONTO, December 24, 1896.

To the Secretary of the American Society of Naturalists.

DEAR SIR: The Local Executive Committee of British Association respectfully calls attention to the fact that the next meeting of the Association will be held in Toronto, August 18-25, and the members of the American Society of Naturalists are invited to become members of the Association for the occasion.

A large number of representative British scientific men have thus early promised to attend and the Local Committee are endeavoring to secure the attendance also of large numbers of distinguished Continental (European) scientific men at the meeting.

Permit me to assure the members of the American Society of Naturalists that everything will be done to make their visit to Toronto an extremely pleasant one.

Yours sincerely,

A. B. MACALLUM,
President of the Local Executive Committee.

THE daughters of Joseph Henry, the first Secretary of the Smithsonian Institution, have presented to the Institution for the National Museum an interesting collection of electrical

models devised by Henry, and of decorations, etc., conferred upon him.

THE late Sir Augustus Wollaston Franks, formerly keeper of British and mediæval antiquities of the British Museum, has bequeathed to the Museum his valuable collection of works of art, ornaments and curiosities.

It is proposed to collect a fund for a memorial at Glasgow to John and William Hunter, the great physiologists. An executive committee for this purpose was appointed at a public meeting recently convened at Glasgow. The movement originated with the late Dr. Mather, and Mrs. Mather, who was present at the meeting, stated that she had a sum of £850 with which to head the subscription list.

PROFESSOR EDGAR MCCLURE, of the Oregon State University, fell 300 feet over a precipice on the Muir Glacier while descending Mount Rainier on July 27th and was killed. Two other members of the Mazama Mountain Climbing Club, Mr. George Rogers and Mr. H. Ainslee, of Portland, Ore., fell into a crevasse on Mt. Rainier forty feet deep, and the former may not recover from his injuries.

SIR JOHN BUCKNELL, F. R. S., the author of important contributions to neurology and insanity, formerly editor of the *Journal of Mental Science* and one of the editors of *Brain* and of the *British Medical Journal*, died at Bournemouth on July 20th, aged 79 years.

MR. A. J. MUNDELLA, the English statesman, who as Vice President of the Council on Education and President of the Board of Trade took an active interest in science and education, died on July 21st, aged 72 years. He was a fellow of the Royal Society and of the Royal Statistical Society.

WE regret also to announce the deaths of the following men of science: Professor Arminio Nobile, professor of geodesy in the University of Rome; Professor Oscar Boer, of Berlin, known for his work on infectious diseases, and Professor Johann Ritter von Leich, formerly dean of the medical faculty of the University of Vienna, at the age of eighty-four.

DR. RADCLIFFE'S trustees have decided to appoint to the post of Radcliffe Observer at Oxford, vacant by the death of the late Mr. E.

J. Stone, Dr. Arthur A. Rambaut, of Dunsink Observatory, Dublin. Dr. Rambaut is Andrews professor of astronomy in the University of Dublin and Royal Astronomer of Ireland.

DR. BRUNO HOFER, docent in zoology at the University of Munich, has been appointed director of the recently established institute for the study of diseases of fishes.

AT a recent meeting of the Council of the British Institute of Preventive Medicine, Dr. Allan Macfadyen was appointed Director of the Institute.

M. GAYON has been elected a member of the Paris Academy of Sciences in the room of the late Professor Hellriegel.

THE official delegates to the recent International Library Conference were as follows: *France*, M. Omont; *Germany*, Dr. Milkau; *Italy*, Signor Biagi; *Sweden*, Dr. Lunstedt; *Hungary*, Dr. Erdelyi; *Japan*, Enjiro Yamazo; of the Anglo-Saxon race—*Great Britain*, Sir Horace Walpole, Mr. C. H. Tawney; *United States*, Dr. Justin Winsor, Mr. Melvil Dewey, Mr. Herbert Putnam; *Canada*, Mr. A. D. de Celles; *New South Wales* and *Victoria*, Mr. H. C. L. Anderson; *New Zealand*, Mr. W. P. Reeves; *Jamaica*, the Rev. Dr. Gillies.

THE chairmen of the committees of the House of Representatives having more or less connection with scientific subjects, appointed by the Speaker before the adjournment of the House, are as follows: Coinage, Weights and Measures, Mr. Stone, of Pennsylvania; Agriculture, Mr. Wadsworth, of New York; Public Lands, Mr. Lacey, of Iowa; Railways and Canals, Mr. Chickering, of New York; Manufacturers, Mr. Faris, of Indiana; Mines, Mr. Grosvenor, of Ohio; Education, Mr. Growe, of Pennsylvania; Patents, Mr. Hicks, of Pennsylvania.

PROFESSOR CHAS. D. WALCOTT, Director of the U. S. Geological Survey, has gone west to inspect and direct the field work of his bureau, more especially the survey and examination of the forest reserves, for which Congress, at its last session, made a special appropriation of \$150,000. Mr. Walcott expects to be absent until October. In his absence, Colonel Rizer, the Chief Clerk, is acting as Director.

MR. GEO. H. ELDRIDGE, of the U. S. Geological Survey, has gone to Utah, at the instance of the Secretary of the Interior, to re-examine, in greater detail than was possible at the time of his reconnaissance a year ago, the deposits of Gilsonite and allied Hydrocarbons within the Uncompahgre and Ute Indian reservations.

THE daily papers report that Professor William Libbey, on July 23d, succeeded in scaling the 'Mesa Encantada,' near the Indian village of Acoma, New Mexico. By means of a cannon and rocket apparatus similar to that used by life-savers, a cord was shot over the tableland, and the ropes required in making the ascent were pulled up. All that was found on top which indicated that the tableland might have been inhabited was a pile of rocks which looked as if it had been erected by man. Professor Libbey is said to be convinced that the legends which made the place the site of an ancient village are unfounded.

THE London correspondent of the *Evening Post* cables that the Egyptian government is increasing the staff engaged on the geological survey of upper Egypt for the coming winter so as to keep five distinct parties at work. The survey may possibly develop in time into a scientific bureau of Egyptian natural history. A vote of 100,000 francs has been passed by the French Chamber of Deputies for explorations in Persia this autumn. The convention signed by the Shah gives a monopoly of researches throughout Persia to the French, the conditions being that one-half of the objects found shall pass to the state. M. De Morgan, well known through his investigations in Egypt, will conduct the operations.

MR. GEORGE MURRAY and Mr. V. A. Blackman have gone to the West Indies for the purpose of studying the Plant-Plankton of the Atlantic ocean.

ADVICES from Sydney state that the search party under the leadership of Mr. L. A. Wells has found the bodies of Charles Wells and George L. Jones, who, it will be remembered, were lost nearly two years ago from the main body of the Calvert expedition, engaged in the exploration of West Australia.

GREAT BRITAIN has accepted the proposal of the United States for an international conference on the question of pelagic sealing in the Bering Sea, to be held in Washington during the coming autumn.

THE fourth congress for the study of tuberculosis will be held at Paris during the last week of July, 1898, under the presidency of M. Nocard. The following four questions are proposed for discussion: Sanitaria for consumptives, serums and toxins, the X-rays in diagnosis and treatment, and tuberculosis in the lower animals.

IN connection with the Brussels Exposition, there will be held, from August 9th to 14th, a Congress of Hygiene and Medical Climatology of Belgium and the Congo.

AT the last monthly general meeting of the London Zoological Society it was reported that the additions to the Society's menagerie during the month of June had amounted to 178. Special attention was called to two fine adult King Penguins (*Aptenodytes pennanti*) purchased on June 23d, and a young female Orang-outang (*Simia sotyrus*), brought home from Sumatra, and presented by Dr. H. Dohrn, on June 30th.

MRS. VIRGINIA MONROE has given \$30,000 to the Pequot Library Association, the building of which was the gift of the late Albert B. Monroe.

MR. ANDREW CARNEGIE has offered the town of Stirling, Scotland, the sum of £6,000 for a public library building.

THE issue of *Nature* for July 15th contains an appreciative review, by Professor A. G. Greenhill, of the text-book of higher mathematics edited by Professors Merriman and Woodward: "This is a style of mathematical treatise to which we are not accustomed in this country, from the luxury of the print and size of page, as well as for the refreshing novelty and interest of the contents. Till recently it was thought that the study of mathematics was not likely to flourish in America as *trop vieux jeu* by the side of the new physical and biological sciences. To-day, however, it is the American student who is the most enthusiastic follower of recent mathematical development, while we in this country are being left far behind. * * * * *

The account, given by the editors in the preface,

of the work expected of the average American student, shows that the standard of requirement is much higher than in this country and not hampered by traditional prejudice."

THE anatomical departments of the *Journal of Anatomy and Physiology* will hereafter be edited by Professors Turner, MacAlister, Cunningham and Thane. Professor M'Kendrick will continue to edit the physiological department.

UNIVERSITY AND EDUCATIONAL NEWS.

THE University of London Bill has been introduced into the House of Lords by the Duke of Devonshire and has been read for the second time.

THE United States Circuit Court at Baltimore, on July 29th, handed down a decision that the Johns Hopkins University and other holders of first preferred 6 per cent. stock of the Baltimore and Ohio Railroad are not preferred creditors. The trustees of the University hold nearly \$2,000,000 of the preferred stock, bequeathed by the founder of the University, the late Johns Hopkins, and this decision, if upheld by the higher Courts, will seriously and permanently curtail the income of the University.

As was stated in this JOURNAL last autumn, it is proposed to draw up plans for buildings such as the University of California hopes ultimately to erect. We fear, however, that the sum of \$4,000,000, which the daily papers report to have been subscribed for the erection of these buildings, has not as yet been secured.

IT is reported in the daily paper that Dr. E. Benjamin Andrews, who resigned the presidency of Brown University for reasons given in our last issue, has accepted the presidency of a new 'university' to be founded by Mr. John Brisben Walker, proprietor and editor of the *Cosmopolitan Magazine*, and to be known as the 'Cosmopolitan University.' It is to be modelled after the Chautauqua School and to be conducted by correspondence.

PROFESSOR HENRY KRAEMER, of the Northwestern University, has been called to the chair of botany and microscopy in the Philadelphia College of Pharmacy, and Dr. Albert