There appear also somewhat complicated relations involving the sides of similar right triangles in problems requiring the solution of quadratic equations like $x^2-16x-80=0$ and $3x^2-44x-320=0$. The only pre-Grecian solution of quadratic equations known up to the present time had been the Egyptian, in problems leading to the pure quadratic form $x^2=c$. The geometric figures on the Babylonian tablets are defective, suggesting to Neugebauer the remark that the characterization of geometry as the science which draws correct conclusions from incorrect figures applies to its very beginning. Another article prepared jointly by Neugebauer and W. Struve, of Leningrad, reveals that the Babylonians measured the length of the circle by $C=d\pi$ ($d=$diameter), and the area of a circle by $A=C^2/12$, where $\pi=3$. The rule for the circular area in the Egyptian Rhind papyrus involves a more accurate value of π, namely, $\pi=3.16$. New also is the conclusion that the Babylonians were familiar with the *theorem of Thales*, that a triangle inscribed in a semi-circle is a right triangle; and with the *Pythagorean theorem*, at least for the sides 20, 16, and 12. These theorems are used in the computation of the length of a chord of a circle. Another new historical find is the Babylonian computation of the volume of the frustrum of a cone, by multiplying the arithmetic mean of the upper and lower basal areas by the altitude. In marked contrast to this mere approximation is the Egyptian accurate computation of the volume of the frustrum of a square pyramid (*Ancient Egypt*, 1917, p. 100). Historical investigations of the present century indicate that ancient Babylonian and Egyptian mathematics was much more highly developed than was formerly supposed.

FLORIAN CAJORI

Vektoranalysis mit Anwendungen auf Physik und Technik. By R. Gans. 6th edition. Leipzig and Berlin, B. G. Teubner, 1929. viii+112 pp.

This excellent little book is too well known and appreciated (six editions in 24 years!) to need a detailed review. Suffice to say that a mathematician as well as physicist will find there unexpectedly rich material, which is selected with great care. The book should be highly recommended as an introduction or as a "first help" to students interested in applied mathematics. The value of the book would still increase if it were supplied with exercises, which, unfortunately, are entirely absent. This is a point to be improved upon in the next edition, which undoubtedly will appear before long.

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Operational Circuit Analysis. By Vannevar Bush, with an appendix by Norbert Wiener. New York, John Wiley and Sons, 1929. x+392 pp.

This is an elementary text on the Heaviside theory, for engineers. The method of exposition is largely that of Carson; a pleasing innovation is the inclusion, in Chapter 13, of some of the points of view of Wiener's paper in Mathematische Annalen, volume 95. There is a large collection of problems and the presentation appears in general to be satisfactory from the standpoint of the engineer, although one might occasionally wish for somewhat more precision in the statement of results. In the appendix, Wiener gives a quite pleasing description of some of the high points in Fourier analysis.

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