

SCIENCE

VOL. 82

FRIDAY, NOVEMBER 15, 1935

No. 2133

Environmental Medicine: DR. ALFRED C. REED 447

Obituary:

Henry Fairfield Osborn: DR. WILLIAM K. GREGORY 452

Scientific Events:

Summer Work of the Division of Geological Sciences at Harvard University; The George F. Baker Fellowships at Cornell University; The Summer Meeting of the American Mathematical Society; The Thirty-first Annual New England Intercollegiate Geological Excursion; Work of the Rockefeller Institute in the Medical and Natural Sciences 454

Scientific Notes and News 457

Discussion:

Distribution and Utilization of Flood Waters: M. E. MUSGRAVE. Naming Pottery Types, and Rules of Priority: DR. HAROLD S. COLTON and LYNDON L. HARGRAVE. The Inhibiting Influence of a Virus on One of Its Mutants: H. H. MCKINNEY. Iodine Therapy and Goitre: PROFESSOR ARNO B. LUCKHARDT 461

Special Articles:

The Effect of Alteration on the Lead-Uranium Ratio and the Calculated Age of Wilberforce, Ontario, Uraninite: PROFESSOR CHESTER M. ALTER

and EGBERT M. KIPP. *Apparent Intoxication in Poultry Due to Nitrogenous Bases*: DR. S. F. COOK and K. G. SCOTT. *The Diphasic Aspect of the Curdling of Milk by Rennin*: A. G. SMITH and PROFESSOR H. C. BRADLEY 464

Scientific Apparatus and Laboratory Methods:

A Tube for Culturing Fungi: THEO. C. SCHEFFER. Rapid Weighings with a Troemner Solution Balance: DR. E. T. BARTHOLOMEW and E. C. RABY 467

Science News 6

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal

Lancaster, Pa.

Garrison, N. Y.

Annual Subscription, \$6.00

Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

ENVIRONMENTAL MEDICINE¹

By ALFRED C. REED, M.D.

PROFESSOR OF TROPICAL MEDICINE, UNIVERSITY OF CALIFORNIA, AND DIRECTOR OF
PACIFIC INSTITUTE OF TROPICAL MEDICINE

Good health in man and woman, dear my lord,
Is the immediate jewel of their souls;
Who steals my purse, steals trash;
But he that filches from me my good health,
Robs me of that which not enriches him,
And makes me poor indeed.

THUS we paraphrase Othello.

Under the teachings of the great pathologist Virchow, who died in 1902, medical science has been dominated by the conception of cellular pathology and cellular organization of living bodies. Out of cells, tissues were constructed. Out of tissues, organs were constructed. All the organs, and nothing more, made up the organism. Analysis was enthroned as a god. The whole was established as the exact sum total of all its parts. All the functions of the whole were

derived from its elementary components. Medical particularism held the field, as behaviorism and autonomic materialism ruled supreme.

Gradually, however, there has come a change in emphasis which we may call the outworking of philosophic method in the domain of science. The change is not complete, but as it progresses, we can hope that the inherent values of analysis and the cellular organization will be carried over and completed in the broader and more difficult conception of organic unity and functional synthesis. Thus only can we treat of man as a whole being, as an organism or an individuality, if you please, who is greater than the sum total of his parts. Speaking of society, Pareto² puts it in these words, "The fact that we deal with *individua* by no means implies that a number of *individua* taken

¹ Commencement address delivered at Pomona College, Claremont, California, June 17, 1935.

² Wilfredo Pareto, "The Mind and Society," Vol. I, p. 32, 1935.

The Science Press Printing Company

The Science Press Printing Company was established to print SCIENCE and the other publications of The Science Press, including *The Scientific Monthly*, *The American Naturalist*, *School and Society*, and the Biographical Directories of "American Men of Science" and "Leaders in Education." The composition and press work of these publications show the high standards that are maintained. In order to bring them out efficiently and promptly—for example, the entire contents of an issue of SCIENCE can be put in type in one day and each week during 1934 about 13,000 copies of SCIENCE were printed, bound and mailed in a little more than one day—it has been necessary to have a shop of considerable capacity and to take in other work. The press now prints some thirty scientific and educational journals and series, and has printed many books and monographs.

It is an advantage for scientific men to have relations with a company that maintains the same rates for the same kind of work under the same conditions. High pressure selling and competitive bidding—among the causes of the present economic depression which the codes promoted by President Roosevelt are intended to abolish—are thus unnecessary. A scientific man may assume that work entrusted to the press will be done at a cost as low as is consistent with high standards of work and the best conditions of employment for the workers. This is less than the cost of equally good work in large cities where wages and rents are much higher, but it is not so low as for inferior printing or where the welfare of workers is disregarded.

Adequate facilities for the publication and printing of research work are essential for the advancement of science. The cost of conducting a piece of research that deserves publication, counting the time of the scientific workers and all overhead, may on the average be \$2,000. The charge for printing by The Science Press Printing Company of a 32 page article or monograph in an edition of 1,000 copies is about \$80, say 4 per cent. of the cost of the research. This is less than the interest on the investment, if there is a delay of a year in publication. Ordinary depreciation on machinery is charged at 10 per cent. a year, but it is much larger in the case of scientific research where delay seriously lessens the usefulness of the work and prevents the early recognition of its value. It is most important for science and for scientific men that there shall be prompt and efficient printing and publication of research.

The Science Press Printing Company now wants one or two scientific journals or several books and monographs in order that the full capacity of the shop may be used and all employees be given steady work. This is not only a need of the press but also an opportunity for those who take advantage of it. It is further reasonable to assume that The Science Press Printing Company deserves the support and cooperation of scientific men to the same degree as an institution, a society or a journal that contributes to their welfare and to the advancement of science.

Dr. J. McKeen Cattell was responsible for the organization of The Science Press Printing Company eleven years ago and has been president of the corporation. Since the untimely death in 1927 of A. E. Urban, the first secretary and manager, Jaques Cattell, one of the editors of the last two editions of "American Men of Science," has been secretary and later also vice-president; George M. Houck has been associate manager in charge of the composing room and later manager; Miles W. Eckman has been associate manager in charge of the press room. Inquiries concerning printing should be addressed to the secretary at Lancaster, Pennsylvania.

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PENNSYLVANIA

New York Office
Grand Central Terminal