Funfstellige Tafeln und Gegentafeln für logarithmisches und trigonometrisches Rechnen. Herausgegeben von DR. HER-MANN SCHUBERT. Leipzig, Druck und Verlag von B. G. Teubner, 1897. 8vo., 157 pp.

Tafeln zur Berechnung der reellen Wurzeln sämtlicher trino-mischer Gleichungen, etc. Von PROFESSOR DR. S. GUNDEL-FINGER. Leipzig, B. G. Teubner, 1897. 4to., 15 pp.

Dr. Schubert has introduced into his Tables a feature which deserves notice, although its usefulness is open to doubt. He gives the ordinary tables of logarithms of num-bers from 1 to 11,000 and of the principal trigonometrical functions. But he has also tabulated the numbers corre-sponding to the mantissæ from .0000 to .9999. It is difficult to see what good purpose is served by these latter tables, es-pecially in a book evidently produced for the beginner. Except in calculations of a very special kind, tables of logarithms are only useful in so far as they assist in shortening arithmetical operations and for such purposes it is usual, whenever possible, to use five-figure tables to ob-tain results which are to be correct to four significant fig-ures. We cannot, therefore, see the value of a table giving the number to five significant figures corresponding to four-place mantissæ ; a four-place table is all that is required and this can be conveniently mounted on a single card. Even if four-figure tables be used to obtain results to four significant figures, there will be no time saved by looking up the mantissæ in Dr. Schubert's special tables, they can be equally well found from the ordinary tables, and errors would probably occur in the use of two sets of tables—each of the same form, notwithstanding the difference of type.

The manner in which the tables are spaced is probably a question of individual taste. The method of dividing them into blocks of five, adopted into most of the best tables, seems preferable to that given here, where we have a line be-tween every 0 and 1, and between every 9 and 0, and an extra space between each 3 and 4, and between each 7 and 8. The type and general appearance of the book are, however, good, and it has the unusual merit of being printed on strong paper. Detailed directions and "guide-words" are given, so that the person using the tables need have no knowledge of what he is doing.

Within a space of seven octavo pages Dr. Gundelfinger gives complete tables for the solution of the "Equation with Three Terms," according to the method of Gauss, with four-place logarithms. For most purposes these are amply

sufficient; but there is an equation of this form, occurring
frequently in astronomy, in which the coefficients lie between
certain limits.   An extra table, occupying half a page, is,
therefore, included, giving the results to seven places of
decimals.   Explanations and examples are added.   It will
be noted that a slight variation from Gauss is made in the
form given to the equation.

<div align="right">ERNEST W. BROWN.</div>

RECENT TEXT-BOOKS OF THE CALCULUS.

Easy Lessons in the Differential Calculus.   Indicating from the
outset the utility of the processes called differentiation
and integration.   Fifth edition.   By RICHARD A. PROC-
TOR.   London and New York, Longmans, Green, and
Co., 1894.   Small 8vo, vii + 114 pp.   Price, 90 cents.

A Primer of the Calculus.   By E. SHERMAN GOULD.   New
York, D. Van Nostrand Company, 1896.   12mo, 91 pp.
17 folding plates.   Price, 50 cents.

A Brief Introduction to the Infinitesimal Calculus.   Designed
especially to aid in reading mathematical economics and
statistics.   By IRVING FISHER, PH.D., Assistant Professor
of Political Science in Yale University.   New York and
London, The Macmillan Company, 1897.   Small 8vo,
vii + 84 pp.   Price, 75 cents.

These three little books can together be easily slipped
into a coat pocket of ordinary size.   The first is written in
the least technical language.   It is devoted chiefly to
problems in maxima and minima and areas, but it touches
upon a number of other applications.   The subject is de-
veloped by means of concrete examples, the problem of a
falling body being used in the two introductory chapters to
explain both differentiation and integration.   Differentials
are described as *infinitely minute* quantities, but the reader is
warned against regarding dy/dx as the ratio of two *separable*
quantities.   The explanations are almost everywhere re-
markably full and clear.   That showing the distinction be-
tween dy/dx and dx/dy, however, is very unsatisfactory.
The book contains many examples fully worked out, but
there are no unworked ones and the reader is, therefore,
unable to test his understanding or proficiency.

The second work gives rules without pretence of demon-
stration and almost without explanation.   It consists
chiefly of worked out examples covering about the same
ground as the preceding work.   We are told that "dx is
purely imaginary and has no numerical value," and again
that " the differential dx of a straight line represents its in-