Introductory

This Quarterly Journal, a new publication of the National Research Council, is to serve as a clearing-house for information concerning mathematical tables and other aids to computation. Especially during the past decade have tools for computation been vastly multiplied. These tools, or accounts of them, are to be found in an enormous international range of book, pamphlet, and periodical publication, not only in the fields of Pure Mathematics, Physics, Statistics, Astronomy, and Navigation, but also in such fields as Chemistry, Engineering, Geodesy, Geology, Physiology, Economics, and Psychology. An attempt will here be made to guide varied types of inquirers to such material. This guidance may assume diverse forms. One of these might be by a bibliographic article, dealing in a given field with a very special group of tables; an example of this type appears below (RMT **81**) where there is a survey of tables of trigonometric functions with radian arguments. A longer guiding article might, in a much larger portion of a field, survey the most useful tables for current research. Illustrations of this type are the articles on mathematical tables, by James Henderson, in the fourteenth edition (1929) of the *Encyclopædia Britannica*, and by L. J. Comrie in Royal Astronomical So., *Monthly Notices*, v. 92, 1932, p. 339–347, supplemented by British Astronomical Association, *Handbook for 1929*, p. 38–43. Among the numerous critical reviews of recent tables may sometimes be a table, prepared primarily for use in one field, which turns out to be of value to a worker in an entirely different field. So far as practicable, the Editor will seek to have both articles and reviews written partly in non-technical language so that scholars in all fields may from such material occasionally glean something of personal advantage.

The regular section on the description and location of Unpublished Mathematical Tables ought not only to be a suggestive aid in research, but also to prevent useless duplication of costly effort. The publication in this Journal of shorter new tables of importance may be later considered advisable. A section devoted to Queries, and Replies to Queries is to make possible a general appeal for information not otherwise procurable. And further, after the first issue the material for guidance will constantly include items of interest concerning calculating machines and the types of problems they can solve.

With this first number of the Quarterly now before you, such general remarks will suffice. It may be well, however, to add notes, not to be found elsewhere, concerning certain editorial decisions and notations. From time to time it may be desirable to refer to, and to discuss, an out-of-print and scarce publication. Since it is always dangerous for the writer of an article to make statements about a work not personally inspected, it will be editorial policy to place a special sign "o" before every title of material unseen by the author or Editor, either in the original or in film form. In the case of a rare book discussed it is also planned to indicate, if possible, a library of this country or Great Britain where this book may be seen.

Those who have worked much with mathematical tables are doubtless familiar with the admirable work of James Henderson, *Bibliotheca Tabularum Mathematicarum being a Descriptive Catalogue of Mathematical Tables . . . Part I, Logarithmic Tables* (A. *Logarithms of Numbers*) (*Tracts for Computers*, no.

XIII), Cambridge, University Press, 1926, iv, 2 plates, 208 p. This was one of the series of *Tracts*, founded and edited by Karl Pearson (1857–1936). In preparing the volume Mr. Henderson gathered together considerable additional material for planned later volumes (never published), especially the one on trigonometric functions. All of these manuscripts were in February 1937, most kindly loaned to our Committee, by Karl Pearson's son, Professor E. S. Pearson, of the University of London, and Mr. Henderson. In the present issue of our Journal as in later numbers, a reference to "Henderson" will indicate that use has been made of his material, which was almost wholly prepared with the volumes under discussion in his hands.

In editing, a distinction will be made between the abbreviation for the logarithm of a number to base 10 and to base e; the first is $\log N$, and the second $\ln N$. Such notations as 8D, 8S, will be found useful for "8 places of decimals," "8 significant figures." In transliteration from Russian the system used by the Library of Congress will be employed. This is set forth in G. F. v. Ostermann and A. E. Giegengack, *Manual of Foreign Languages for the Use of Printers and Translators*. Third rev. and enl. ed., Washington, D. C., 1936.

On covers 2–3 of each number of our Quarterly are to be found the names and addresses of members of our committee, as well as the Classifications **A, B,** · · · , **Z,** adopted for the preparation of our Reports. Communication from members of our Executive Committee will be signed with initials only. The Classifications will be frequently introduced, especially in the review section, to indicate the general nature of the contents of an article, pamphlet, or volume. For example [**A, B, C, D, F, M**], after a title would mean that the publication contained tables under the following headings: arithmetic, powers, logarithms, circular functions, theory of numbers, and integrals. Reviews of new tables appear under the heading Recent Mathematical Tables and are numbered consecutively. A convenient reference notation for a particular review is, therefore, RMT **75**. So also MTE **5** for an item under Mathematical Tables—Errata, MAC **4** for an entry under Mechanical Aids to Computation, and Q **6** or QR **6** for Query **6** or Reply to Query **6**. To assist in familiarizing the reader with such abbreviations we shall, for a time, add them to the Contents on cover 4.

Up to the present the chief duty of the Committee has been to prepare a series of comprehensive Reports on mathematical tables, valuable for various types of research in different fields. D. H. Lehmer's *Guide to Tables in the Theory of Numbers* was published in February, 1941. It is expected that a more elaborate Report, in another field, may be ready for publication during 1943. Since most members of the Committee are at the present time deeply involved in national service, the completion of still further Reports in the near future is likely to be very difficult to achieve.

Meanwhile, it is hoped this new periodical may render notable current service, and that in years to come it, and the Reports, may be regarded as the standard sources to which one may naturally turn for guidance in connection with all mathematical tables of importance in contemporary research.

On behalf of the Committee,

R. C. A.

R. C. A. greatly regrets the apparent necessity for numerous personal contributions in this issue, as well as in the second. It seems certain that elimination in this regard shall be noticeably operative in the third and later issues.