

The majority of the papers of this third volume are short notes of a few pages each, and deal for the most part with algebra, the integral calculus, theory of numbers, differential equations, and elliptic functions. Three of these are extracts from Hermite's *Cours d'Analyse*; another is from his autographed lectures at the Ecole Polytechnique.

By far the most important paper is the celebrated "Applications des Fonctions elliptiques" appearing first in the *Comptes Rendus*, beginning in 1877, and afterwards in book form in 1885. This memoir occupies more than 150 pages of the present volume, and contains Hermite's epoch making researches on Lamé's differential equation.

The present volume brings another paper of less real importance but of far more sensational nature, namely the one on "La Fonction Exponentielle." Here Hermite shows that e , the base of the Napierian logarithms, is indeed a transcendental irrationality. A cruel fate robbed him of the glory of proving that π is also transcendental, and yet it would have been but a short step for him to make. In a letter to Borchardt he writes: "Je ne me hasarderai point à la recherche d'une démonstration de la transcendance du nombre π . Que d'autres tentent l'entreprise, nul ne sera plus heureux que moi de leur succès, mais croyez-m'en, mon cher ami, il ne laissera pas que de leur en coûter quelques efforts." Hermite had not long to wait, for nine years later, in 1882, Lindemann brought the long sought proof, and so established the impossibility of "squaring the circle."

The volume is graced with a portrait of Hermite, at about sixty-five. It is a striking likeness; but the kindly look about the eyes will be missed by those who knew him.

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Naturwissenschaften und Mathematik im klassischen Altertum.

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IN our generation there have been three men who were preeminently fitted both by taste and by training to write upon the mathematics of the classical civilization. Others have been able to undertake the task in a satisfactory manner, as witness the labors of scholars like Zeuthen, Loria, and Moritz Cantor, but there always stand out three names of men whose love for Greek science and perfect command of