

After a three page introduction on trigonometry (where the ratios are defined analytically), the reader is plunged at once into the main topic of the book—orthogonal substitutions. In the conclusion half a dozen pages are devoted to some general remarks about groups of substitutions. A definition of a group is given, and the statement is made that the orthogonal substitutions form a group. In the next paragraph the author says that all possible geometries are, fundamentally, the study of groups of substitutions and their invariants. Should this most important fact be relegated to the conclusion and there passed over lightly? May not the student regard it as a mere afterthought? Is it one of the conclusions that have necessarily arisen in his mind during the study of this book? Indeed, one fears that he would not have sufficient breadth of view to appreciate the meaning of the sentence.

Another criticism that must be made is in regard to the absence of any trace of a bibliography. It may be unnecessary to give references in secondary school books (though one can certainly raise the question even there); but it does seem most unwise to omit from a text of this nature all reference to the literature of the subject.

E. B. COWLEY.

Tafeln unbestimmter Integrale. Von G. PETIT BOIS, Bergingenieur in Lüttich. Leipzig, Teubner, 1906. 4to. xii + 154 pp.

THE book contains 2,500 or more indefinite integrals, unnumbered. This is five times as many as occur in B. O. Peirce's Short Table of Integrals, but the latter would be, in general, the more useful book on account of its containing also definite integrals and many auxiliary formulas. In the three-page index to the *Tafeln* are given the 110 groups into which the formulas are divided. About three-fourths of the integrals are of algebraic functions. As an introduction, there are 49 transformation formulas. The books most used in the compilation were those of Schubert, Minding, Sohncke, Frenet, Graindorge, Brahy, Gregory, Roberts, and Carr.

EDWARD L. DODD.

Annuaire du Bureau des Longitudes pour l'An 1909. Paris, Gauthier-Villars.

THE volume of the *Annuaire* for the current year is without the chemical and physical constants and certain astronomical tables which are inserted in the even-numbered years. As usual

in each successive issue, some of the information is brought up to date; a significant change noted this year is the suppression of the interest tables for $5\frac{1}{2}$ and 6 per cent., and the insertion of those for $1\frac{1}{2}$ and 2 per cent.

The summaries of progress in special lines which we are accustomed to expect deal this year with variable stars by M. G. Bigourdan and with the movements and deformations of the crust of the earth by M. Ch. Lallemand, the former in 116, and the latter in 57 pages. Both of these articles are illustrated by numerous figures and really amount to brief treatises from which it is easy to obtain a fair idea of the theorems, methods and results in the two subjects. Two brief obituary notices of M. Janssen by MM. Radau and Deslandres, and a full alphabetical index close the volume.

ERNEST W. BROWN.

NOTES.

THE twenty-fourth regular meeting of the Chicago Section of the AMERICAN MATHEMATICAL SOCIETY will be held at the University of Chicago on April 9-10.

THE Deutsche Mathematiker-Vereinigung now includes 725 members, of whom 60 are Americans. The Circolo Matematico di Palermo has a membership of 635, of whom 105 are Americans.

UNIVERSITY OF PARIS. The following mathematical courses, each two hours per week, are given in the second semester, beginning March 1:—By Professor E. PICARD: Certain developments in series occurring in analysis and mathematical physics.—By Professor E. GOURSAT: Differential equations.—By Professor P. PAINLEVÉ: General laws of motion of systems, analytic mechanics, hydrostatics and hydrodynamics.—By Professor P. APPELL: Elements of analysis and mechanics.—By Professor P. ANDOYER: Mathematical astronomy.—By Professor J. BOUSSINESQ: Thermodynamics and refrigeration.—By Professor G. KOENIGS: General theory of mechanisms.

Semiweekly conferences are held by Professors Raffy, Andoyer, and Servant.

The courses in the Ecole Normale are continuations of those of the first semester (see December BULLETIN, page 148).