The remaining chapters deal with specific areas of applicability of ultrasonics, and each chapter constitutes a survey of important work in that area covering the period ending in 1970. Some of the areas of application of low-intensity effects which are covered are determination of properties of materials (an extensive compilation of acoustic properties of solids and liquids is an important feature of this chapter), nondestructive testing and inspection, imaging, process control, and measurement of fluid flow, pressure, and temperature. The areas of application of high-intensity ultrasonics are divided into those based on the mechanical effects and those based on chemical effects. The discussion dealing with mechanical effects includes cleaning, machining, forming, agglomeration, drying, liquid atomization, and drop formation. The discussion of uses based upon chemical effects includes accelerated etching, treatment of sewage, extraction, and demulsification. Although weighted heavily toward the mechanical effects, these chapters contain a great deal of material which will benefit chemical engineers. To complete the wide range of coverage, the final chapter reviews applications of ultrasonics in medicine.

The book is perhaps somewhat more suited to students (in the broad sense of the word) than to practicing engineers because of the extremely broad range of applications which are covered. A worker having a specific problem or interest will find, of course, that depth of coverage in his specialty has suffered because of this breadth of topics. However, anyone having any interest in ultrasonics will find that this book is an excellent reference.

J. Robert Hightower, Jr.
Oak Ridge National Laboratory
Oak Ridge, Tennessee

Latin American Journal of Chemical Engineering and Applied Chemistry, the Argentina Society of Investigators in the Science of Chemical Engineering and Applied Chemistry at the National University of La Plata, Republic of Argentina, Vol. 1, No. 1 et seq. (1971). Subscription is $10.00/year.

This publication is intended to disseminate for international use the results of pertinent research performed in Central and South America. To date, four issues have appeared as Volume 1 (2 issues) in 1971, and Volume 2 (2 issues) in 1972. Each issue carries a complement of 4 or 5 major technical articles, a list of selected papers published elsewhere in Central or South America (primarily Argentina and Brazil, but with a sprinkling from Ecuador and Columbia), notices of international meetings, technical communications, and descriptive material on selected institutes or universities listing their facilities and curricula offerings.

The vast majority of technical papers are products of Argentina so that in its present format the *Journal* is more a national than an international source. Brazil, Chile, and, surprisingly, the United States are lightly represented. The subject matter ranges effectively from engineering sciences to equipment design and performance with both experimental and theoretical presentations although the latter are dominant. It is too early to estimate readership from response, but 75% of the technical communications are from Argentina and represent original work rather than comment on published articles.

In summary, this new journal appears to be meeting rather high and selective standards in accepting major articles and has published material of international quality. Everything appears in both Spanish and English with remarkably good translation of the technical material from the Spanish. A per-page charge of $5 (U.S.) or equivalent is, no doubt, limiting the quantity of published information. Perhaps this initiation is beneficial. The editorials are interesting but suffer in translation—the editor would be wise to subject editorial material to as rigorous linguistic review as the technical papers. Having survived for at least two years, perhaps the Journal can enjoy a lengthy life as it deserves.

Robert B. Filbert, Jr.
Battelle Memorial Institute
Columbus, Ohio 43201

Mathematical Methods In Chemical Engineering, Vol II. First Order Partial Differential Equations with Applications, Rutherford Aris and Neal R. Amundson, Prentice-Hall, Englewood Cliffs, N. J. (1973). 369 pages. $16.50.

Because a course in applied mathematics rarely treats only the subject of first-order partial differential equations, the subject matter is probably the only limitation to this text. The text provides an excellent treatment of the subject—substantially more thorough than in a general semester course in applied mathematics. It is geared for the graduate student or researcher with a background in advanced calculus and analytical geometry. It will be particularly useful for formulating and solving problems involving single phase convective transport in conjunction with interphase transport or equilibrium.

The authors develop thoroughly the mathematical theorems and discuss the mathematical behavior of first-order partial differential equations and their solutions. The student must master this initial presentation because it is used throughout the text in generating solutions to the posed problems.

The authors present a variety of practical applications of the subject material. The student is well provided with physical interpretation to mathematical maneuvers and thus maintains contact with the physical world.

The text treats problems in chromotography, crystallization, polymerization, heat transfer, and fluid mechanics. It presents a sufficiently broad class of problems so that the user will be well aware of the applications of first-order partial differential equations. I would certainly recommend that this text be included in the library of chemical engineering applied mathematicians who frequently encounter problems in this area.

James H. Porter
Department of Chemical Engineering
Massachusetts Institute of Technology
Cambridge, Mass. 02139

The Control of Sulphides in Sewerage Systems, D. K. B. Thistlethwayte, (Ed.), Ann Arbor Science Publishers, Inc., Mich. (1972). 173 pages. $24.00.

This book is intended as a manual of practice for minimizing corrosion due to hydrogen sulfide in sewers. It was prepared by D. K. B. Thistlethwayte and endorsed by the Australian Standing Committee for Hydrogen Sulphide Corrosion in Sewage Works. The book provides a relatively complete treatment of the processes involved in the acid corrosion of sewers which result when hydrogen sulfide is produced microbiologically under anaerobic conditions. It is written primarily for practicing B. S. level engineers; however, since the problem addressed involves the design of a three-phase flow reactor, the book may also be of considerable interest to academic researchers in search of a good practical problem needing further study.

Larry E. Erickson
Kansas State University
Manhattan, Kansas 66506