

REVIEWS

Shock Waves and Detonations in Gases. By R. I. SOLOUKHIN. Mono Book Corp., 1966. 176 pp. \$7.00.

The original Russian version of this little monograph was published in 1963, but the translation has been brought up to date by extensive additions, many of which describe the author's own recent contributions. The emphasis throughout is on the physical and experimental aspects of the subject with a minimum of theory, and the discussion is largely limited to unsteady wave phenomena.

The first half describes laboratory techniques and non-equilibrium effects and gives a good introductory survey which should prove useful to students and older newcomers alike. The second half deals with combustion and detonation wave phenomena and is rather different in character. Much space is devoted to very recent results, in particular those obtained by the author and his coworkers at Novosibirsk. Some of this material is quite fascinating, not least because of the excellent photographs.

The printing and reproduction is of high quality and the translation is adequate. The discussion of rarefaction wave on page 22 is difficult to follow and some confusion may be caused by the retention of the Russian notation (amM for atm) on the figures on page 4. The list of references is most valuable, containing some 200 items, more than half of which are of Russian origin.

N. H. JOHANNESEN

SHORTER NOTICES

Numerical Methods in Gas Dynamics. Edited by G. S. ROSLYAKOV and L. A. CHUDOV. Translated by Z. Lerman. Israel Program for Scientific Translations, 1966. 165 pp. 83s.

This is a collection of papers, translated from Russian, describing work done at the computational centre of Moscow State University from 1957 to 1962. The subjects are rather miscellaneous: five from steady gas flow, four from incompressible viscous flow, seven from laminar boundary layers, and one on seepage. The thread of continuity for the volume is provided by the computational techniques employed. There is little in the way of physical interpretation of results; the numerical solutions usually give a valuable guide to what happens in a given situation, but provide little clue as to why it happens. The range of problems studied at the computational centre is impressive. The translation is fluent, but the printing and general presentation are not of very high quality.

Magnetohydrodynamic Stability and Thermonuclear Containment.

Edited by A. JEFFREY and T. TANIUTI. Academic Press, 1966. 222 pp. 60s.

This is a collection of reprints of twelve well-known papers on MHD and plasma stability (published between 1954 and 1963) together with an introductory review by the editors. The papers have been well selected; they are almost all

'prescribed reading' for anyone working in this field. The volume costs less than it would cost to photocopy the articles direct from the originals, and for the specialist it may therefore be a good buy.

The Theory of Jets in an Ideal Fluid. By M. I. GUREVICH. Pergamon Press, 1966. 409 pp. £5.

An English translation of this Russian book published by Academic Press in 1965 has already been reviewed in the *Journal* (vol. 26, 1966, p. 222). There is no need for a second review, but an expression of concern at the publication of two independent translations (not the first such occurrence) is warranted. This seems to be carrying commercial competition too far. Can publishers not find a way of making known to each other their plans for the publication of translated books?

Engineering Fluid Mechanics. By REUBEN M. OLSON. 2nd edition. International Textbook Co., 1966. 448 pp. \$9.95.

A new edition of a text-book for students of engineering previously reviewed in the *Journal* (vol. 15, 1963, p. 632). There is some new material and many new problems.

Handbook of Specific Losses in Flow Systems. By R. P. BENEDICT and N. A. CARLUCCI. Plenum Publishing Corporation, 1966. 193 pp. \$12.50.

Said to enable a reader to find the pressure losses in any system involving Fanno-type flow of a fluid with a given specific heat ratio.

Proceedings of the 14th Japan National Congress for Applied Mechanics, Kyoto, 1964. Central Scientific Publishers, Tokyo, 1965. 294 pp.

Proceedings of the 1966 Heat Transfer and Fluid Mechanics Institute. Edited by M. A. SARD and J. A. MILLER. Stanford University Press, 1966. 444 pp. £5.

The latest volumes in well-known series recording the papers presented at annual meetings.

Studies in Fluid Dynamics. Published by the Tomotika Memorial Committee, Kyoto, 1966. 205 pp.

This collection of 24 papers reprinted from the *Journal of the Physical Society of Japan* was planned as a tribute to Professor Susumu Tomotika on the occasion of his 60th birthday, but an unfortunate turn of events has led to its appearance as a memorial volume. There is an affectionate biographical preface by I. Imai and a note by G. I. Taylor about Tomotika's brief period of work in Cambridge.