

Friday evenings at which popular addresses will be given by distinguished speakers. It is hoped that the president of the American Association for the Advancement of Science, Professor Michael I. Pupin, will be present and will give one of these addresses. A banquet will occur on Thursday evening preceding the public address. Dinners by various affiliated societies will occur on Wednesday and Friday evenings.

It is hoped that a symposium on some subject of broad general interest can be arranged for Thursday afternoon. All the other afternoons and all the forenoons will be available for sessions of the various affiliated societies. Saturday and Sunday will be devoted to excursions, and it is expected that a number will be arranged to several of the near-by points of unusual scenic or scientific interest, such as The Dalles, Mount Hood, Mount Rainier and Multnomah Falls, all of wonderful scenic beauty and interest; the classic John Day River fossil beds which visiting paleontologists will wish to see; the fish hatcheries at Little White-Salmon, Bonneville and Clackamas; the beautiful Hood River Valley with its great apple orchards; Astoria, only a few miles away, the center of the wonderful salmon fisheries of the Columbia and replete with historic interest. A visit is planned to the State Agricultural College at Corvallis and probably to the State University at Eugene.

Those interested in angling will not fail to visit Willamette Falls where they may try their luck with the salmon. Facilities will be provided also for visits to some of the great forests and the great lumber mills.

The prospects for a meeting of unusual size and interest are good. The climate and other conditions are ideal at that season and a more delightful time for a visit to the great Northwest could not be selected. It is expected that many Eastern members and their friends will avail themselves of this exceptional opportunity to visit the Pacific Coast.

Dr. A. A. Knowlton, Reed College, Portland, is the chairman of the local committee on arrangements. Any one desiring further information regarding the meeting may address Dr. Knowlton or the acting secretary, Dr. Barton Warren Evermann, California Academy of Sciences, San Francisco.

SCIENTIFIC NOTES AND NEWS

THE sixty-first annual meeting of the National Academy of Sciences will be held at the National Academy Building, Washington, D. C., on April 27, 28 and 29.

THE regular spring meeting of the executive committee of the council of the American Association for the Advancement of Science will be held at Washington, on Sunday, April 26. Association busi-

ness to be brought before the committee should be in the hands of the permanent secretary of the association, Smithsonian Institution Building, Washington, by April 20.

DR. JACOB GOULD SCHURMAN, minister to China, formerly professor of philosophy at Cornell University, and later president, has been appointed by President Coolidge ambassador to Berlin.

RENICK W. DUNLAP, of Ohio, has been nominated by the President to be Assistant Secretary of Agriculture.

THE presentation of the John Fritz Gold Medal, the highest honor bestowed by the engineering profession in the United States, to John Frank Stevens, former chief engineer of the Panama Canal, for great achievements as a civil engineer, particularly in planning and organizing the construction of the Panama Canal; as a builder of railroads, and as administrator of the Chinese Eastern Railway, took place on March 23. The speakers at the ceremony included Ralph Budd, president of the Great Northern Railway Company, and Roland S. Morris, former ambassador to Japan. John R. Freeman, of Providence, R. I., presided.

JOEL D. JUSTIN was recently awarded the James R. Croes Medal by the directors of the American Society of Civil Engineers for his paper on "The design of earth dams."

DUBLIN UNIVERSITY will confer the honorary degree of master of surgery on Dr. George W. Crile, of Cleveland, Ohio, and Dr. Charles H. Mayo, of Rochester, Minn.

THE Laetare Medal, given annually by the University of Nôtre Dame, has been awarded to Dr. Albert Francis Zahm, professor of mechanics, in the Catholic University of Washington, for his work in the field of aerial navigation.

THE University of Edinburgh has awarded the Cameron prize of £200 for distinction in practical therapeutics to Professor R. Magnus, of the Royal University, Utrecht, Holland.

DR. ROUX, director of the Pasteur Institute in Paris, has been elected honorary member of the Institute of Experimental Medicine in Leningrad. Professor W. M. Beijerinck, Holland, and Dr. C. Neuberg, Berlin, have been elected corresponding members.

DR. S. E. STRÖMGREN, director of the University Observatory at Copenhagen, has been elected a member of the Prussian Academy of Sciences.

DR. MAUCLAIRE, surgeon to the hospitals of Paris since 1897, has been elected to the French Academy of

Medicine to take the place of the late Professor Rochard.

PROFESSOR ÉMILE BOREL, of the faculty of sciences of the University of Paris, has been given an honorary doctorate by the University of Copenhagen.

PROFESSOR WILLY WIEN, of Würzburg, has been elected an honorary fellow of the Physical Society of London.

THE Romanes Lecture for 1925 will be delivered by Sir William Bragg in London on May 20 on "The crystalline state."

THE council of the Royal Anthropological Institute of Great Britain has elected Professor Sir William Ridgeway as Huxley lecturer and Huxley medallist for 1926.

DR. CHARLES W. HOLTON, secretary of the College of Pharmacy of Columbia University, has been elected president of the American Pharmaceutical Association. He succeeds Dr. H. V. Arny, professor of chemistry in the College of Pharmacy.

DR. ARTHUR D. LITTLE, president of Arthur D. Little, Inc., of Boston, has been elected to succeed Dr. Charles H. Herty as chairman of the Advisory Committee of the Exposition of Chemical Industries.

PROFESSOR ALEXANDER SILVERMAN, of the University of Pittsburgh, has been elected chairman of the glass division of the American Ceramic Society.

AT the University of London, Professor H. R. Kenwood has been appointed emeritus professor of hygiene, and Sir John Rose Bradford, emeritus professor of medicine.

PROFESSOR HENRY BEDINGER MITCHELL, professor of mathematics at Columbia University, has resigned.

AUGUSTO BONAZZI, for many years in charge of the soil biological investigations of the Ohio Agricultural Experiment Station, has resigned his position to accept the directorship of the Chaparra Sugar Cane Experiment Station in San Manuel (Ote), Cuba.

AT the thirty-fifth annual meeting of the Association of American Medical Colleges which met in Boston, from March 5 to 7, the following officers were elected: Drs. Hugh Cabot, Ann Arbor, *president*; David L. Edsall, Boston, *vice-president*; Fred C. Zapffe, Chicago, *secretary* (reelected); *members of the executive council*: Irving S. Cutter, Omaha; Walter L. Niles, New York, and Charles F. Martin, Montreal. The next meeting will be in Charleston, S. C., from October 26 to 28, 1925.

AT the forty-seventh annual meeting on March 2, of the Institute of Chemistry, London, the following officers for the year ending March, 1926, were elected:

President, Professor G. G. Henderson; *vice-presidents*, Professor E. C. C. Baly, Mr. E. R. Bolton, Mr. A. Chaston Chapman, Dr. T. Slater Price, Professor A. Smithells, Mr. E. W. Voeleker; *honorary treasurer*, Mr. P. H. Kirkaldy.

AT the annual general meeting of the Physical Society, London, held on February 13, the following officers were elected: *President*, Mr. F. E. Smith; *vice-presidents* (who have filled the office of president), Sir Oliver J. Lodge, Sir Richard Glazebrook, Dr. C. Chree, Professor H. L. Callendar, Sir Arthur Schuster, Sir J. J. Thomson, Professor C. Vernon Boys, Professor C. H. Lees, Sir W. H. Bragg, Dr. Alexander Russell; *vice-presidents*, Dr. E. H. Rayner, Dr. J. H. Vincent, Dr. D. Owen, Mr. C. R. Darling; *secretaries*, Professor A. O. Rankine, Imperial College of Science and Technology; Mr. J. Guild, National Physical Laboratory; *foreign secretary*, Sir Arthur Schuster; *treasurer*, Mr. R. S. Whipple; *librarian*, Mr. J. H. Brinkworth.

DR. JAMES R. WEIR, pathologist in charge of pathological collections, Bureau of Plant Industry, has completed a two-months period of service with the Tropical Plant Research Foundation on a survey of sugar cane fungi in Cuba. Dr. Weir afterwards collected and studied the diseases of tropical plants in Haiti, the Dominican Republic and Puerto Rico.

DR. MEL T. COOK, plant pathologist for the Insular Experiment Station of Porto Rico, spent the first week of March in Santo Domingo on a mission for the Insular Department of Agriculture.

DR. RALPH W. CHENEY, of the museum of paleontology, University of California, is to join the expedition of Roy Chapman Andrews, now moving into the Gobi Desert, in central China.

DR. JOSEPH T. SINGEWALD, professor of economic geology at the Johns Hopkins University, has received leave of absence from the university to explore geological formations in South America.

PROFESSOR T. D. A. COCKERELL, of the University of Colorado, and Mrs. Cockerell, will visit Argentina during the coming summer, to examine two localities for fossil insects which have been discovered near the eastern base of the Andes. Mrs. Cockerell is writing a book on the zoology of Colorado, to be published next year by the University of Colorado.

DR. ALEXANDER PETRUNKEVITCH, professor of zoology at Yale University, has received a year's leave of absence to study zoology in Porto Rico.

DR. O. A. REINKING, pathologist for the United Fruit Company, has gone on a trip to collect banana plants in Formosa, the East Indies, China, Siam and

India. He is making a special study of the insects inhabiting the banana.

DR. BENGT KJERRMAN, of the Ingeniors Vetenskaps Akademien, Stockholm, has come to the United States for one year as a research fellow at the Bureau of Standards, for the purpose of comparing the Swedish and American methods for determination of gases in metals.

DR. H. C. WILLIAMSON, of the Scottish Fisheries Bureau, has been appointed to investigate the salmon of British Columbia at Prince Rupert.

PROFESSOR JOHN J. ABEL, of the Johns Hopkins University, who was chosen by the Association of American Physicians as the lecturer of the Kober Endowment of Georgetown University for 1925, delivered the lecture on March 28 on "Some recent advances in our knowledge of the ductless glands."

At the annual meeting of the American Institute of Chemists, which will open in Baltimore on April 6, Dr. Charles Munroe, of Washington, will deliver an address on "Organization of chemists in the United States." Dr. James Kendall, professor of chemistry at Columbia University, will speak on "Some notable chemical discoveries."

DR. WILDER D. BANCROFT, professor of physical chemistry at Cornell University, will give a series of three lectures on structural colors at the Wagner Free Institute of Science on March 26, 27 and 28.

DR. M. L. CROSSLEY, president of the American Institute of Chemists, addressed the Washington chapter at its March meeting on the subject, "Chemistry as a profession." Previous to the meeting, resident fellows of the institute tendered a dinner to Dr. Crossley at the Raleigh Hotel.

DR. RICHARD C. CABOT, professor of clinical medicine, Harvard University Medical School, will be the principal speaker at the annual honors convocation at the University of Michigan on April 24.

DR. WHEELER P. DAVEY, of the Research Laboratory of the General Electric Company, gave a series of lectures before the departments of physics and chemistry of Cornell University during the week of March 23. His subject was "Crystal structure and its relation to physics and chemistry."

THE 198th meeting of the Washington Academy of Sciences and affiliated engineering and metallurgical societies was held in the Cosmos Club on Thursday, March 19, when Dr. Karl Benedicks, director, Metallographic Institute, Stockholm, Sweden, delivered an address on "The theory of high-speed steel."

THE *Journal of General Physiology* proposes to issue Volume VIII as a memorial to its founder, Dr.

Jacques Loeb. The volume, which will contain papers by Dr. Loeb's pupils and his associates and a portrait and a sketch of his life, will appear simultaneously with Volumes VII and IX, and publication will commence about July 1.

MRS. HERMANN BIGGS has given to the New York Tuberculosis Association funds to establish an annual lectureship on tuberculosis as a memorial to her husband, the late Dr. Hermann M. Biggs.

THE Maine Federation of Agricultural Associations will present to the University of Maine a bronze tablet in memory of Rutillus Alden, who did much for the promotion of agriculture in Maine.

SHIRELY E. ROBERTS, formerly professor of mathematics at the University of the Philippine Islands, died on March 9, aged forty-seven years.

MISS EMMA FRANCIS, assistant professor of agricultural and biological chemistry at the Pennsylvania State College, died on March 4.

DR. A. DE WATTEVILLE, for many years editor of *Brain* and distinguished for his work on the nervous system, died on February 24, aged seventy-eight years.

DR. AUGUST VON WASSERMANN, director of the Kaiser Wilhelm Institute for Medical Research and professor of experimental therapy at the University of Berlin, died on March 16, aged fifty-nine years.

DR. ARTHUR HEFFTER, formerly director of the institute of pharmacology at the University of Berlin, died on February 12 at the age of sixty-six years.

A CORRESPONDENT writes: "The death occurred on March 10 of Dr. William McInnes, Ottawa. Dr. McInnes was appointed to the staff of the Geological Survey of Canada in 1882 and spent several years in the study of the Paleozoic sedimentary formations of New Brunswick. The years 1890 to 1900, inclusive, were spent in mapping the Precambrian formations of western Ontario. During the next ten years he was engaged in exploratory work in the district of Patricia, northern Ontario, and in northern Manitoba and Saskatchewan. The results of his work are set forth in numerous publications of the Geological Survey. He was one of the editors of the three-volume work on the "Coal Resources of the World" and the "Compte-Rendu" of the twelfth International Geological Congress which met in Canada in 1913. In 1915 he was made "directing geologist in charge of all geological and field parties," and in 1919 was created director of the Geological Survey of Canada, the highest position in the gift of the survey. From this post he was transferred in 1920 to the position of director of the Victorian Memorial Museum, and editor-in-chief of the Department of Mines. This

office he held until his death. He was elected fellow of the Geological Society of America in 1889 and fellow of the Royal Society of Canada in 1912."

COLONEL THOMAS L. CASEY, U. S. A., retired, who recently died in Washington, D. C., bequeathed his collection of beetles and his library pertaining to entomology, as well as his collection and library in malacology, to the U. S. National Museum. The beetle collection contains some 15,000 species of which about one third are represented by types.

THROUGH the generosity of Messrs. Watermeyer and Leonhardt, president and vice-president of Fritzsche Brothers, Inc., a research fellowship in the chemistry of perfumes and essential oils has been offered to Columbia University. The fellow is to be appointed by the University Council, upon nomination of a committee of award composed of the president of Fritzsche Brothers and the senior professor of organic chemistry at Columbia, and approved by the department of chemistry. The recipient of the fellowship will receive \$3,000 per annum and the investigations will be conducted under the direction of Professor Marston T. Bogert.

THE regular meeting of the American section of the Society of Chemical Industry was held at the Chemists' Club, on March 20, when James G. Vail spoke on "Silicate solutions and some siliceous gels" and Dr. Edward R. Berry spoke on "The manufacturing uses of clear fused quartz and its value in medical fields."

ARRANGEMENTS are being made for the holding of an International Dairying Conference in London in 1926 or 1927. The conference will be supported by the Ministry of Agriculture. According to the *London Times*, the purpose is to stimulate the production of milk by devising new or improved methods and to enhance its consumption by increasing the public appreciation of its value as a food. It is proposed that every interest concerned, not only in the production and distribution of milk, but in its consumption also, should be represented at the conference—cattle-breeding organizations, dairy farmers, landowners, health societies, local authorities and the makers of dairying appliances. A national committee will be formed for the organization of the conference. A similar congress was held in the United States last year and the government contributed £7,000 towards its cost, which was £27,000. The Ministry of Agriculture think that the Treasury might contribute a quarter of the cost of the proposed congress on the basis of a total expenditure of £10,000.

WHAT is said to be the finest engineering laboratory in the country is being completed by the Ford Motor

Company, at Dearborn, Michigan, according to *Chemical and Metallurgical Engineering*. It is designed for chemical, metallurgical and affiliated industrial research and experiments, comprising practically one room in a new building, 202 x 804 feet, approximately two city blocks in length. The total glass area of the new laboratory proper aggregates 64,000 square feet, or equivalent to 40 per cent. of the total floor space. The mechanical installation consists of complete equipment for the construction of an entire automobile, with chemical research apparatus, physical test machines, equipment for metallurgical research and investigations, drafting room facilities, etc. No piping or wiring is exposed in the laboratory; all power lines are under the floor in conduits, with feed wires led up through the floor to individual motor drives. The building will also contain a comprehensive reference library.

ACCORDING to *Nature*, at the opening meeting for the 1924-25 session of the Institution of Petroleum Technologists, England, awards of the institution's medals and scholarships were announced. The Boverton Redwood Medal for the sessions 1919-20 and 1920-21 was awarded to M. Paul de Chambrier for his paper on the "Working of petroleum by means of 'shafts' and 'galleries,'" read before the institution on February 15, 1921. This medal, presented to the institution by Mr. Alexander Duckham to commemorate the late Sir Boverton Redwood, founder and first president of the institution, is awarded to the author of the paper of the greatest merit on any subject connected with petroleum technology, presented to the institution during two consecutive sessions, and is not confined to members of the institution. The award has been made retrospective to 1919, the date of Sir Boverton Redwood's death. As there was no paper of outstanding merit for the sessions 1921-22 and 1922-23, no award has been made for those sessions. The Student's Medal and Prize has been awarded to Lieutenant J. H. Blakiston, formerly student of the oil technology course at the University of Birmingham, for his paper entitled "The oilfields of Roumania." This award is made to the student member of the institution who presents the best paper on any subject connected with petroleum technology, in any one session. This is the first award of this medal and prize. A scholarship has been awarded to Mr. Ernest Clark, of the Royal School of Mines. These scholarships are awarded annually, one each to the Royal School of Mines, Imperial College of Science and Technology, London, and to the University of Birmingham, to a third-year student, taking the petroleum technology course, who is also a student member of the institution.

FURTHER plans for the cooperative study of the

physical-chemical properties of Portland cement by the National Bureau of Standards and the Portland Cement Association include the following projects: 1. A study of cement clinker made from pure compounds and from pure compounds with admixture of the impurities found in natural materials. 2. Petrographic studies to determine the optical characteristics of cement mineral constituents and the quantitative petrographic analysis of clinker. 3. A study of the hydration of cement in all its phases. 4. The crystalloidal behavior of silicic acid. Thus far the work has included principally the development, construction and standardization of equipment and methods of testing. It is hoped that the studies can be extended into other fields beyond those already projected. This work will continue and extend the bureau's studies, which for several years have been under the direction of P. H. Bates; Dr. R. H. Bogue, formerly at Lafayette College, will be directly in charge of the association's group of workers who are stationed at the bureau.

UNIVERSITY AND EDUCATIONAL NOTES

A SIX-STORY building to house teaching and research in the departments of physiology, physiological chemistry and pharmacology is being planned at the University of Chicago as a unit of the group of buildings for medical education which will be erected in the near future. Funds have been provided independently of the university's \$17,500,000 development program.

THE Arkansas legislature, which recently adjourned, appropriated \$650,000 for new buildings to be erected at the University of Arkansas in the next biennial period.

THREE gifts totaling \$360,000, to complete the \$5,000,000 endowment fund for Hampton and Tuskegee institutes, have been received by the committee. Edward S. Harkness gave \$250,000; Mrs. Stephen V. Harkness, \$100,000, and Mrs. E. H. Harriman, \$10,000.

GLASGOW TECHNICAL COLLEGE, England, has received the sum of £50,000 from an anonymous donor.

DR. AGNES L. ROGERS, of Smith College, has been appointed professor of education and psychology at Bryn Mawr College.

W. R. HALLIDAY and S. R. Lott, formerly assistant professors in the department of machine design at Stevens Institute of Technology, have been advanced to the rank of associate professors. J. C. Wegle has been made assistant professor in the same department. Professor Wegle has also been appointed acting dean of student activities.

DR. ALFRED P. LATHROP has resigned his position in Queens University, Canada, to accept a position as associate professor of organic chemistry in Oberlin College.

ARTHUR CLARK TERRILL, for the past four years professor of mining engineering at Pei Yang University, Tientsin, China, is now lecturer in geology at the California Institute of Technology.

At the University of Aberdeen, Dr. A. Bowman has been appointed to the lectureship on the scientific study of fisheries, in succession to Dr. T. Wemyss Fulton, resigned.

DISCUSSION AND CORRESPONDENCE

MARKET CHARTS AND THE LAW OF SUPPLY AND DEMAND

IN general when the price of a commodity is lowered the demand for it increases, slightly or considerably, as the case may be. This response of demand to price changes is, of course, vital in all marketing problems. Although not very precise relations between price and demand are known, curves may be drawn showing their general trend and salient characteristics.

Such plotted curves—market charts—may also be drawn showing the production of a given commodity (*e.g.*, automobiles) at each price. This curve, together with the corresponding curve showing demand as a function of price, give a direct relation between supply and demand in mathematical terms as exact as the data from which they are drawn, namely, the slopes of the price-supply and demand-price curves. Finally, areas under the curves are volumes of business, actual or to be expected, as the case may be.

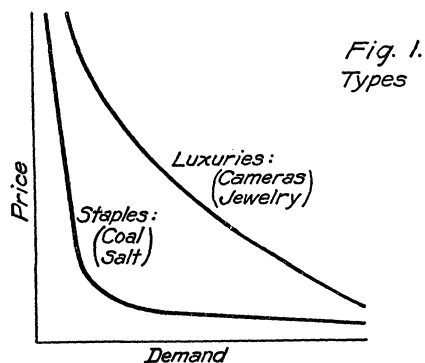


Fig. 1.
Types

These characteristics are illustrated in the accompanying figures. Fig. 1 shows two extreme types of curves, namely, for staples and for luxuries. The consumption of coal, salt and the like would be very little affected by price. If the price dropped to one