

program of papers and informal talks by numerous astronomers and physicists has been arranged, and experimental demonstrations are to be given of certain important recent discoveries, such as the effect of pressure upon wave-length, the application of interference methods to astronomical measurements, the effect of a magnetic field on radiation, etc.

Many celestial objects and the solar phenomena are also to be shown with the forty-inch Yerkes refractor.

E. B. F.

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#### NOTES ON INORGANIC CHEMISTRY.

FROM an article in the *Eisenzeitung* on the output of platinum in Russia, we take the following notes: The Russian production of platinum is forty times greater than that of all other lands together. In Russia it is found exclusively in the southern Oural region. It is shipped in its crude state to Germany and there refined. (This statement is surprising, as it has been commonly supposed that most, at least, of the Russian platinum is worked up by Johnson, Matthey & Co., of London.) The output in 1895 was 4,413 kilos as against 2,946 kilos in 1880. The cost of crude platinum in Russia is at present about \$216 per kilo. The amount of iridium found with the platinum is very small, being in 1895 only 4.1 kilos, in 1894 only slightly more than this.

In the *American Journal of Science*, E. T. Allen describes several specimens of native iron from the coal measures of Missouri. They consisted of small grains, massed together in one instance in a calcareous sandstone, and in the others in a shale. Both sandstone and shale contained iron, and in two instances the grains were in close proximity to coal seams. The metallic iron in each case was quite pure and contained no nickel, and is considered to be undoubtedly of terrestrial origin.

In the *Journal* of the Russian Physico-Chemical Society, G. P. Czernik gives an account of the investigation of the gases contained in two minerals from the Caucasus, a titaniferous cerite and a coal from Tkhibulsk containing in its ash 10 per cent. of the oxides of cerium, lanthanum and didymium. The former contains 1.1 per cent. of gases, chiefly argon, with a little oxygen and hydrogen. By heating to a red heat only one-fourth of the argon was liberated, by the action of 25 per cent. sulphuric acid at 60° rather more than one-half. Much more was given off by fusion with potassium bisulphate. The author from this concludes that the argon is in chemical combination. The second mineral contains helium, which is liberated by fusion with potassium bisulphate, even after the ash has been heated to a white heat. Here, too, the inference is that the helium is in chemical combination.

THE *Bulletin* of the Pharmaceutical Society of Bordeaux, for July, contains an article by Dion on the formation of the fossil phosphate deposits of the Province of Oran. He concludes that they have an aqueous origin, being formed from above downwards by the action of infiltrating rain-water, and that animal remains were the only source of phosphorus in the deposits.

J. L. H.

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#### SCIENTIFIC NOTES AND NEWS.

##### THE SPELLING OF GEOGRAPHIC NAMES.

AT the regular monthly meeting of the U. S. Board on Geographic Names, held a few days ago, decisions were made as to the spelling of 149 geographic names. This Board, it will be remembered, is composed of ten members, representing those bureaus and departments of the government which are more or less concerned with geographic publications. It was created by executive order September 4, 1890, to the end that uniform usage in regard to geographic nomenclature and orthography shall obtain

throughout the executive departments of the government and particularly upon its maps and charts.

Among the decisions rendered were a few of general interest. These relate to names brought into prominent notice through the Klondike gold excitement.

As to *Klondike*, the decision is to spell it as here given, and *not* Clondyke, Klondyke, Chandike, Chandik or Deer, Reindeer, Trondike, nor Thron Diuck.

One of the lakes of the upper Yukon was named *Lebarge* by the Western Union Telegraph Expedition in 1868, after Mike Lebarge, a member of the exploring party, and a popular member, it may be added, who is now living somewhere near Ottawa, Canada. Late publications have fallen into the error of writing this Labarge, but the Board adheres to the original form, Lebarge. There is a Lebarge River in Alaska.

When Schwatka discovered the Yukon, in 1883, he named one of the lakes on its headwaters *Lindeman*, after Dr. Moritz Lindeman, now Vice-President of the Bremen Geographical Society. This sometimes appears, erroneously, as Lindemann and Linderman. The Board adopts Lindeman.

One of the principal tributaries of the upper Yukon is the *Lewes* river, named by Mr. Robert Campbell, of the Hudson Bay Company, about 1848. This is often miscalled Lewis.

The inlet, river and village at the head of Lynn canal, which now appears in the newspapers, almost daily, under the form Dyea, is an Indian word, which has appeared in many forms. Admiral Meade, in 1869, wrote it Tyÿa; Krause, in 1882; wrote it Dejäh; Schwatka, in 1883, Dayay; Dall, in 1883, Taiya. The Board adopts the form *Taiya*.

For the lake and river variously called Hootalinqua, Hotalinga, Teslin-hina, Teslin-too or Teslin the Board adopts *Teslin*. The terminations 'hina' and 'too' are said to mean river in different Indian dialects.

An Indian village on the middle Yukon is called *Nuklukayet*. This has been written in several forms, including the erroneous one, Tuklukyet.

W. F. MORSELL.

#### THE 'KAISER WILHELM DER GROSSE.'

THE North German Lloyd steamer 'Kaiser Wilhelm der Grosse' arrived at the port of New York on the 26th of September, her maiden voyage proving extraordinarily satisfactory. This ship is in many respects very remarkable. She is the largest ship afloat and nearly as large as the now non-existent 'Great Eastern;' the speed on her voyage, for a single day's run, exceeded that of any ship ever set afloat, not excepting the Cunarders 'Campagnia' and the 'Lucania;' the record for the run between Southampton and New York was broken, and the speed of the ship was such that had the voyage been between Liverpool and New York the run would have been considerably shorter than that of any steamer on that route. Not the least remarkable fact is that this new record was made on her maiden voyage.

The ship has the following dimensions; beside which are here given those of the 'Great Eastern,' the marine wonder of forty years ago:

	K.	W.	G. E.
Length over all.....	649	697	
Length between perpendiculars....	625	680	
Beam.....	66	83	
Draught.....	26	30	
Depth.....	43	58	
Gross tonnage.....	14,000	19,500	
Displacement.....	20,000	27,000	
Horse-power.....	30,000	12,000	
Speed, knots.....	23	12	

The 'City of Rome,' of the last decade, is 561 feet long; the 'Campagnia' and the 'Lucania,' now two years old, are 625 feet long; and the length of the 'Oceanic,' of the White Star Line, now under construction, is 704 feet. The 'Kaiser' is very steady, having been fitted with bilge-keels to prevent rolling in a sea-way.

The driving engines of the 'Kaiser' are 'triple-expansion,' one engine on each of her twin-screw shafts, with steam-cylinders 52, 89½ and 96½ inches (two of the latter to each engine) diameter, and drive two three-bladed screws, 22 feet 3¼ inches diameter, 32 feet and 10 inches pitch, with a maximum of 30,000 horse-power, at the rate of twenty-three knots through the water (twenty-six miles an hour).

The propeller shafts weigh 166 tons, the bronze screws 26 tons each. The condensers contain 35,522 square feet of cooling surface, their 11,000 tubes measuring a total length of about thirty-five miles. There are, altogether, 68 engines on the ship, with 124 steam-cylinders. The centrifugal pumps and the engine bilge-pumps can, together, expel 3,600 tons an hour. Four dynamos are employed for lighting purposes, supplying current to 1,600 25-candle-power lamps. The cost of this floating palace was \$3,500,000.

The hull is very graceful and most imposing, with its lofty sides and extreme length, its four smoke-stacks and its several stories of deck-houses. It is enormously strong and is divided by 16 transverse bulkheads and one running longitudinally. The 14 boilers are in four groups, each in a separate compartment, and the two main engines are similarly isolated. A double bottom gives additional safety. Accommodations are provided for 350 first-cabin, and as many second-cabin and 800 steerage passengers, and for a crew of 450 men, including 17 engineers, 18 boilers, 90 stokers and 75 coal-passers. Room is found for bunkers capable of containing 4,950 tons of coal.

With steam at 180 pounds pressure this ship developed 28,430 horse-power and made a run of 564 knots in a single day—the highest record yet known. The run from Southampton to New York was made in 5 days, 22 hours, 35 minutes (3,050 nautical miles); averaging 22½ knots for the fastest 24 hours, 21.39 for the voyage. About 500 tons of coal a day were burned on the trip. The record from Liverpool to New York, now held by the 'Lucania,' is 5 days, 7 hours and 23 minutes; but the 'Kaiser' could make the run in about 5 days—possibly in 4 days, 22 hours.

R. H. T.

#### THE AMERICAN JOURNAL OF PHYSIOLOGY.

THE number of investigations in physiology and its allied sciences now made in this country has grown so large that the present means of publication are no longer sufficient. Physiologists can no longer print in foreign countries, often in foreign languages, or in general medical journals, without stunting a growth which,

unchecked, will come to be a gratification to every American and a wholesome influence in American medicine. To meet the needs of investigators in physiology, physiological chemistry, physiological pharmacology, bio-chemistry and certain other branches of biology, a special journal will be published, the first number appearing in January, 1898. *The American Journal of Physiology*, as the new publication will be called, will contain in each volume about five hundred pages, divided into parts or numbers, to be issued whenever material is received. It is expected that not more than one volume a year will be printed. The *Journal* will be edited by H. P. Bowditch, M.D., Boston; R. H. Chittenden, M.D., New Haven; W. H. Howell, M.D., Baltimore; F. S. Lee, M.D., New York; Jacques Loeb, M.D., Chicago; W. P. Lombard, M.D., Ann Arbor, and W. T. Porter, M.D., Boston.

It is not to be supposed that a journal devoted solely to the publication of original researches in physiology will ever do more than pay for its paper and printing, and it is probable that some years must pass before the new enterprise will cease to be a financial burden on a small number of investigators. Yet the need of such a publication is undoubted. The aid of all friends of learning is asked until the *Journal* shall be established on a self-supporting basis. The subscription price, which is five dollars per volume, should be sent to W. T. Porter, M.D., 688 Boylston Street, Boston, Mass.

#### GENERAL.

THE American Chemical Society will hold its annual winter meeting at Washington on December 29th and 30th.

AT the recent Brunswick meeting of the German Society of Men of Science and Physicians a resolution introduced by Professors Virchow, Waldeyer and Neumayer was adopted, asking the Emperor for a grant (from the Royal fund for various purposes) for a deep-sea expedition to the Indian Ocean.

THE Southern Mahratta Railway will give free passes to observers of the total eclipse of the sun on January 22, 1898.

DR. MITSUKURI, professor of zoology at the

Imperial University of Tokyo, and Shirofujita, Director of the Commercial Bureau of the Department of Agriculture, have been appointed commissioners from Japan to attend the conference on the seal fisheries to be held shortly at Washington. M. Pierre Botkin has been appointed commissioner from Russia. If the commission is composed of men of science of high rank the results of the conference will carry much weight, even though Great Britain and Canada decline to send representatives.

PROFESSORS J. J. STEVENSON, J. F. KEMP and R. E. DODGE gave an informal reception to Professor Albrecht Penck, of Austria, at the Teachers' College, New York City, on October 7th. Owing to the short time allowed for arrangements, but a small party were present, composed largely of the geologists and geographers of the vicinity of New York. The Committee were also very fortunate in being able to greet Sir John Evans, who was in the city for but a few days. The New York Academy of Sciences had planned to give a reception to Sir John Evans and Lord Kelvin, but a time could not be arranged.

DR. FRIDTJOF NANSEN will read a paper on some of the scientific aspects of his recent Arctic exploration before the American Philosophical Society on Friday afternoon, October 29th.

DR. NEWTON C. BATES has been appointed Surgeon-General and Chief of the Bureau of Medicine and Surgery of the Navy, to succeed Surgeon-General Tryon.

PROFESSOR VLADIMIR I. BELAJEFF, professor of botany in the University of Warsaw, has been appointed Director of the Botanical Garden in that city, and Professor Vladimir I. Palladin, of Kharkoff, has been made Director of the Pomological Garden at Warsaw.

THE College of Physicians of Philadelphia has awarded its Alvarenga prize for 1897 to Dr. Joseph Collins, of New York, for a paper on 'Aphasia.'

WE learn from *Natural Science* that the first Flükiger medal—an honor to be awarded every five years by the German and Swiss Pharmaceutical Societies alternately—has been presented to

Mr. Edward Morrell Holmes, Curator of the Museum of the Pharmaceutical Society of Great Britain. An account of Mr. Holmes' work in botany, illustrated by a portrait, appears in the *Pharmaceutical Journal* for September 4th.

THE Zoological Society, London, has conferred its silver medal on Mr. Alexander White, for his studies on the fauna of Nyassaland.

MR. G. H. DARWIN, professor of astronomy at Cambridge, now on his way to America to give a course of ten lectures on 'Tides' at the Lowell Institute, has been elected a foreign member of the Academia dei Lincei, Rome.

MESSES. ROBERT G. AITKEN and W. H. WRIGHT have been appointed assistant astronomers at the Lick Observatory.

PROFESSOR F. W. CLARKE, Chief Chemist of the Geological Survey, has been appointed, by the Secretary of the Interior, Representative of the Department of the Interior and its several bureaus at the Omaha Exposition. Professor Clarke, who now represents the Department at the Nashville Exposition, has held a similar position in connection with every previous exposition in which the general government has taken part in recent years.

DR. WESLEY MILLS, professor of physiology in McGill University, has been given leave of absence for a year, which he will spend abroad. Correspondence, however, addressed to McGill University will be forwarded to him.

A STATUE of Balboa, the discoverer of the Pacific Ocean, will be erected in Golden Gate Park, San Francisco. It will be executed by Mr. Douglas Tilden, and is the gift of Mayor Phelan.

WE regret to record the deaths of Professor Charles T. Roy, since 1884 professor of pathology in Cambridge University, aged forty-seven years; of Mr. W. A. Stiles, Park Commissioner of New York City and editor of *Garden and Forest*, in Jersey City on October 6th, at the age of sixty years; of Dr. Herman Welcker, formerly professor of anatomy at the University at Halle, at Winterstein at the age of seventy-five years, and of Dr. Konrad Bohn, professor of mathematics and physics at the Forestry Institute at Aschaffenburg.

A DISPATCH from Melbourne states that the expedition of the Sydney Geographical Society, under Professor David, to the Ellice Islands, between the Gilbert Islands and the Fiji Islands, has obtained evidence confirming the theory of Darwin as to the formation of coral islands. Diamond drilling in coral to the depth of 557 feet failed to reach bottom.

A SOCIETY entitled 'Société des Sylviculteurs de France et des Colonies' is being formed in France, as has been learned from *Garden and Forest*, for the purpose of diffusing the knowledge of silviculture and increasing popular interest in this art.

DURING the year ending June 15, 1897, there have been added to the library of the University of Chicago 10,717 books, of which 7,383 were purchased, 2,930 were added by gift and 404 in exchange for University publications.

THE preliminary plans of the New York Zoological Park, to be located in South Bronx Park, New York, have been completed and will be submitted first to the President and the Executive Committee, then to a committee of three experts, consisting of Professor Charles S. Sargent, director of the Arnold Arboretum; Thomas Hastings, architect, and W. Barclay Parsons, civil engineer. If their reports are favorable the plans will then be submitted without delay to the Board of Park Commissioners. With the final plan of the Zoological Park grounds will be submitted the plans and elevations for the following buildings: The lion house, the monkey house, the elephant house, bird house, winter house for birds, reptile house, tropical ruminants' house, main restaurant and administration building. Of secondary structures will be submitted the plans for the flying cage, eagles' and vultures' aviary, wolf and fox dens, bear dens, sea lions' pool, pheasants' aviary, buffalo house, deer barns, mountain sheep shelter and ducks' aviaries. If the society's plans are approved by the experts and the Park Commissioners, the engineers will prepare plans for a system of sewerage and water supply.

THE London correspondent of the New York *Evening Post* telegraphs that at Maidstone vaccination is being used against typhoid under

the direction of the pathological laboratory of the State Army School at Netley. Professor Wright and Surgeon-Major Temple, of Netley, have so improved the method that they are able to obtain the characteristic reaction of blood serum on typhoid bacilli, which is taken as a proof that the individual is protected by the injection. Enough vaccine has been sent to Maidstone to inoculate the whole population if necessary. The number of cases of typhoid fever reported is greater than 1,500.

ADVICES from Honolulu state that the lava in the crater of Kilauea has risen over 100 feet in eight days and that an overflow is expected.

THE report of the trustees of the South African Museum, Cape Town, for 1896, says *Natural Science*, records the reorganization of the staff and the completion of the new buildings. The Museum now has the services of Mr. W. L. Sclater as Director; Mr. L. Peringuey as Assistant Director, with special charge of the insects; Dr. W. F. Purcell as keeper of land invertebrates; Dr. G. S. Corstorphine as keeper of geology and mineralogy, and Dr. J. D. F. Gilchrist as honorary keeper of marine invertebrates. During the year 1896 a special grant was expended upon the purchase of a series of large mammals for the collection, while an exchange with the La Plata Museum furnished an important series of South American mammals and birds. Large acquisitions of European rocks and fossils were also purchased for comparison with the South African specimens.

THE Honorable William T. Harris, United States Commissioner of Education, will deliver five lectures on 'The Philosophy of Education' at the Teachers' College, New York, on the following dates: Thursdays, October 14th and 28th and November 4th, at 3:30 p. m.; Fridays, October 15th, at 2 p. m., and October 29th, at 3 p. m.

A COURSE of twelve lectures on the 'The Geological History of Invertebrate Animals' is being delivered by R. H. Traquair, M.D., F.R.S., in the Lecture Theatre of the South Kensington Museum. These are the Swiney Lectures on Geology, given under the direction of the trustees of the British Museum.

THE American Forestry Association has held a special meeting at Nashville, Tenn., with an excursion to Biltmore and Chattanooga, leaving Washington for Biltmore on the night of September 16th. The party were entertained at Biltmore by Dr. Schenck, who explained and illustrated the methods of forestry management used on the estate of 1,300 acres. The chief meeting was held at Nashville on September 22d, at which papers were presented by Messrs. George B. Sudworth, J. B. Killebrew and others.

THE Macmillan Company will have ready for publication in the autumn the first volume of 'The Scientific Papers of Henry T. Huxley,' reprinted from the journals of scientific societies, edited by Professor Michael Foster and Professor E. Ray Lankester. The scientific papers are expected to fill four volumes.

THE current number of *Nature* (September 30) publishes the address on 'Long Range Temperature and Pressure Variables in Physics' given by Professor Barus as Vice-President, before the Section of Physics at the Detroit meeting of the American Association.

PROFESSOR J. J. THOMPSON'S work on the 'Elements of the Mathematical Theory of Electricity and Magnetism' has been translated into German by Professor Gustav Wertheim, being published by Friedrich Vieweg, Brunswick.

#### UNIVERSITY AND EDUCATIONAL NEWS.

AT a meeting of the trustees of Columbia University, on October 4th, President Low presented the following letter:

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK.  
PRESIDENT'S ROOM.

October 4, 1897.

*To the Trustees:* As I have felt constrained by a sense of public duty to accept a nomination for Mayor of the City of New York at the hands of the Citizens' Union, I feel it to be my duty to the University to place in your hands for such action as you may see fit to take my resignation as President of the University.

I need not say that nothing but a deep sense of the imperative nature of the call to public duty would have led me to accept the nomination.

Respectfully,

SETH LOW.

The letter of resignation was referred to a committee, which cannot report until the next meeting of the trustees, on November 15th, when the election will have taken place.

THE 22d of October will hereafter be celebrated at Princeton University as Charter Day. Ex-President Cleveland will this year make the address. A short address is also expected from the Earl of Aberdeen, Governor-General of Canada, on whom a degree will be conferred.

PRESIDENT HARPER, of the University of Chicago, reports in his quarterly statement that there were in the University 169 instructors, of whom 19 are head professors, 22 professors, 27 associate professors and 21 assistant professors. The average salary for the year 1896-7 for all departments, including University Extension Division and the Divinity School, was \$2,108.52.

THE Union of the Medical Departments of New York University and of Bellevue Hospital Medical College having failed, the building of the latter institution, which was destroyed by fire, has been rebuilt, and the College was opened on September 28th. Professor Lusk, whose death we were recently compelled to record, has been succeeded as president by Dr. Edward B. Janeway and as clinical professor of gynecology by Dr. Henry C. Coe. Dr. Henry H. Rusby has been appointed professor of materia medica and pharmacology, and Dr. John A. Mandel, professor of chemistry.

ACCORDING to a letter to the *Boston Transcript* the serious damage suffered by Johns Hopkins University through the lapsing of dividends on Baltimore & Ohio stock has aroused the Baltimore Board of Trade to consider the question of extending aid to the institution from the public treasury. The Board will probably memorialize the State Legislature at its approaching session, setting forth the great advantage to Baltimore in a hundred different ways of having the University, and drawing attention to the probability that the very block of stock which has brought such loss to the University had been previously owned by the State, so that the University is only bearing a burden which the State itself might otherwise have borne.