

tised in the arts of defining, classifying and the detection of fallacies and inconsistencies.

The principle of causation is to be taught as a process occurring in nature, and applicable to material things, and not as a notion in the minds of philosophers.

Subject to these requirements, a wide discretion is to be allowed to the lecturer.

#### COURSE ON SCIENCE AS APPLIED TO INDUSTRY

THE Sheffield Scientific School at Yale University announces a new general course, to be given during sophomore and senior years on "Science as Applied to Industry" to be given next fall for the first time. The official pamphlet says:

The object of this course is to give students a broad training, based upon a knowledge of certain of the fundamental sciences and of scientific methods, for executive and managerial positions in the business world. The course is not designed for students seeking preparation for a professional career in some particular branch of science, such as chemistry, geology, or metallurgy, where problems of production are likely to occupy their attention.

In accordance with the theory of the freshman year, this course may be chosen by any member of the first-year class. The best approach, however, is said to be by Group II. of that year, comprising English, history, mathematics, chemistry or physics, and French, German or Spanish. The electives come only in junior and senior years; and the student will find his work closely laid out for him until then. The sophomore will take calculus, physics, his chosen modern language, a course in contemporary English, qualitative analysis, and mineralogy and crystallography.

In junior year the student will take physical chemistry, physical and historical geology, elementary metallurgy, drawing, industrial mineralogy, business finance, elementary economics, and more of the same sort of English. He may also elect from elementary botany, biology, or modern language, sufficient hours to fulfill the required number. When he becomes a senior, he will take general chemistry, economic geology, statistics and reports, in-

dustrial management, principles of accounting, elementary petrology and applied structural geology, metals and alloys, industrial management, and cost analysis. For electives, he may choose from elementary organic chemistry, industrial chemistry, economic and regional geology, business law, insurance, metallurgy of iron and steel, transportation and economic problems. The total of recitation, lecture, laboratory work and preparation comes to forty-six hours in sophomore year, forty-five and one half hours in junior year, and forty-five hours in senior year.

The pamphlet explains that "while no attempt is made to cover the entire field of natural and physical science as a foundation for the more practical business studies which form in the last two years an integral part of the course, attention is centered upon three branches of science, those of chemistry, geology, and metallurgy, the work in these sciences being so arranged that the natural and logical order of development is followed, covering in some cases four years of work in a single field. The scientific studies are supplemented in each of the years by general or cultural studies in English or modern language, and in junior and senior years by the study of economics, and of selected subjects within the general field of business administration."

#### STANDARDIZATION OF INDUSTRIAL LABORATORY APPARATUS

*The Journal of Industrial and Engineering Chemistry* states that through the efforts of certain apparatus manufacturers, there met informally at the Chemists' Club, New York City, representatives of the following companies to discuss the advisability of drawing up standard specifications for laboratory apparatus to be used in their industrial research and works control laboratories: Barrett Company, General Chemical Company, Atmospheric Nitrogen Corporation, Grasselli Chemical Company, National Aniline & Chemical Company, New Jersey Zinc Company, Solvay Process Company, Standard Oil Company of New Jersey, and E. I. du Pont de Nemours & Company.

Since most of these companies are members of the Manufacturing Chemists' Association of the United States, a committee composed of these members was appointed by the association to pass on the proposals of the informal committee and to recommend the adoption of the specifications resulting from the informal committee's work as standard for the members of the Manufacturing Chemists' Association.

Arrangements have been made for full cooperation with the committee on guaranteed reagents and standard apparatus of the American Chemical Society, and also with the committee on standards of the Association of Scientific Apparatus Makers. These specifications will be considered carefully by committees of these three societies, and it is expected that they will then be published as tentative for a period of 6 months in order to give time for general criticism. At the end of that time the specifications will be adopted as final. In carrying on this work an effort will be made to obtain specifications which will insure the cheapest mode of manufacture of a given instrument consistent with the duties that it must perform. The committee desires to cooperate fully with all industries, and any communications should be forwarded to the chairman, Dr. E. C. Lathrop, E. I. du Pont de Nemours & Co., Wilmington, Delaware.

#### SCIENTIFIC NOTES AND NEWS

HENRY ANDREWS BUMSTEAD, professor of physics at Yale University and director of the Sloane Physical Laboratory, on leave of absence this year to act as chairman of the National Research Council, died suddenly on the night of December 31, while returning from attendance on the scientific meetings at Chicago.

At the Chicago meeting of the American Association for the Advancement of Science, vice-presidents of the association and chairmen of the sections were elected as follows: *Mathematics*, Oswald Veblen, Princeton University; *Physics*, G. W. Stewart, State University of Iowa; *Chemistry*, W. D. Harkins,

University of Chicago; *Astronomy*, S. A. Mitchell, Leander McCormick Observatory, University of Virginia; *Geology and Geography*, Willet G. Miller, University of Toronto; *Zoological Sciences*, Charles A. Kofoid, University of California; *Botanical Sciences*, Mel T. Cook, Rutgers College; *Anthropology*, Albert Ernest Jenks, University of Minnesota; *Psychology*, E. A. Bott, University of Toronto; *Agriculture*, J. G. Lipman, Rutgers College; *Education*, Guy M. Whipple, University of Michigan.

PROFESSOR BRADLEY M. DAVIS, professor of botany at the University of Michigan, was elected president, and Professor H. E. Crampton, of Columbia University vice-president, at the Chicago meeting of the American Society of Naturalists.

THE American Society of Zoologists has elected as president Professor Charles A. Kofoid, of the University of California, and as vice-president Professor Aaron L. Treadwell, of Vassar College.

FIFTY-FOUR members attended the annual meeting of the American Society of Biological Chemists, Inc., held in Chicago from December 28 to 30. Officers elected for the year 1921 were: *President*, Donald D. Van Slyke; *Vice-president*, Philip A. Shaffer; *Secretary*, Victor C. Myers; *Treasurer*, Harold C. Bradley; *Additional Members of the Council*, Stanley R. Benedict, Otto Folin and Walter Jones.

DR. E. E. SLOSSON, associate editor of *The Independent* and formerly professor of chemistry in the University of Wyoming, has been elected editor of the Science Service, the temporary headquarters of which are at 1701 Massachusetts Avenue, Washington, D. C.

J. D. MACKENZIE has succeeded Charles Cammell, now deputy minister of mines, in charge of the British Columbia office of Geological Survey at Vancouver.

PROFESSOR SANARELLI, director of the Institute of Hygiene of the University of Rome, and editor of *Annali d'Igiene*, and Dr. Nicola Badaloni, a well-known writer on social medicine, have recently been made Roman senators.