

*Die Grundlagen der ägyptischen Bruchrechnung.* By DR. O. NEUGEBAUER.  
Berlin, Springer, 1926. 45 pp., and six tables.

This monograph is on the philosophy of Egyptian mathematics. The author advances the thesis that "Egyptian mathematics rests exclusively upon the fundamental operation of addition," that it is wrong to attribute to the Egyptians a knowledge of the four fundamental operations of arithmetic. According to him, Eisenlohr, Peet, Cantor, Hultsch and others have read into Egyptian mathematics processes which are not really there. It seems to the reviewer that Neugebauer establishes the possibility of explaining the arithmetical operations of the Egyptians on the additive principle alone, but that he has not demonstrated that the Egyptians actually limited themselves to that principle. In general, it seems improbable that Egyptian mathematicians able to compute correctly the volume of the frustrum of a pyramid, operated with an arithmetic that did not involve the idea of multiplication. However, Neugebauer's claim is worthy of careful study. An interesting process in Egyptian mathematics, emphasized by our author, is the equivalent of the modern so-called Russian process of multiplication. To multiply 7 by 5, put down

$$\begin{array}{r} /1 \quad 7 \\ \quad 2 \quad 14 \\ \quad /4 \quad 28 \end{array}$$

and add the numbers marked by a stroke.

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*Mathematische Instrumente.* By F. A. Willers. Sammlung Göschen.  
Berlin und Leipzig, Walter de Gruyter, 1926. 144 pp.

This little monograph, written by Dr. Willers of the Technische Hochschule of Charlottenburg, is No. 922 of the well known Göschen collection, and contains a clear and adequate description of the most important and useful mathematical instruments and machines.

In the introduction, Dr. Willers stresses the necessity of familiarizing oneself with the mechanical construction and with the theory of such instruments, in order to be able to handle them intelligently and rapidly. Only in this manner may one gain an enormous advantage over the drudgery of many mental calculations.

The booklet is written especially with this purpose in view, and is divided into eight chapters, dealing with continuous calculating apparatus, like slide rules, calculating machines, instruments for graphing and measuring curves, planimeters, harmonic analysers, mechanical solution of boundary problems, geometrical apparatus, like affinographs, pantographs, and perspectivographs.

Altogether, Dr. Willers' little treatise will be a welcome addition to the literature for all those who do not want to make a special study of mathematical instruments but who wish to be able to use such auxiliaries, when necessary or desirable, for the solution of some particular problem requiring arduous numerical work.

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