lection is a valuable one as representative of the region.

THE sum of $10,000 has recently been granted to the American Philosophical Association by the Carnegie Corporation of New York City for the preparation of a series of *Source Books in the History of the Sciences*. They will be under the general editorship of Professor Gregory D. Walcott, of Hamline University, St. Paul, Minn. The volumes will present the most important contributions of the most eminent scientists from the Renaissance to the present. Seven different fields of science are being covered by special committees under the supervision of the following: Frederick Barry, professor of chemistry, Columbia University; Joseph S. Ames, professor of physics, the Johns Hopkins University; Harlow Shapley, professor of astronomy, Harvard University; Alfred M. Tozzer, professor of anthropology, Harvard University; David Eugene Smith, professor of mathematics, Columbia University; Edwin G. Conklin, professor of zoology, Princeton University; R. T. Chamberlin, professor of geology, University of Chicago. The first volume, on astronomy, will be ready for publication within the next few months.

THE Smithsonian Institution has engaged to prepare a series of twelve books to be known as the Smithsonian scientific series, under the general editorship of the acting secretary. It is the purpose of the series to give pictures of the activities of the whole institution and its branches. The publication is not intended for the specialist nor in any sense is it a collection of monographs, but is rather intended to present those features of the greatest interest to the average intelligent reader with no special training along technical lines. It is expected that the individual books of the series will come out at various intervals during the next two years.

AT the recent meeting of the board of managers of the Wistar Institute of Anatomy and Biology, Philadelphia, the titles of professor and assistant professor were discontinued and a new series of titles designating members of the scientific staff were adopted. As the chief function of the institute is the promotion of research in biology the following titles were adopted as being most appropriate: Member, associate member, associate, and fellow. At the same meeting Dr. Helen Dean King was elected a member of the institute.

ERRATA. In the article by Dr. G. De Geer on the "Geochronology as based on Solar Radiation" (SCIENCE, 1927, LXVI, p. 458), in line 14 of the second column for "this" read "the," in line 22 of the fourth column omit the words "already made" and in line 37 of the fifth column for "non" read "now."

UNIVERSITY AND EDUCATIONAL NOTES

THE income from a bequest of $100,000 from the late Thomas U. Coe, of Bangor, which has recently become available at the University of Maine, is to be used as a foundation for research. Projects bearing on the developing of the state are to be submitted by the faculty for approval under this fund.

THE chemistry building of the South Dakota State College, Brookings, S. Dak., was totally destroyed by fire on February 4, 1928. All records and material are a total loss.

SIR ARTHUR SHIPLEY, late master of Christ's College, left £5,500 to Christ's College for the endowment of a fellowship, along with various other bequests, including some relics of Darwin.

THE Rio de Janeiro correspondent of the *Journal* of the American Medical Association writes that the president of the Minas Geraes has signed the law creating a state university. This will include at first four colleges, namely, law, engineering, medicine and odontology and pharmacy. The medical school will have an annual endowment of 600,000 milreis (about $72,000).

DR. C. W. HUNGERFORD, professor of plant pathology in the agricultural college of the University of Idaho, has been appointed assistant dean of the college of agriculture and vice-director of the Idaho Agricultural Experiment Station.

AT the University of California, Dr. Chauncey D. Leake, associate professor at the University of Wisconsin, has been appointed professor of pharmacology, and Dr. Alfred C. Reed has been appointed professor of tropical medicine in the George Williams Hooper Foundation for Medical Research.

DR. LAURENCE SELLING, Portland, has been appointed clinical professor of medicine and head of the department of medicine of the University of Oregon Medical School.

DR. WILLIS DEW GATCH has been appointed head of the department of surgery, including gynecology and orthopedic surgery, in the Indiana University School of Medicine, succeeding the late Dr. John H. Oliver.

WILSON F. BROWN, instructor in chemical engineering at the Ohio State University, has been appointed to an associate professorship at the Kansas Agricultural College, to take charge of the work in industrial chemistry and chemical engineering.

DR. GUSTAV HERTZ, professor of experimental physics in the University of Halle, has been appointed to succeed Professor Kurlbaum as professor of physics at the Technische Hochschule, Berlin.

DR. F. HUND, of Göttingen, has been called to an associate professorship of theoretical physics at the University of Rostock.

DISCUSSION AND CORRESPONDENCE

THREE NOTABLE BOOKS ON THE HISTORY OF MATHEMATICS OF THE GREEKS

THE Belgian engineer, Paul Ver Eecke, inspector general of labor, has made three notable contributions to enrich our knowledge of Greek mathematical science. While the works of Archimedes, Apollonius and Diophantos have long been available to English students through the learned labor of Sir Thomas L. Health, there have not been available modern editions in French. The Belgian scholar performs this service for French readers. The titles of these works are as follows:

Les Oeuvres Complètes d'Archimède, (Paris-Brussels, 1921; LX, 554 pp. with 253 diagrams). Price 20 belgas.

Les Coniques d'Apollonius de Perge, (Bruges, Desclée de Brouwer & Co., 1923; LII, 645 pp.). Price 20 belgas.

Diophante d'Alexandrie. Les six livres arithmétiques et le livre des nombres polygones. Oeuvres traduites pour la première fois du Grec en français. Avec une introduction et des notes. (Bruges, 1926; LXXXXII, 300 pp.). Price 15 belgas.

These volumes are all fine specimens of the printer's art, an ornament to any library. A further volume is in preparation on the Spherics of Theodosius of Tripoli.

In all three volumes Mr. Ver Eecke demonstrates his familiarity with the field of Greek mathematics. The notes given constitute a source of information to which historians of science must have recourse in the many problems connected with these authors.

Particular attention has been paid by the author to the importance of the works of Archimedes, Apollonius and Diophantos in the development of European mathematics during the seventeenth and eighteenth centuries. It is highly desirable to stress this point since through these classical works the ancient mathematics became the source of inspiration for the modern mathematics. The birth of the analytical geometry and of the calculus connects thus directly with the mathematics of Greece.

It is the hope of the publishers that a number of American libraries will subscribe to the series. The price per volume is under three dollars and is much less than works of this character published elsewhere in Europe or in America. The publication performs a real service to scholarship, and must have constituted a serious financial problem at the present time for the publishers. The two later volumes have been issued with the support of the Fondation Universitaire de Belgique.

LOUIS C. KARPINSKI
UNIVERSITY OF MICHIGAN

ON MOLECULAR DIAMETERS IN GAS REACTIONS

IN a recent note published in this journal,[1] Dr. Bernard Lewis has called attention to a numerical error in our paper entitled "On Chemical Activation by Collisions."[2] We are of course very sorry that this error occurred and desire to thank Dr. Lewis for calling attention to it.

However, on the basis of the revised figures our friendly criticisms of the Fowler and Rideal[3] theory of chemical activation by collisions, using ordinary kinetic theory diameters for unactivated molecules, are not greatly altered.

It would still be necessary on the basis of the revised figures to assume that the *deactivational* diameter for N_2O_5 is considerably more than 60 times as great as the *activational* diameter, if the rate of activation is to be great enough to maintain the reaction first order down to a pressure of 0.05 mm. And this assumption is attended by the difficulties which we pointed out in the next to the last paragraph of our article, namely, that in a deactivational collision molecules which come within the large distance given by the deactivational diameter will mysteriously be drawn together to the much smaller distance corresponding to an ordinary kinetic theory collision and will then fly apart in deactivated states.

On the other hand, it no longer appears that the deactivational diameters would have to be so great that the effective volume of an activated molecule would be large enough to contain many ordinary molecules at 0.05 mm. pressure. Allowing, however, a reasonable excess in the rate of activation over that of reaction, we still find that the effective volume of the activated molecules is large enough to contain several other molecules and this is a notion which gives rise to considerable difficulty.

Finally, we may call attention again to a consideration which bears no relation to diameters, namely, that it certainly would be very surprising if the collision of chemically unactivated molecules having sufficient energy to activate one of them, should practically always result in the transfer of nearly all of the energy to one of the molecules.

RICHARD C. TOLMAN,
DON M. YOST,
ROSCOE G. DICKINSON
PASADENA, CALIFORNIA

[1] SCIENCE, 66, 331 (1927).
[2] *Proc. Nat. Acad.*, 13, 188 (1927).
[3] *Proc. Roy. Soc.*, 113, 571 (1927).