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.

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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.

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