Samuel Calvin was born in Wigtonshire, Scotland, February 2, 1840. He came with his parents to America when he was eleven years of age. For three years the family lived on a farm in the state of New York, then they came to Iowa, where from that time until his death Samuel Calvin made his home.

He received his college education at Lenox College, Ia. When he was twenty-four years old he enlisted in the army and served for a few months in the civil war. After returning from the war, he was for four years a teacher of science in Lenox College. He resigned this position to go to Dubuque, where, for seven years, he was principal of a ward school. In 1874 he was elected to a professorship of natural science in the University of Iowa. Here, at first, he had charge of botany, zoology, geology and physiology. Later, he was made professor of geology, a position which he filled with distinction until his death.

He received from Cornell College the degrees of M.A. and LL.D., and from Lenox College the degree of Ph.D.

In the year 1865 he married Louise Jackson, of Hopkinton, Ia. She, a son and a daughter survive him.

In the year 1892 Dr. Calvin was elected state geologist of Iowa. This position he resigned in 1904 owing to the stress of other duties. However, in 1906, upon the resignation of Professor Wilder, he was again elected state geologist and continued to serve until his death. The Iowa Geological Survey under his directorship published about twenty volumes of reports dealing with the geology and mineral resources of the state. Of great scientific value have been his own contributions to the geology of Iowa, especially those papers which have added to our knowledge of the Pleistocene. His most recent scientific publications, which deal with the Aftonian mammalian fauna have done much to unravel some of the difficult problems of Pleistocene paleontology. In all his scientific work he was thorough, no details were considered trivial—his one desire was to discover truth—to find any facts which could make knowledge clearer, broader, more definite. That he had the power to clothe his thoughts in beautiful language is clearly shown in all his writings.

Professor Calvin was a great teacher and his students loved him. His simplicity, his gentleness, his love of justice and truth, his intolerance of deceit and sham, his deep sympathy, his high regard for religion, his lofty ideals of life—these were the characteristics by which he influenced the lives of those who had the privilege of knowing him. Only such a man as he could have given expression to the following tribute to noble manhood:

> Wherever noble deeds are done for truth and right; wherever weak, despairing, fainting, faltering men and women need encouragement to take up heroically the burdens and duties of life; wherever sorrow yearns for sympathy and consolation, or sickness creates necessity for tender ministrations, where the pestilence walketh in darkness; where sin, foul and loathsome, waits for victims; where overpowering temptation saps the foundations of the better will and weaves inextricable toils; wherever, indeed, many-sided humanity calls for help, there will you find some messenger of truth, forgetting self, filled with zeal for God and fellowmen, lifting, helping, encouraging, consoling; pointing out the path of wisdom and the path of peace; illustrating the importance of right living, and leading all to the true appreciation of the beauty of holiness. Such is the noble side of human nature, such is the grand side.

In the death of Samuel Calvin the nation has lost a distinguished scholar, an inspiring teacher and a true and noble man.

GEORGE F. KAY
STATE UNIVERSITY OF IOWA

SCIENTIFIC NOTES AND NEWS

PROFESSOR W. JOHANNSEN, of the University of Copenhagen, whose recent work on heredity and pure lines has attracted much attention, is to give in October and November a course of lectures and seminar conferences on "Modern Conceptions of Heredity" at Columbia University, under the joint auspices of the departments of botany and zoology. Four public lectures will be given on the afternoons of October 13, 20, 27 and November 3, and

these will be supplemented by a series of about eight more technical seminars. The lectures, open to the general public, will give an outline of modern inquiries into the problems of genetics. The seminar meetings are intended for a limited group of investigators and advanced students, and will give opportunity for more critical and informal discussions of special researches in this field. A more detailed announcement will be made by the secretary of Columbia University toward the opening of the academic year.

Among those on whom the University of Birmingham conferred the honorary degree of LL.D. on the occasion of the annual meeting of the British Medical Association, which opened in Birmingham on July 21, are the following: Sir Francis Lovell, president of the Tropical Medicine Section; Dr. R. H. Chittenden, professor of physiology at Yale University; Professor H. Oppenheim, neurologist of Berlin; Professor Paul Strassman, assistant professor of obstetrics, Berlin; Dr. Byron Bramwell, president Royal College of Physicians, Edinburgh; Dr. J. A. Macdonald, chairman of council, British Medical Association; Dr. R. A. Reeve, ex-president British Medical Association and professor of ophthalmology at Toronto; Professor Sims Woodhead, professor of pathology at Cambridge.

The Leipzig Seismological Society has awarded its gold Eduard Vogel medal to Dr. L. Schultze, of Jena.

Dr. T. C. Mendenhall, emeritus professor of physics in Ohio State University and formerly president of the Worcester Polytechnic Institute, has returned to the United States after a long trip abroad and a trip around the world.

Dr. Lester F. Ward, who is giving a course of lectures in the summer session at Columbia University, will sail for Norway on August 17 as a delegate of Brown University to the centennial celebration of the University of Christiania. From there he will go to Hamburg to attend the Congress of Monists which meets there September 8. He will remain abroad until October in order to attend the Congress of the International Institute of Sociology at Rome, before which he is to read two papers on "Social Progress."

Mr. Donald F. MacDonald, geologist to the Isthmian Canal Commission, formerly with the U. S. Geological Survey, has just returned to his headquarters at Culebra, Canal Zone, from a month's professional visit to Costa Rica. While there he made some collections of Tertiary fossils, which will be sent to the National Museum, and visited the Abangarez and Boston groups of mines on the Pacific slope of the Costa Rican Cordillera.

Mr. Floyd W. Robinson, formerly state analyst of the Michigan Dairy Food Department, who testified in the benzoate of soda case in the Federal Court at Indianapolis that benzoate of soda is a harmful preservative and that its use should be prohibited by law, has been dismissed as an employee of the United States Bureau of Chemistry "for the good of the service." Mr. Robinson protests against being dismissed without having an opportunity to know what charges are brought against him.

Professor James Franklin Collins has resigned as assistant professor of botany and curator of the herbarium at Brown University to accept a position as forest pathologist in the Bureau of Plant Industry.

Professor T. D. Beckwith, bacteriologist and plant pathologist at North Dakota Agricultural College and Experiment Station, has been elected head of the department of bacteriology at Oregon Agricultural College and state bacteriologist for the Experiment Station. He will take up his duties at Corvallis, Ore., on September first.

The Royal Society has awarded the Mackennon studentships for the ensuing year to Mr. T. F. Winmill, of Magdalen College, Oxford, for research in structural chemistry, and to Mr. T. Goodey, of Rothamsted Experimental Station, for research on protozoa in relation to the fertility of soil. The Joule studentship for the ensuing period of two years has been awarded to Mr. Albert Eagle, Imperial College of Science, for research on

the thermal relations of spectra of gases and on cognate subjects.

WE learn from *The Observatory* that Mr. T. F. Claxton, late director of the Royal Alfred Observatory, Mauritius, has been appointed director of the British Colonial Observatory at Hongkong. Dr. Doberck retired from the directorship of the Hongkong Observatory in 1907, and was succeeded by Mr. F. G. Figg. Mr. Claxton was appointed first assistant at Mauritius in December, 1895, and succeeded to the directorship on the retirement of Dr. Meldrum at the end of 1896.

THE International Commission on the Teaching of Mathematics will hold its meeting this year at Milan, September 18–20, under the presidency of Professor F. Klein.

DR. WILLIAM R. BROOKS, director of the Smith Observatory and professor of astronomy at Hobart College, Geneva, N. Y., discovered a comet on the night of July 20. Its position at 15 hours G. M. T. being R. A. 22 hours, 13 minutes and 40 seconds; declination north 20 degrees 57 minutes. Motion slow northwest. The comet is a fairly bright telescopic object in a 10¼ refractor, and is visible in the 3-inch finder.

COL. M. F. WARD, F.R.S., of Slough, writes to *The Observatory* that the church of that parish has lately been enlarged, but that funds are needed to complete the building by the addition of a tower and spire. He thinks that as Sir William Herschel's large telescope stood within 100 yards of the existing church astronomers might like to erect this spire to the memory of the celebrated observer.

AMONG eighteen civil list pensions granted by the British government during the past year are the following: Lady Huggins, in consideration of the services to science rendered by her, in collaboration with her husband, the late Sir William Huggins, O.M., £100. Mrs. Sharpe and her daughters, in consideration of the valuable contributions to ornithology made by Dr. Richard Bowdler Sharpe, and of their straitened circumstances, £90. Mrs. Conder, in consideration of the important services rendered to geographical knowledge by her husband, the late Colonel Claude Reignier Conder, and of her inadequate means of support, £75. Mrs. Fysh, in consideration of the services to chemical and physical science of her father, the late Dr. George Gore, F.R.S., and of the circumstances in which she has been placed by his disposal of his fortune for the furtherance of science, £50. Miss Fanny Hind, Miss Flora Hind and Miss Emma Hind, in consideration of the services of their father, the late Dr. John Russell Hind, F.R.S., superintendent of the Nautical Almanac Office, to the science of astronomy, and of their straitened circumstances, £60. Dr. Charles Creighton, M.D., in consideration of his medical and biological researches, and of his inadequate means of support, in addition to his existing pension, £45. Mr. Thomas Whittaker, in consideration of his philosophical writings, in addition to his existing pension, £30.

MRS. HELENA B. WALCOTT, wife of Dr. Charles D. Walcott, formerly director of the United States Geological Survey, now secretary of the Smithsonian Institution, was instantly killed in the railway wreck at Bridgeport, Conn., on July 11. A correspondent writes: "Mrs. Walcott had been ardently and actively interested in the scientific work of her husband. In 1888 she accompanied him to Newfoundland where they worked out together the key to the succession of the Cambrian formations of the North American continent. They then crossed to Wales and studied the classical Cambrian sections. For eighteen seasons she accompanied Mr. Walcott on his expeditions in connection with geological researches in various regions of eastern and western United States and Canada. She was a most energetic collector, and was at all times an enthusiastic assistant in the scientific activities in which Mr. Walcott was engaged. Since Mr. Walcott's appointment as secretary of the Smithsonian Institution, she had been greatly interested in the development of the United States National Museum and in the general study of museum systems. She was planning to take a still more active part during the coming winter in

the social side of the scientific life of the capital. Possessed of unusual charm of person and manner, Mrs. Walcott's death is a heavy blow to a large circle of admiring friends and acquaintances."

THE death is announced of Edward P. North, a civil engineer of New York City, known for his work in municipal engineering.

MR. RALPH L. BROADBENT, assistant curator in the geological museum of Canada, died at Ottawa, on July 15, aged fifty-two years.

DR. FRANZ KRAHL, professor of bacteriology in the Technical School at Prague, has died at the age of sixty-five years.

THE formal opening of the Panama National Institute, established by the Republic of Panama, took place on June 18 amidst great pomp. The group of buildings forming the institute has been arranged and constructed after the plans of the University of Paris at a total cost exceeding one million dollars. The statues in bronze and white marble of Carrara and the luxurious display of historical oil paintings and medallions on the ceilings and walls of the main building cost over $150,000. The four scattered buildings previously occupied by the colleges of the institute will be converted into Trade and High Schools.

THE *Carnegie* left Cape Town on April 26 and arrived at Colombo on June 9. Important errors in the magnetic charts of the Indian Ocean were found.

WE learn from the *Bulletin* of the American Mathematical Society that a Spanish mathematical society has been organized at Madrid, where its first meeting was held on April 5. J. Echegaray was elected president. The society will publish a *Bulletin* which will be in charge of C. J. Rudea, L. O. deToledo, A. Krahe and J. R. Pastor.

THE junior class in mining engineering at Case School of Applied Science, Cleveland, O., spent the month of June on an inspection trip through the west. Two weeks each were spent in Colorado and Utah. The instructors in charge of the party were Dr. A. W. Smith, professor of metallurgy; Dr. Frank R. Van Horn, professor of geology and mineralogy, and Mr. L. O. Howard, instructor in mining and milling.

ONE of the most lofty mountain regions of the Appalachian system, recently surveyed by the United States Geological Survey, is depicted in detail in a topographic map which the Survey has just published—the map of the "Abingdon quadrangle." This map is on the scale of approximately two miles to the inch and shows an area of a little over 1,000 square miles, embracing portions of southwestern Virginia, northeastern Tennessee and northwestern North Carolina, the three states cornering in the southern part of the quadrangle. The topographic maps of the Geological Survey portray all the works of man as well as the physical characteristics of the country, and the Abingdon map indicates a region of great diversity. Part of the area is seen to be somewhat thickly dotted with villages, settlements and individual farm houses; other portions are shown as vast stretches of high mountain ranges with many lofty ridges, peaks and knobs, devoid of habitations. The larger portion of the quadrangle was surveyed by Topographer Duncan Hannegan, but other topographers who worked on the map are J. D. Forster, R. W. Berry, C. C. Gardner, R. A. Kiger and H. W. Peabody. Hundreds of miles of area were tramped over by these surveyors and scores of camps were established, thousands of sights made and hundreds of miles of level lines run. Thirty-nine indestructible iron bench marks were established, showing the elevations above sea level to the nearest foot. The line between Virginia and Tennessee, as shown on the map, was the subject of much controversy for many years. Recently, however, it was resurveyed, and it can now be easily followed by the monuments which have been placed at prominent places and by the cutting of the timber along the line. The line between Virginia and North Carolina, according to Mr. Hannegan, is of ancient date and is very difficult to follow; many of the inhabitants living close to the boundary are in doubt whether they should pay their taxes in one state or the other, as

there are no monuments, and marked trees are very scarce.

IN Bulletin 401 of the United States Geological Survey, entitled "Relations between Local Magnetic Disturbances and the Genesis of Petroleum," by George F. Becker, the condition of knowledge with reference to the origin of petroleum and other bituminous substances is reviewed. Some oils, says Mr. Becker, are undoubtedly organic and some are beyond question inorganic. They may have been derived from carbonaceous matter of vegetable or animal origin, and they may have been derived from carbides of iron or other metals. It is also barely possible that the hydrocarbons exist as such in the mass of the earth. While studying the subject, Mr. Becker was led to inquire whether any relation could be detected between the behavior of the compass needle and the distribution of hydrocarbons. Not much could be expected from a comparison of these phenomena, for magnetite exerts an attraction on the needle whether this ore occurs in solid masses or is disseminated in massive rocks; moreover, many volcanic rocks possess polarity. In glancing over a map of the magnetic declination in the United States Mr. Becker found that the irregularities of the curves of equal declination of the compass were strongly marked in the principal oil regions. The most marked agreement is found through the great Appalachian oil field, which is the area of greatest variation in declination. In California, also, strong deflections accompany the chain of hydrocarbon deposits. These observations are to some extent also supported by conditions in the Caucasus, where great magnetic disturbances exist. While the theory of the inorganic origin of the hydrocarbons is not proved by this study, yet the contention that great oil deposits are generated from iron carbides is strongly borne out by a study of the map of magnetic disturbances in the United States. The map shows that petroleum is intimately associated with magnetic disturbances similar to those arising from the neighborhood of substances possessing sensible magnetic properties, such as iron, nickel, cobalt and magnetite.

THE Journal of the American Medical Association states that under the supervision of the health department of the Canadian conservation commission, Canada is to have established in the immediate future, a national laboratory for the manufacture of sera, vaccines, toxins and antitoxins. A subcommittee of the federal cabinet has approved of the proposal and has recommended speedy provision for the construction and equipment of the laboratory. This proposition has been endorsed by the Canadian Medical Association at several of its recent meetings.

We learn from *Nature* that a conference was held recently in the zoological laboratory of the University of Utrecht for the purpose of founding an International Embryological Institute. Austria, Belgium, England, France, Germany and Holland were represented at the meeting by workers in the domain of vertebrate embryology; and letters were received from Switzerland and the United States in support of the scheme adumbrated by the conveners of the meeting. Professor R. Bonnet, of Bonn, was elected first president of the institute, and it was decided that the first aims of the new institution should be (1) the collection of complete series of well-preserved embryos of every mammalian order, and (2) a more intimate cooperation between embryologists, for the purpose of attaining a uniformity in nomenclature and the solution of the special difficulties in this field of investigation.

"THE Production of Fuller's Earth," by Jefferson Middleton, of the U. S. Geological Survey, has been published as an advance chapter from "Mineral Resources of the United States, 1910." The fuller's earth resources of the United States, says Mr. Middleton, have attracted considerable attention for several years because of the increasing demand for this material for use as a clarifying agent for mineral and vegetable oils. The original use from which it derives its name, the fulling of cloth, is now of minor impor-

tance. For a great many years fuller's earth was imported from England, the only known source of supply, but in 1893 it was by accident discovered in this country. At Quincy, Fla., an effort was made, without success, to burn brick on the property of the Owl Cigar Company. An Alsatian cigar maker employed by the company called attention to the close resemblance of this clay to the German fuller's earth. As a result of this suggestion, the clay was tested and found to be fuller's earth, and the industry was developed. The principal use of fuller's earth in this country is in bleaching, clarifying, or filtering of fats, greases and oils. The common practise with mineral oils is to dry the earth carefully after it has been finely ground, and run it into long cylinders, through which the crude black mineral oils are allowed to percolate very slowly. As a result, the oil that first comes out is perfectly water white and much thinner than that which follows. The oil is allowed to continue percolating through the earth until the color reaches a certain maximum shade. Then the fuller's earth itself is clarified by a steaming process and used over again. With vegetable oils, however, the process is radically different. The oil is heated beyond the boiling point of water in large tanks, from 5 to 10 per cent. of its weight of fuller's earth is added, and the mixture is vigorously stirred and then filtered off through bag filters. The coloring matter remains with the earth, the filtered oil being of a very pale straw color. American fuller's earths are better adapted than the English earths for use on mineral oils, but the English earths are superior for the treatment of fats and vegetable oils. In clarifying vegetable and animal fats with American earths a more or less disagreeable taste is left—just why has never been determined. To show the growth of the American industry it is only necessary to state that from 6,900 tons in 1895 the production increased to 33,486 tons in 1909. This was the maximum, the output for 1910 being 664 tons less. Florida was the leading producing state in 1910, furnishing 57.38 per cent. of the total output. The other producing states, named in the order of their rank in output and value in 1910, were Georgia, Arkansas, Texas, California, Massachusetts, South Carolina and Colorado.

UNIVERSITY AND EDUCATIONAL NEWS

SIR WILLIAM MACDONALD has completed a large purchase of land on the slope of the mountain adjoining Mountroyal Park and will give the property to McGill University. A new campus and residential buildings will be established upon it. The purchase price was over $1,000,000. Including the cost of Macdonald College and its endowment, this brings Sir William Macdonald's total gifts to McGill University to $10,000,000.

THE New York legislature has passed a bill to appropriate $10,000 for the establishment of a school of sanitary science and public health at Cornell University.

MR. R. C. FORSTER has made a further gift of £30,000 to the fund for providing new chemical laboratories at University College, London.

AT Cornell University Dr. D. C. Gillespie has been appointed assistant professor of mathematics. Mr. G. W. Nasmyth has been appointed instructor in physics and Mr. J. Mackenzie instructor in economic geology.

DR. ELLIOT R. DOWNING, in charge of the department of biology of the Northern State Normal School, Marquette, Mich., has been appointed assistant professor of natural history in the school of education of the University of Chicago.

DR. THOMAS L. PORTER, who has been assistant in physics in Northwestern University and Clark University, has been appointed professor of physics in Colorado College.

DR. BENJAMIN F. LOVELACE, professor of chemistry in the University of Alabama, has been elected associate professor of chemistry in the Johns Hopkins University. Dr. Stewart J. Lloyd, adjunct professor of chemistry and metallurgy, has been promoted to the professorship of chemistry in the University of Alabama.