higher harmonics, or anharmonics, should yield simultaneously the observed asymmetry of the light-curve and the clear but unexpected phase-relation of the light-curve to the velocity-curve.

Rosseland nowhere mentions what appears to me to be the most striking feature of the observed oscillation, *qua* oscillation, namely, that in the course of the complete oscillation the star never passes through its associated equilibrium configuration—it cycles around it. This is utterly unlike the behaviour of oscillating systems in mechanics. Rosseland gives short shrift to my attempt to *begin* with the energetics of the oscillation, urging that since the solutions have not been derived so as to satisfy the hydrodynamical equations of motion, they need not represent mechanically possible motions. But 'mechanical' solutions have, on the whole, failed to represent the phenomenon. It might equally be urged against the mechanical solutions that the adiabatic hypothesis on which they are based is, as applied to a star, self-contradictory; for if the star is imagined to consist of adiabatically-walled cells of material, the normal flow of energy through the star, which maintains the luminosity, would also be inhibited. The solution in terms of energetics gives at once the asymmetry of the light-curve.

However that may be, Prof. Rosseland is to be congratulated on having produced an entrancing study of an entrancing subject, and on having opened far-stretching vistas in the mechanics and thermodynamics of oscillation theory. It may be added that the book is not confined to Cepheid variables, but treats also of long-period variables, cluster-type variables, variables of special types and novæ.

E. A. Milne

SCIENCE IN CHINA

Science Outpost

Papers of the Sino-British Science Co-operation Office (British Council Scientific Office in China), 1942–1946. Edited by Joseph Needham and Dorothy Needham. Pp. 173+24 plates. (London: Pilot Press, Ltd., 1948.) 15*s.* net.

THE core of this book consists of a series of articles on science in China which originally appeared in *Nature* during 1943–46. With them are reports on the first three years working of the Sino-British Science Co-operation Bureau (February 1943–February 1946), a broadcast from London called "Science and Life in Wartime China" (December 1944), Dr. J. Needham's original memorandum from Chungking on an International Science Co-operation Service (July 1944), and a reprinted paper on the Chinese contribution to scientific humanism. The original part of the book comprises the excerpts from letters, extracts from the logs of the north-west journey in 1943, of a journey on the Burma road in September 1944, of the south-east journey in April 1944 and of a journey in Shensi in October 1945, entries from the diary of Mrs. Needham, and a number of poems by Rewi-Alley, with two by Dr. Needham himself.

To this vivid material, in which the warm human sympathies of the Needhams are so clearly if unobtrusively displayed, the book owes its charm. Of the poems, no more need here be said than that Dr. Needham's "Poem for a Chinese Friend" and the translation of "The Ballad of Meng Chiang Nu" appear to convey the Chinese atmosphere most clearly. For the rest, the poems are less successful than the extracts in displaying the conditions under which the staff of the Sino-British Science Co-operation Office worked during these years, and the background against which the scientific workers and technologists of China sought to maintain and develop the ancient civilization of their country. An excellent series of illustrations contributes to the same end, while the list, which is appended, of 139 papers by Chinese men of science transmitted by the Office for publication in the West, shows that the flow of knowledge through the Office was from East to West as well as West to East.

As a travel book it should appeal to both the scientifically trained and the layman. Dr. and Mrs. Needham have compiled it to do justice to the achievements of the scientific workers and engineers of China. The book may have some further interest as giving, in a modest way, some indication of what is at stake in the present struggle in China, at least so far as science and technology are concerned. But it may, perhaps, take a more permanent place in the literature of science as a simple record of the human values of pertinacity, courage and sympathy on which the achievements of the Sino-British Science Co-operation Office are firmly based and which are demanded as the price of service no less in the field of science than in other fields of human endeavour.

R. Brightman

SCIENCE FOR THE LAYMAN

Into the Atomic Age

By Chapman Pincher. Pp. 158 + 36 plates. (London: Hutchinson and Co. (Publishers), Ltd., 1948.) 9*s.* 6*d.* net.

A Study of Fishes

By Chapman Pincher. Pp. 304. (London: Herbert Jenkins, Ltd., 1948.) 15*s.* net.

A LITERARY problem which does not become less difficult with the increasing complexity of science is that of presenting recent discoveries in a form which is intelligible to the layman. Usually, when an author announces that he is writing a popular book on a scientific topic for the layman, it means that he is either writing a non-specialist book which will be of general interest to the specialist in some other subject, or he is writing a book which will capture the fancy of the general reading public because of the intrinsic interest of the subject itself.

It is to these two groups that Mr. Chapman Pincher appeals with his "Into the Atomic Age". As scientific correspondent to the *Daily Express* he has learned that the majority of his readers are more interested in bits of information about scientists and their lives than about science itself and, in his book, he has carefully blended some straight reporting on the theoretical, technical and military aspects of atomic energy with accounts of meetings he has had with leading atomic scientists in the course of his work. The lay reader is thus carefully led along the road where developments in atomic energy have been made by stages where stiff climbs on technical matters alternate with rests in which information about great men and their careers can be given. The whole book