

## HERMITE'S WORKS.

*Oeuvres de Charles Hermite.* Publiées sous les auspices de l'Académie des Sciences par EMILE PICARD. Vol. II. Paris, Gauthier-Villars, 1908. 8vo. 520 pp.

IN a former number of the BULLETIN\* we have given a biographical sketch of Hermite and endeavored to set forth the commanding position he occupied among French mathematicians during the last century. We shall therefore give only a brief notice of the present volume. Its 37 papers bring his publication down to the year 1872 and their chief interest centers about the elliptic functions, the solution of algebraic equations, and the theory of numbers. The reader will perhaps best obtain an idea of the rich contents of this volume if we number its papers in the order in which they occur, arrange them in groups, and indicate briefly their nature. A few of the more important papers will however be analysed at length.

*Elementary Algebra.*

28) A note of 28 pages written for Gerono and Roguet's Cours, edition of 1856, on homogeneous forms of the second degree in  $n$  variables.

*Differential Calculus.*

37) Elimination of arbitrary functions. Extracted from Hermite's Cours at the Ecole Polytechnique, 1873.

29) Short proof of  $1/\rho = d\phi/ds$ .

*Integral Calculus.*

30), 33), 34), 36) Short notes on some integrals, such as

$$\int \frac{x^m dx}{\sqrt{1-x^2}}$$

*Theory of Substitution Groups.*

19) Discussion of the nature of  $\theta(i)$  in order that

$$\begin{bmatrix} z_i \\ z_{\theta(i)} \end{bmatrix}$$

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\* 2d ser., vol. 13, p. 182.