

with research in geographic science. He will argue that geography deals with the forms of the crust of the earth and the influence which these forms exert on everything free to move on the surface. In his presidential address to Section F (Economic Science and Statistics) Sir Robert Giffen proposes to discuss the increase in population during the last 100 years in the chief European countries, in the United States, and in the English-speaking colonies. Among the topics referred to will be the changes in the relative position of European States to each other and to the United States in consequence of the differences in the increase of their population; the increasing dependence of other European countries besides the United Kingdom on supplies of food imported over sea, and the question whether changes in the rate of growth of population in recent years are likely to modify in a material degree the present relative development of the countries in question. Section G (Engineering) will be presided over by Colonel R. E. Crompton, who will first deal with the probable future development of passenger and goods transport as affecting railways, tramways and ordinary roads, and will then touch on the standardizing of parts of machines to facilitate manufacture, concluding with a consideration of the National Physical Laboratory.

In Section H (Anthropology) Professor D. J. Cunningham, F.R.S., of Trinity College, Dublin, will devote his address to a consideration of the part which the brain has played in the evolution of man, especially the structural changes in the brain which have rendered the associated movements required for articulate speech possible, and to arguing that the acquisition of speech has afforded the chief stimulus to the general development of the brain. In his presidential address to Section I (Physiology), Professor McKendrick will briefly pass in review the advance in our knowledge in this branch of science during the past quarter of a century; and he then proposes to discuss some of the problems of what may be called molecular physiology, more especially the question of how many organic molecules may be contained in the smallest particle of living matter, and whether in the ovum, for example, there

is a sufficient number of molecules to account for the facts of hereditary transmission. Professor I. Bayley Balfour is president of Section K (Botany). He will deal in his address with the construction of flowering plants, with the intention of showing that they owe their position as the dominant vegetation of the present epoch to their having solved best the problem of adequate water-carriage. The new Section L (Educational Science) is under the presidency of Sir John Gorst. The subject of his address has not been announced.

SCIENTIFIC NOTES AND NEWS.

THE Reale Accademia de Lincei of Rome has elected the following foreign members: Emile Picard, professor of higher algebra at the Sorbonne; Edward C. Pickering, director of the Harvard College Observatory; Samuel P. Langley, secretary of the Smithsonian Institution; J. H. Van't Hoff, professor of general chemistry in the University of Berlin; Heinrich Karl Rosenbusch, director of the Mineralogical and Geological Institute of the University of Heidelberg; Charles D. Walcott, director of the U. S. Geological Survey; Theodor Engelmann, of the Imperial Board of Health at Berlin; and Charles Richet, professor of physiology at the University of Paris.

ON the application of the Government of Victoria, Australia, for a director of agriculture, officers of the U. S. Department of Agriculture have recommended Professor B. T. Galloway, chief of the Bureau of Plant Industry, and Professor Willett M. Hays, agriculturist of the Minnesota Experiment Station.

DR. SANTOS FERNANDEZ, president of the third Pan-American Congress held recently at Havana, has been presented by the members of the medical profession in that city with a gold medal in recognition of his efforts to advance medical science in Cuba.

THE Alverenga prize of the College of Physicians and Surgeons of Philadelphia has been awarded to Dr. George W. Crile, of Cleveland, Ohio, for his essay entitled 'an experimental and clinical research into certain problems relating to surgical operations.'

THE Belgian government has awarded its an-

nual prize of 5,000 francs for the best work in the province of medical research to Dr. A. van Gehuchten, professor of systematic anatomy in the University of Löwen, for his researches on the human brain and spinal cord.

DR. WILLIAM HUNTER has been appointed assistant director of the Pathological Institute of the London Hospital.

As we have already announced Dr. David Starr Jordan, president of Stanford University, Dr. Barton W. Evermann, ichthyologist of the U. S. Fish Commission, and Dr. W. H. Ashmead, of the U. S. National Museum, who spent the summer in the Hawaiian Islands investigating on behalf of the U. S. Government the fishes and other aquatic resources of the Islands, returned to the United States early in August. The other members of the party will return in September, except Messrs. L. E. Goldsborough and George Sindo, who will go to Pago Pago in the Samoan Islands to make a collection of the fishes found there. The investigations proved very successful. The fishery methods, laws and statistics were carefully studied and large and important collections of the fishes were made. Upwards of 300 species were obtained, among which are many species new to science. Drs. Jordan and Evermann will soon submit a preliminary report to the Commissioner of Fish and Fisheries. The final report will not be made until more deep-sea work has been done about the islands.

MR. JOHN HYDE, statistician of the Department of Agriculture, has returned from Europe where he went to arrange with the agricultural bureaus of the leading countries for an interchange of crop reports by cable. His negotiations were successful and the plan will be in working order next year. He also investigated European methods of crop reporting, but found that they were less advanced than our own.

MR. PERCY WILSON, attached to Professor Todd's Eclipse Expedition to the East Indies, returned to the New York Botanical Garden on August 18, bringing a large collection of vegetable products for permanent exhibition from Singkep, Riouw, Malacca, Siam, Batavia, and the botanical gardens of Buitenzorg and

Singapore. Mr. Wilson has been absent with the expedition since March 2.

REUTER'S Agency states that a cablegram has been received by the Liverpool School of Tropical Medicine from Sierra Leone announcing that Major Ronald Ross is returning to England by the steamship *Phillippeville*, which was due to leave Sierra Leone on August 18. He is returning temporarily for the purpose of arranging for the despatch of an expedition, similar to that now under his charge, to the Gambia and the Gold Coast. In Major Ross's absence the work of the expedition in Sierra Leone is proceeding under the charge of the other medical men. During his present visit to the West Coast, Major Ross has been to the Gambia, Sierra Leone, the Gold Coast and Lagos.

M. A. TOURNOUËR has undertaken an expedition to Patagonia, under the auspices of the French minister of public instruction, with the purpose of continuing his researches on the tertiary mammals of South America.

A MEETING in memory of the late Professor Joseph Le Conte was held by the faculty and students of the University of California on August 21. The exercises were opened by President Wheeler, and speeches were made on behalf of the alumni by Dr. William E. Ritter, professor of zoology, and on behalf of the students by Ralph T. Fisher, former president of the Associated Students of the University of California. The College of Social Science was represented by Professor Irving Stringham, and Professor J. M. Stillman, of Stanford University, spoke as a former pupil of Professor Le Conte's. The closing address was by the Hon. Horace Davis, former president of the University of California, whose concluding words were:

The power of such a life is hard to estimate. For thirty years his name has been a tower of strength to the University, not simply for his scientific fame and intellectual attainments, but even more for his moral strength and beauty. His life has been woven into thousands of young expanding lives in this western commonwealth, and his cheerful hopes have lighted up their homes. The power of such a life cannot be estimated. You have felt it. I have felt it, and the world is better that he has lived.

Professor Edward R. Taylor then read an original sonnet entitled 'Le Conte and the Yosemite,' and the proceedings were brought to a close with selections of instrumental and choral music.

THE bust of Dr. G. Armauer Hansen, the discoverer of the bacillus of leprosy, was unveiled by Professor Visdal in the garden of the Museum at Bergen on August 10. The chief address was made by Professor Oskar Lassar, of the University of Berlin. Congratulatory addresses were received from all parts of the world, and the decoration of Commander of the Order of Ola was conferred on Dr. Hansen by the king of Norway. Dr. Hansen celebrated his sixtieth birthday on July 29.

It is announced in *Nature* that it has been decided to erect in Leoben, Austria, a statue of Peter Ritter von Tunner, who died on June 8, 1897, to commemorate his great services to the metallurgy of iron. A committee has been formed, with Mr. Ignaz Prandstetter as president, Professor J. G. von Ehrenwerth as vice-president and Professor Carl Fritz as honorary secretary, to collect subscriptions. At a recent meeting of the council of the British Iron and Steel Institute the matter was considered. As a contribution to the memorial could not be voted from the funds of the Institute, the members of council present decided to contribute two guineas each, and Mr. Bennett H. Brough, the secretary, has forwarded to the committee in Leoben contributions amounting to about \$230.

The British Medical Journal states that for the celebration of the eightieth birthday of Professor Virchow on October 13, a committee has been chosen for Switzerland, consisting of Professor Kocher, of Berne, representing the Swiss medical commission, Professor von Carenville, of Lausanne, who represents the Medical Society of French Switzerland, Dr. Haffter, of Frauenfeld, representing the Central Medical Society, and Dr. Reali, of Lugano, representing the Medical Society of Italian Switzerland. Professor Sklifasowski having been incapacitated by illness, Professor Tarantzki, head of the Medical Academy of St. Petersburg, has been chosen president of the Russian committee in his place.

AMONG the numerous greetings from all parts of the world addressed to Professor Süss, the eminent Australian geologist, paleontologist, and politician, on the occasion of his seventieth birthday, says the *London Times*, is one from the Geological Society in London. He was elected a foreign correspondent of the Society in 1863 and foreign member in 1876, while 20 years later it bestowed upon him its highest geological distinction, the Wollaston medal. The telegraphic congratulation of the Society concludes as follows: "Universally regarded here as the greatest living geologist, whose epoch-making work will bear fruit in the field of science for generations to come. Warmest congratulations and best wishes from British colleagues." To his own countrymen Professor Süss has been not only a distinguished pioneer in science. He has been an example of enlightened patriotism and devotion to the public welfare and an indefatigable reformer, whose works will remain a monument to his memory.

DR. THOMAS MASTERS MARKOE, the eminent surgeon, died on August 27, aged eighty-two years. Since 1860, Dr. Markoe had been connected with the College of Physicians and Surgeons of Columbia University as adjunct professor and professor of surgery and later as professor of the principles of surgery.

MR. ALBERT NELSON CHENEY, fish culturist of New York State, died at his home in Glen's Falls, N. Y., on August 18, aged about fifty years. He was the author of many contributions on pisciculture.

THE death is announced of Dr. Leroy Méricourt at the age of seventy-five years. Dr. Méricourt is known as one of the reorganizers of the French naval medical service and for his writings upon tropical medicine and hygiene. He was a chevalier of the Legion of Honor, a member of the Academy of Medicine and one of the founders of the *Archives de médecine navale*.

MR. ANDREW CARNEGIE has given £7,500 to Rutherglen, Lanarkshire, Scotland, for a public library and £10,000 to Motherwell, Lanarkshire, for a town hall. Gifts for libraries, under the usual conditions, of \$25,000 and \$37,000 are reported from Beloit, Wis., and Moline, Ill., respectively.

ACCORDING to the *N. Y. Medical News* a systematic plan for the extermination of mosquitoes has been inaugurated by the residents on the north shore of Long Island from Roslyn to Huntingdon. The immediate work to be undertaken will be in charge of Messrs. A. C. Weeks and F. E. Lutz, of the University of Chicago, who will work in conjunction with Dr. Chas. B. Davenport, director of the Biological Laboratory of Cold Spring Harbor.

It has been decided that the commission to be sent out by the Liverpool, Manchester and London Chambers of Commerce to investigate the conditions of health and sanitation in West Africa shall consist of one member from each of the three chambers of commerce and of a sanitary engineer. In addition, Major Ronald Ross has been requested to attach himself to the commission as expert in tropical medicine.

WE learn from the *Lancet* that legal authority has been given for the creation of a fund for scientific research in France. It is divided into two sections, and its object is the promotion of purely scientific work relative (1) to the discovery of new methods of treatment of the diseases which attack man, domestic animals, and cultivated plants; and (2) to the discovery, apart from the medical sciences, of the laws which govern natural phenomena (mechanics, astronomy, natural history, physics and chemistry). The income of the fund will be derived from the following sources: (1) Grants made by the government, by the departments, by the communes, by the colonies, and by other sections of the population. (2) Gifts and bequests. (3) Individual or collective subscriptions. (4) Grants deducted from the proceeds of the *pari-mutuel* assigned to philanthropic or charitable purposes locally; the annual amounts of these grants, which will not be less than 125,000 francs, will be fixed each year on the application of the council of management by the special commission held at the Ministry of Agriculture. (5) Interest of money invested in government securities or deposited with the treasury. The fund is subject to the authority of Ministry of Public Instruction, and is managed by a council assisted by a technical commission concerned with the grants.

Nature states that a committee has been appointed by the president of the Board of Trade to inquire and report as to the best means by which the state or local authorities can assist scientific research as applied to problems affecting the fisheries of Great Britain and Ireland. The members of the committee are as follows: The Right Hon. Sir Herbert Maxwell, Bart; Mr. Walter E. Archer, Mr. Donald Crawford, Rev. William Spotswood Green, Professor William Abbott Herdman, the Hon. Thomas H. W. Pelham, Mr. Stephen E. Spring-Rice, C.B., and Professor J. Arthur Thomson.

THE daily papers report the death from yellow fever of two men and one woman who permitted themselves to be bitten by infected mosquitoes in order to become immune. It should be understood that the trials were not made in order to test the communication of yellow fever by mosquitoes, but they are certainly very convincing evidence. It is further reported that the yellow fever commission regards the experiments with the Caldas serum as having demonstrated its uselessness and will not supervise any further experiments conducted by Dr. Caldas.

THE *Lancet* states that the proposal to establish a central pathological laboratory in connection with the lunatic asylums of Ireland has taken practical shape by the insertion of a permissive clause in the lunacy bill which has just passed. According to it the committees of any two or more district asylums may, with the consent of the county council, agree to unite 'in providing and maintaining a laboratory for pathological research in connection with insanity and nervous diseases,' and the committees of those institutions may defray the expenses incurred.

A GOVERNMENT laboratory for experimenting with explosives is to be built at Sandy Hook at a cost of \$10,000.

REUTER'S Agency announces that the expedition under Captain Stoekken arrived at Christiania on August 17, after having explored the south coast of Franz Josef Land. The expedition found no trace of the three lost members of the Duke of the Abruzzi's expedition. The memorial presented by the Duke was erected on Cape Flora.

ACCORDING to the daily papers the steamer *Frithjof* arrived at Hammerfest on August 29 and reported that the Baldwin-Ziegler arctic expedition had been landed at Camp Ziegler, in latitude 90.24° north and longitude 55.52° east, on Alger Island. All the members of the expedition were in good health. Mr. Baldwin intended to start northward on August 24, by the interchannel route, across Markham Sound. We record the movements of this arctic expedition with some hesitation, as it has but little claim to be called scientific. Mr. Baldwin contributes to the last number of *McClure's Magazine* what is said to be the only authorized account of the aims of the expedition. He enlarges on his intention to reach the pole and describes in detail the number of tons of provisions of different kinds provided by the liberality of Mr. Ziegler, but does not mention the names of the members of the scientific staff. Still valuable scientific knowledge may be secured, and even voyages of adventure have some relation to the advancement of science.

THE Italian government has established laboratories of micrography and bacteriology and chemistry as dependencies of the Sanitary Bureau. According to the *British Medical Journal* a department of the bacteriological laboratory is to be devoted to the preparation and control of serums and similar products. The professional staff of the bacteriological laboratory consists of a director, with a salary of \$1,200; a coadjutor, with \$800; and two assistants, with \$500 each. For the serum department there are medical and veterinary coadjutors, each with a salary of \$800 and three assistants at \$500 each. The staff of the chemical laboratory is paid on the same scale.

THE National Good Roads Association of the United States has called an International Congress of Good Roads, to be held in Buffalo, September 16-21. All sessions of the congress will be held during the Pan-American Exposition. It is designed to devote a portion of the time included in the dates above named to demonstrate the scientific methods of modern road construction by building sections of the various classes of roads, including earth, oil, gravel, stone, tar-macadam, vitrified brick, etc.

A railroad train equipped with modern road-making machinery will be on exhibition, and practical road experts and engineers will have charge of the work. The scope of the deliberations of the congress will include general discussion and exemplification of the science of road construction and maintenance, together with experimental tests and experience of the several countries of the world and the states of the Union. Addresses will be made by prominent statesmen and officials, competent engineers, and scientific road experts from various nations.

According to the *Medical News* several members of the Chicago Sanitary District Board are said to have suppressed the reports showing the self-purification of running streams. After having appropriated \$2,500 for the preparation of the report and after having authorized its publication, they are said to have taken steps to keep it from being made public. The circumstance was brought to the surface when President Alexander J. Jones was asked to permit access to the report by several expert chemists who spent months making an examination of the waters of the drainage canal and the Illinois river. The experts are Professor E. O. Jordan, of the University of Chicago, Professors Palmer and Burrill, of the University of Illinois, and Professor Adolph Gehrmann, of the city laboratory. Political jealousy, lest the publication should reflect too much credit upon city officials, is alleged to have been the chief motive which actuated the suppression. The suggestion as to this motive comes from officials of the City Health Department. President Jones declares that the report was suppressed so that the material in it could be used by the sanitary district in its defense against the attempts of the city of St. Louis to have the drainage canal closed by the courts. Should the report become public, says President Jones, its value as a defense would be injured. The suppressed report is said to show that the waters of the drainage canal are not polluting the waters of the Illinois River and that the alarm of St. Louis is unfounded. Before the waters of the river reach Peoria they are said to be absolutely pure. At that point they are contaminated by the Peoria distilleries. The river again becomes perfectly pure many miles

north of the junction with the Mississippi River. Trustees of the sanitary district are pleased with the action of the War Department in issuing orders to allow a swift flow of water through the canal during eight hours of the day. The hours specified are between 4 p. m. and midnight, and the flow allowed is 300,000 cubic feet a minute, instead of 200,000 cubic feet, as is allowed during the remainder of the day.

THE Report on the Observatory Department of the National Physical Laboratory for the year 1900 has been published in the *Proceedings* of the Royal Society. According to an abstract in *Nature* the magnetographs have been in constant operation throughout the year, but the curves have been quite free from any large fluctuations. The mean westerly declination for the entire year was $16^{\circ} 52' .7$. The automatic and tabulated records of the various meteorological instruments have been transmitted, as usual, to the Meteorological Office, to be dealt with in its publications, and special cloud observations have been made each month in connection with the international scheme of balloon ascents. Seismological observations have been regularly made; two noticeable disturbances occurred during the year, on January 20 and October 29. A detailed list of the movements of the seismograph will be published in the Report of the British Association for the present year. As regards experimental work, the observation of distant objects during mist and fog and researches upon atmospheric electricity, referred to in previous reports, have been regularly continued. The list of the various instruments tested is a very long one. Some of the cases in which a considerable increase has occurred are: Aneroids and marine barometers (number tested in year 1900), 336 (increase 69); compasses, 963 (increase 559); rain gauges, 1,345 (increase 784); clinical thermometers, 20,476 (increase 4,456); total number of instruments tested, 27,569 (increase 5,518). The principal addition to the staff during the year has been the appointment of Dr. J. A. Harker as an assistant in the laboratory.

IN an interview with a representative of the *London Times*, Professor Otto Nordenskjöld, who is at present staying at Malmö in order to

make arrangements for his antarctic expedition, made the following statement: "As soon as the *Antarctic* returns from the expedition which she has made to Spitzbergen for meridian measurements—and it is calculated that she must be on her homeward journey by September 15—we start from Göteborg. The time of our departure cannot, of course, be definitely fixed, for unforeseen hindrances may arise; but we shall certainly be able to weigh anchor by about October 1. From Göteborg we shall proceed to England, and thence to Buenos Ayres and Tierra del Fuego, whence we shall make our way to the antarctic regions. We shall endeavor to push as far south as possible with the *Antarctic*; and, when winter comes on, we shall send a party on shore to winter. That party will probably consist of six persons, of whom I shall be one. We shall build a small hut for ourselves, and engage in meteorological, magnetic, hydrographic and other scientific observations. As soon as we have landed, the *Antarctic* will return to Tierra del Fuego; and a scientist, who will sail with her, will conduct the researches in that hitherto little explored country. In this way we shall be able to work in two detachments, and make as much use of our time as possible. As is well known, an English and a German South Polar expedition are also being sent out at the same time. In order to avoid clashing with one another, these three expeditions have come to an agreement whereby we explore the region south of the Atlantic Ocean, the Germans that south of the Indian Ocean, and the British that south of the Pacific Ocean. Naturally we cannot advance so far towards the South as towards the North Pole, but the scientific results must be great, and we are well equipped for scientific research. I shall have some able scientists with me. Professor Ohlin, of Lund, the well-known explorer, and M. K. A. Andersson will accompany me as zoologists. Dr. Bodman will come as hydrographer and magnetician, M. Skottoborg as botanist, and Dr. E. Ekolof as medical officer. The Norwegian, Captain Larsen, who has already made several voyages to South Polar regions, will be in charge of the *Antarctic*."

A CORRESPONDENT of the *London Times* reports that a discovery of flint implements has lately

been made on the estate of the Marquis of Ailesbury at Knowle Farm, on the borders of Savernake Forest. A gravel pit was opened a short time ago close to the farm buildings, and the implements have been found at various depths, some embedded in coarse gravel and silt and others in dark red clay, at a depth in some instances of 8 feet to 10 feet from the surface. The ground is at least 450 feet above sea-level, and it would seem that at the particular place where the gravel occurs two or three streams must have met which had had their courses through the forest and were making their way to the valley of the Kennet, some three or four miles to the southeast. There is now no stream of water in any part of the forest, and besides this there is nothing to indicate in the present configuration of the ground the source from whence the water by means of which the valleys were eroded could have come. It is only by imagining an entirely different face to the country (such as might have been if the valleys had been eroded before the formation of the Pewsey Vale, some three or four miles to the southwest) that an origin for the streams in these forest valleys can be conceived. Between 200 and 300 implements have already been found, many of them of beautiful workmanship, while others are very rude and apparently unfinished. Whether these latter belong to the earlier 'Eolithic' period and have been washed out of earlier beds of gravel and deposited with implements of a later date (as appears to have taken place on the plateaus in Kent) is a point to be decided hereafter; but it is very difficult to imagine those rude implements to have been manufactured by the same race of people as have made and finished with so much care those apparently lying by their side. Most of the implements are of very superior flint, extremely hard in texture; one or two may be of chert, and one appears to be of 'Sarsen' stone, and they bear a marked similitude to those found at St. Acheul in the valley of the Somme. Many have been rolled and have lost all their sharp edges, while others appear to have been made on the spot and to have had but little use before they were embedded in the stiff clay where they are now found. Some are

very finely polished, as if from the constant rubbing of blown sand, and have an appearance as if coated with glass. They are of all sizes and shapes, some from 5 in. to 6 in. long, generally of a rough, unfinished type; others 3 in. to 4 in. long, of the common spear-shaped form; others of the well-known ovoid form; and others pointed as if to be used as drills. One or two paleolithic implements have been previously found in the locality; but the occurrence of them in such large numbers as these at Knowle is quite new to the district.

UNIVERSITY AND EDUCATIONAL NEWS.

THE University of Edinburgh receives £5,000 by the will of the late Miss Eleanor Omerod, the entomologist.

THE *Educational Review*, which each year carefully compiles a black list of the institutions that offer the degree of Ph.D. *honora causa*, finds this year only two such institutions—Bethany College and Dickinson College.

DR. J. W. BASHFORD, president of the Ohio Wesleyan University, who, as we reported last week, has been offered the presidency of the Northwestern University, has decided to remain with the former institution at the urgent request of the trustees.

DR. A. W. HARRIS, president of the University of Maine, has resigned in order to accept the position of director of the Jacob Tome Institute at Fort Deposit, Md.

DR. A. P. OHLMACHER, director of the pathological laboratory of the Ohio Hospital for Epileptics at Gallipolis, Ohio, has been appointed professor of pathology in the Medical School of Northwestern University.

ALBERT HENRY YODER, A.B. (Indiana), has been appointed professor of pedagogy at Washington University.

MR. R. K. MCCLUNG has been awarded an exhibition scholarship of 1851 by McGill University. He will go to Cambridge University to study under Professor J. J. Thomson.

At Hartley College, Southampton, Dr. J. T. Jenkins has been appointed lecturer in biology and geology, and Mr. J. D. Coates assistant lecturer in physics and electrical engineering.