

Mr. George W. Stose will complete the areal and economic surveys on the Pawpaw and Hancock quadrangles, in West Virginia and Maryland. He will be assisted by Mr. E. F. Burchard.

*Wisconsin.*—Professor U. S. Grant will make an areal and economic survey of the Mineral Point quadrangle, Wisconsin. The work will probably be done in cooperation with the state survey of Wisconsin.

#### BARON TOLL.

PRINCE KROPOTKIN contributes to the last number of the *Geographical Journal* an account of the return of the expedition sent to search for Baron Toll, under the direction of Lieutenant Kolchak. There appears to be little hope that Baron Toll and Dr. Seeberg have survived. The last news from them is a letter found in Bennett Island and dated November 8, 1902. It is as follows:

In company with the astronomer, F. G. Seeberg, and two hunters, the Tungus Nicholas Diakonoff and the Yakut Vassili Gorokhoff, on June 7, I left the winter harbor of the *Zarya* (Nerpichiya Bay of Kotelnii Island). We followed the northern coasts of Kotelnii and Thadéeff Islands, keeping our course towards Cape Visoki on New Siberia. On June 13 I took the course towards Bennett Island. The ice was pretty broken. On June 25, three miles from Cape Visoki, the ice was definitely broken. Preparing to take to our *baidaras* [leather boats], we killed our last dogs. From here we were carried on an ice-floe, for four and a half days, 48 miles in the desired direction. Then, having noticed that our ice-floe had drifted 10 miles southwards, we left it on July 31, and after having covered the remaining 23 miles in our *baidaras*, landed on August 3 on Bennett Island, at Cape Emma.

According to the survey of Seeberg, who has also determined the magnetical elements both here and on the journey—in ten places in all—Bennett island is a plateau, not higher than 1,500 feet. By its geological structure it appears as a continuation of the plateau of Middle Siberia, which is built up, here also, of very ancient marine deposits (Cambrian),

pierced by irruptions of basalt. In places one finds, under the sheets of basalt, deposits of brown coal with relics of vegetation, namely conifers. In the valleys of the island, bones of mammoths and other Quaternary-period animals, washed out of the deposits, are found occasionally.

As to the present inhabitants of Bennett Island, they are, besides the temporary visitor, the walrus, the polar bear and the reindeer. A herd of some thirty of the latter wandered on the rocky feeding-ground of the island. We fed upon them, and made out of their skins the fur cloth and the boots required for the winter journey. The following birds stay here: two species of *Somateria*, one sandpiper, one bullfinch and five species of gulls, including the roseate one.

As for migratory birds, we saw one eagle which flew south to north, one falcon which flew north to south, and geese whose flock went also north to south. Owing to fogs, we could not see the land wherefrom these birds came; neither could we see Sannikoff's Land, any more than during our last navigation.

We are going to leave here the following instruments: a reflecting circle with artificial horizon, a Krause's inclinometer, the anemometer, the photographic apparatus 'Norah,' and some others.

To-day we are going southwards. We have provisions for fourteen to twenty days. All in good health.  $76^{\circ} 38' \text{ N. lat.}, 149^{\circ} 42' \text{ E. long.}$

#### SCIENTIFIC NOTES AND NEWS.

LORD KELVIN celebrated his eightieth birthday on June 26.

MR. W. H. M. CHRISTIE, the astronomer royal, and Sir David Gill, of the Cape Observatory, have been elected corresponding members of the Paris Bureau des Longitudes.

THE University of Manchester has conferred the doctorate of science on Professor Bohuslav Brauner, Ph.D., of the Czech University of Prague, Mr. Ludwig Mond, F.R.S., and Mr. W. H. Perkin. Professor Dixon, in making the presentations, said Dr. Brauner was an old student of this university, and one of

Mendeléeff's most distinguished disciples. Dr. Mond had almost realized the dream of the alchemist of transmuting common things into gold. Dr. Perkin had extracted from coal tar a whole spectrum of colors, and was, since Faraday's time, the man who had followed most deeply the vibrations of light as they penetrate molecules.

M. A. CHAUVEAU, professor at the Paris Museum of Natural History, has been elected director of the Marey Institute for Physiology in the room of the late M. Marey.

THE Scottish Geographical Society has awarded its Livingstone gold medal to Commander Robert Scott, leader of the British Antarctic Expedition, and the society's gold medal to Mr. W. S. Bruce, leader of the Scottish Antarctic Expedition.

PROFESSOR ERNEST F. NICHOLS, of the department of physics in Columbia University, has sailed for Europe and will spend next year in work at Cambridge, Berlin and Paris.

MISS W. J. ROBINSON, instructor in biology in Vassar College, and Miss M. M. Brackett have gone to the Cinchona Laboratory of the New York Botanical Garden to carry out some embryological investigations. Mr. G. W. Collins, of the U. S. Department of Agriculture, Mr. Wm. R. Maxon, of the U. S. National Museum, and Mr. Louis Agassiz Fuertes, of Ithaca, New York, have also recently carried out certain studies at Cinchona.

PROFESSOR CLARA E. CUMMINGS, of Wellesley College, has been granted a sabbatical year, which will be spent in resting and studying the tropical flora. Associate Professor Fergusson will have charge of the department for the year.

PROFESSOR JAMES GEIKIE has been elected president of the Scottish Geographical Society in succession to Sir John Murray.

AN Association for the Relief, Control and Prevention of Tuberculosis has been established at Newport, R. I., with Mr. Robert Frame as president.

DR. W. SCHOTTLER, of Maintz, has been appointed geologist in the Geological Institute at Darmstadt.

LORD AVEBURY was reelected president of the Ray Society at the annual meeting on June 9. The other officers are: *Vice-Presidents*, Dr. R. Braithwaite, Mr. A. D. Michael and Lord Walsingham, F.R.S.; *Treasurer*, Dr. DuCane Godman, F.R.S.; and *Secretary*, Mr. John Hopkinson.

MR. FRANCIS EDWARD MACMAHON, inventor of the telegraph tape machine known as the 'ticker,' died in England on July 5. He served in the United States navy during the civil war, and was in Admiral Farragut's flagship at the taking of New Orleans. Subsequently he settled in England, and of late years patented many inventions, ranging from a tap to a chainless bicycle.

THE United States Civil Service Commission announces an examination on July 27, 1904, to secure eligibles from which to make certification to fill a vacancy in the position of mechanic in the Bureau of Standards, at \$900 per annum, and other similar vacancies as they may occur in that bureau. No educational test will be given, and it will not be necessary for applicants to appear at any place for examination. The appointee must have had five years' shop experience, two of which must have been spent in a shop in which scientific instruments were constructed.

PROFESSOR M. ASCOLI, president of the Associazione Elettrotecnica Italiana, writes to the *Electrical World* that no fewer than 41 members have already formally engaged themselves for the trip to America, arriving in two parties about August 24-25. The official representatives will be Professor Ascoli and the two vice-presidents, Professor G. Brasi, of Turin, and Professor L. Lombardi, of Naples. The delegates of the Italian Government to the Electrical Congress will be Professor Ascoli on behalf of the Ministry of Posts and Telegraphs, and Professor Lombardi, for the Ministry of Public Instruction.

*The Journal of the American Medical Association* states that the date set for the next session of the American Medical Association is July 11-14, 1905. This date has been decided on after considerable correspondence. The holiday season for the majority of medical

men is from about the first week in July to September, and the schools have by that time all closed. Most of those who live in the east will want to utilize the trip to the association meeting as their summer vacation, and if the date were that usually adopted for the association meeting, these would not be able to attend. In July Portland has a delightful climate, and consequently there need be no fear of hot weather.

WE also learn from the *Journal of the American Medical Association* that the American Society of Tropical Medicine has been incorporated in Philadelphia. The officers are: *President*, Dr. Thomas H. Fenton, Philadelphia; *vice-presidents*, Dr. James Anders, Philadelphia, and Dr. I. G. Kinyon, Glenolden, Pa.; *secretary*, Dr. Joseph McFarland, Philadelphia; *assistant secretary*, Dr. John M. Swan, Philadelphia; *treasurer*, Dr. Wharton Sinkler; *council*: Drs. R. G. Curtin, Judson Daland, Allen J. Smith, and W. M. L. Coplin. The men elected to honorary membership for valuable research work in the prevention of tropical diseases are: Surgeon-General William H. Forwood; Rear-Admiral Surgeon P. M. Rixey, Dr. Walter Wyman, Sir Patrick Manson of England, Dr. A. Laveran of the Pasteur Institute, France; Professor Robert Koch, Germany; Professor Charles J. Martin, Sydney, N. S. W.; Professor Aristides Agramonte, University of Havana, Cuba; Dr. Frederick Montazambert, chief health officer of the Dominion of Canada; Professor Kitasato, University of Tokio, and Professor Eduardo Liceaga, head of the department of health, Mexico.

THE Board of Estimate of New York City has appropriated \$10,000 to pay the expenses of a commission of medical experts to pass on the question whether or not pneumonia is a contagious disease.

THE Emperor Francis Joseph laid on June 21 the foundation stone of the new General and University Hospital for Vienna, to replace the old general hospital built 120 years ago.

It is announced that if sufficient support can be secured it is intended to publish from

the office of *The Journal of Medical Research*, Boston, an atlas of bacterial infections in man. It will consist of one hundred plates—a few in color—with descriptive text. The reproductions will be ten by twelve inches, a large number of them with but one figure on a plate, printed on heavy paper and in the best manner. The volume will be furnished bound in half morocco, and copies will be numbered, for the edition will be limited. The price will be ten dollars delivered free in the United States and Canada. The authors will be Dr. H. C. Ernst, professor of bacteriology in the Harvard Medical School, and Dr. S. B. Wolbach, first assistant resident pathologist to the Boston City Hospital.

MR. W. W. CANADA, consul at Vera Cruz, Mexico, writes that an agitation has been on foot for some time looking to the passage of a law to prevent the wanton destruction of birds throughout Mexico; in fact, a proposed law has already been presented to the government by the Association for the Protection of Birds, and it is confidently expected that it will meet the approval of the executive. This law is intended to prevent the killing of certain classes of birds useful to the agriculturist. Other kinds, such as for instance game birds, may be killed only at stated periods of the year. All birds of prey, and others destructive to the interests of the farmer, may be killed at any time and by anybody. Such a law, if rigidly enforced, can not fail to be of great benefit to the people of the United States, as for instance in the case of migratory birds that winter in Mexico, or even farther south, and that return to the north in the proper season if not killed off in the meantime.

A WILD Birds Protection Acts Amendment (St. Kilda) Bill has been introduced in the British parliament by Sir Herbert Maxwell. To it is prefixed the following explanatory memorandum: "By section 9 of the Wild Birds Protection Act, 1880, it was provided that the operation of that act should not extend to the island of St. Kilda. The object of this bill is by extending the protection afforded by that act to St. Kilda to provide means for saving the St. Kilda wren and other

birds, which are becoming rare from the extermination with which they are threatened. It is proposed to exempt certain birds from the schedule to the act of 1880 as being required for the support of the inhabitants of the island." Protection is given by the bill to the fork-tailed petrel, in addition to the St. Kilda wren, and the birds to be exempted from the schedule of the act of 1880, so far as regards the island of St. Kilda, are the fulmar, gannet, guillemot, puffin and razorbill.

IN the Hawaiian Islands it is now recognized that forest preservation is a matter of great and immediate importance to the leading economic interests of the territory. The chief agricultural interest of the islands is sugar growing. In 1903 the exported sugar was valued at \$25,310,684, or 96 per cent. of the total exports. The supply of water on which successful cane cultivation depends comes to a large extent from the forested higher slopes of the mountains, above the plantations. But the situation is complicated by the fact that cattle raising, which in economic importance stands second only to the sugar industry, depends largely on the use of the forest for range, and overgrazing has been the principal cause of injury to the water-holding power of the wooded area. As a preliminary to the formulation of a policy in the interest of the islands as a whole, the territory a year ago asked for an examination of the whole question on the ground by an agent of the United States Department of Agriculture. The report of Mr. William L. Hall, of the Bureau of Forestry, who made the examination, is now being printed as Bulletin No. 48, 'The Forests of Hawaii.' Both from a scientific and practical standpoint it gives much information concerning these Hawaiian forests and their uses. The conflict of interests between the cattlemen and the sugar planters is evident, but need not seriously menace rehabilitation of the forests. The cattle-men in many instances desire the forests for pasturage. The planters rightly contend for the intact forest with perfect floor cover to secure the greatest possible storage of water for the supply of growing crops. But the clashing of

interests is happily reduced by other conditions, chief of which is that sugar growing is the great sustaining industry and the dominant source of income. An additional potent fact is that many cattle raisers are also sugar growers, and their double interests compel them to take the broadest view of the needs of the islands as a whole. The Bureau of Forestry has supplied the islands with a forester, and is actively cooperating with the territorial authorities in all matters of policy.

THE Interstate Commerce Commission reports that the total number of casualties to persons on the railways of the United States for the year ending June 30, 1903, was 86,393, of which 9,840 represented the number of persons killed and 76,553 the numbered injured. Casualties occurred among three general classes of railway employees, as follows: Trainmen, 2,070 killed and 25,676 injured, switch tenders, crossing tenders, and watchmen, 283 killed, 2,352 injured; other employees, 1,253 killed, 32,453 injured. The casualties to employees coupling and uncoupling cars were, employees killed, 281; injured, 3,551. For the year 1902 the corresponding figures were, killed, 167; injured, 2,864. The casualties connected with coupling and uncoupling cars are assigned as follows: Trainmen killed, 211; injured, 3,023; switch tenders, crossing tenders and watchmen killed, 57; injured, 416; other employees killed, 13; injured, 112. The casualties due to falling from trains, locomotives or cars in motion were: Trainmen killed, 440; injured, 4,191; switch tenders, crossing tenders and watchmen killed, 39; injured, 461; other employees killed, 72; injured, 536. The casualties due to jumping on or off trains, locomotives or cars in motion were: Trainmen killed, 101; injured, 3,133; switch tenders, crossing tenders and watchmen killed, 15; injured, 279; other employees killed, 82; injured, 508. The casualties to the same three classes of employees in consequence of collisions and derailments were: Trainmen killed, 648; injured, 4,526, switch tenders, crossing tenders and watchmen killed, 17; injured, 137; other employees killed, 128; injured, 743. The number of passengers killed in the course of the

years 1903 was 355, and the number injured 8,231. In the previous year 345 passengers were killed and 6,683 injured. There were 173 passengers killed and 4,584 injured because of collisions and derailments. The total number of persons, other than employees and passengers, killed was 5,879; injured, 7,841. These figures include the casualties to persons classed as trespassing, of whom 5,000 were killed and 5,079 were injured. The total number of casualties to persons other than employees from being struck by trains, locomotives or cars, were 4,534 killed and 4,029 injured. The casualties of this class were as follows: At highway crossings, passengers killed, 3; injured, 7; other persons killed, 895; injured, 1,474; at stations, passengers killed, 24; injured, 108; other persons killed, 390; injured, 501; at other points along track, passengers killed, 8; injured, 14; other persons killed, 3,214; injured, 1,925. The ratios of casualties indicate that 1 employee in every 364 was killed, and 1 employee in every 22 was injured. With regard to trainmen—that is, enginemen, firemen, conductors and other trainmen—it appears that 1 trainman was killed for every 123 employed, and 1 was injured for every 10 employed. One passenger was killed for every 1,957,441 carried, and 1 injured for every 84,424 carried. With respect to the number of miles traveled, however, the figures show that 58,917,645 passenger-miles were accomplished for each passenger killed, and 2,541,096 passenger-miles for each passenger injured.

THE council and officers of the Institution of Civil Engineers gave a dinner on June 19 at the Grand Hotel to the president, Sir William H. White. Among those present were Sir Guilford L. Molesworth (in the chair), Lord Kelvin, Sir Benjamin Baker, Professor Sir James Dewar and Sir William H. Preece.

THE Paris papers of June 22 publish accounts of the 'le fête du soleil'—a sort of modern sun-worship function held in the Eiffel tower in Paris on the night of June 21. *Le Matin* of June 22 says that M. Janssen was the high priest of the occasion, and that an

address 'd'une effrayante erudition' was delivered by M. Flammarion. At half past twelve the assemblage mounted to the summit of the tower to 'assist' at the rising of the sun. The paper remarks that "the ceremony was a calm and dignified one which the moon lit up without jealousy. For though it be stoutly and most learnedly affirmed that there was no night, it is none the less true that if one could see clearly it was on account of the moon, not to mention electricity."

It is stated in *Nature* that the twenty-second congress of the Sanitary Institute will be held in Glasgow from July 25-30, under the presidency of Lord Blythswood. Sir Richard Douglas Powell, Bart., K.C.V.O., will deliver the lecture to the congress on 'The Prevention of Consumption.' It appears from the program that 250 authorities, including several county councils and county boroughs, have already appointed delegates to the congress, and as there are more than 3,300 members and associates in the institute, there will probably be a large attendance in addition to the local members. In connection with the congress, a health exhibition of apparatus and appliances relating to health and domestic use will be held as practical illustration of the application and carrying out of the principles and methods discussed at the meetings. Popular lectures will be given in the exhibition on physical development, by Dr. P. Boobyer; care of eyesight, by Dr. James Kerr; care of the teeth, by Mr. G. Cunningham; feeding and digestion, by Professor A. Bostock Hill; and healthy houses, by Professor H. R. Kenwood. The sections and their presidents are: (1) Sanitary science and preventive medicine, Professor J. Glaister; (2) engineering and architecture, Professor H. Robinson; (3) physics, chemistry and biology, Professor Frank Slowes. There will be eight special conferences, the subjects and presidents of which will be as follows: Municipal representatives, Mr. W. F. Anderson; industrial hygiene, Mr. J. Steele; medical officers of health, Sir C. A. Cameron, C.B.; engineers and surveyors to county and other sanitary authorities, Mr. W. Weaver; veterin-

ary inspectors, Professor James McCall; sanitary inspectors, Mr. T. F. Strutt; women on hygiene, the Duchess of Montrose; the hygiene of school life, Professor John Edgar.

#### UNIVERSITY AND EDUCATIONAL NEWS.

WE learn from the London *Times* that the Schunck Laboratory, bequeathed to Owens College by the late Dr. Schunck, who had in his lifetime endowed the college with £20,000 on behalf of chemical research, has been removed from his residence at Kersal and rebuilt in the college precincts as nearly as possible in its original form. It comprises two floors and a basement, with the most modern appliances, also a valuable library and a collection of coloring matter, natural and artificial. Dr. Perkin, who assisted Dr. Schunck in the development of alizarin, performed the ceremony of opening the laboratory in its new home on July 1. Mrs. Schunck presented, through her son Mr. Charles Schunck, a medallion portrait of her late husband, which has been placed in the laboratory.

MEMBERS of the graduating class of Harvard University expect to pursue work as follows:

Business .....	128
Law .....	121
Teaching .....	68
Scientific pursuits .....	68
Medicine .....	20
Railroading .....	14
Architects .....	12
Ministry .....	8
Journalism .....	7

The fact that ten times as many students expect to follow scientific pursuits as will enter the ministry witnesses a great change that has taken place within recent years.

THE relation that the evolutionary theory as originally laid down by Darwin has come to have in what would once have been regarded as widely removed fields was specially considered by the zoological department of the University of Michigan the second half of this college year. The course was supplementary to the course on organic evolution, and aimed

to give a critical appreciation of the development of the evolution theory since Darwin, and of the bearing of that development on various fields of knowledge. The theory of evolution has so profoundly influenced psychology, ethics and social science, to say nothing of other subjects, that an acquaintance with the ground and import of this theory is a necessary part of the equipment of the student in any of these fields, as well as of the biologist, who has an interest in the broader aspects of his work. It was the purpose of the course to give the student the necessary basis for appreciating in some degree the import of biology. Somewhat more than half the time was devoted to organic evolution, particularly to its post-Darwinian developments, while the remainder was devoted to the evolution of the behavior of the lower animals and of man, and to social and ethical evolution. The course was conducted by different members of the zoological staff, each dealing with those aspects of the subject to which he has devoted especial attention.

At the June meeting of the trustees of Western Reserve University the following appointments were made in the Medical Department: Torald Sollman, professor of pharmacology and materia medica; Frederick Clayton Waite, associate professor of histology and embryology; Roger G. Perkins, assistant professor of bacteriology and pathology; Percy W. Cobb, demonstrator in physiology; E. D. Brown, demonstrator in pharmacology and materia medica; J. B. Austin, demonstrator in histology and embryology. The following gifts were received during the year: For the endowment of Harry Willson Payne Professorship, \$100,000; for the Adolph Cudell Library fund, \$200; for current budget expenses, \$5,000.

PROFESSOR HOWARD J. BANKER, of the Southwestern Normal College of Pennsylvania has been elected professor of biology in DePauw University at Greencastle, Indiana.

PROFESSOR GEORG GAFFKY, professor in the University of Giessen, has accepted a call to occupy the chair vacant through the resignation of Dr. Robert Koch, in the University of Berlin.