

Books

Atomic Energy. A Survey. Edited by J. Rotblat. 72 pp. Taylor & Francis, Ltd., London, England, 1954. Clothbound 6/6; paperbound 4/6. *Reviewed by P. Morrison, Cornell University.*

In the first months of 1954 the Atomic Scientists' Association, British counterpart of our Federation of American Scientists, sponsored a series of public lectures at the University of London. This short book represents the texts. These lectures treated systematically but popularly the status of atomic energy; they progressed from an account of Harwell by its director, Sir John Cockcroft, through an explanation of the general nature of the bomb by O. R. Frisch, to an exposition of the prospects for atomic power, of radiation hazards in general, of the medical applications of isotopes, ending in a kind of debate on the moral issues arising from atomic energy, presented in two brief papers by Professor Kathleen Lonsdale, Quaker and pacifist, and Sir George Thomson, well-known for his physics in war as in peace. The quality of the talks is up to the expected standard, generally higher in Britain than in the United States, and particularly so in the longest piece, that of Professor Simon. It is this talk which will be of highest interest to physicists, though the book as a whole, with an interesting glossary of a hundred items, can be recommended as a good brief survey for their seriously interested but technically untrained friends.

Professor Simon is soberly optimistic about stationary nuclear power. He forecasts the use of uranium in the British power economy beginning with prototypes in the next three years, through several generations of development reactors, until in about twenty years, half the new installations of central stations in Britain will be of nuclear reactors. On this basis nuclear power generation would equal the present size of British power sources by the nineteen nineties, when total power would be four or five times more than now installed. So coal will still be king in Britain. But for underdeveloped countries, for smaller coal-poor lands even in Europe, and for heat by-product use in clammy British winters, he plumps for the reactor of modest size as a British export and speciality. In the long run, he thinks (and this reviewer shares the faith) the thermonuclear reactions will replace fission as the ultimate power source.

The Lonsdale-Thomson discussion will interest American readers. A carefully argued and earnest pacifist position is possible in American controversy still; but

Sir George's worldly and conservative arguments that "we ought not to bomb cities" by any sort of bomb, even though this is a "mode of war which (probably) favors the West", will come as a surprise to Americans used to the atmosphere of what is permissible to thoughtful people in the "very bomb-conscious U. S".

The Atomic Scientists' Association is to be congratulated on the organization of the talks, and upon finding a publisher able to put out a little hard-cover book so promptly (six weeks after the close of the lectures) and cheaply. These things are managed so well in Britain.

The Challenge of Man's Future. By Harrison Brown. 290 pp. The Viking Press, New York, 1954. \$3.75. *Reviewed by Alan M. Thorndike, Brookhaven National Laboratory.*

While *The Challenge of Man's Future* has nothing to do with physics as such, it is of great significance for physicists as well as other people who are actively interested in the well-being of Homo sapiens (so-called). It is a vigorously written book which should evoke a strong reaction from almost any reader. This reviewer found himself in over-all agreement with Brown's thesis, but it seems likely that there will be many readers who do not.

Man's future is a big subject, and the author obviously could not cover all aspects of it. He is interested in the next ten thousand years or so, and is willing to postpone worrying about the inevitable extinction of life on earth some billions of years later. Similarly he passes quickly over the day-to-day problems in the conduct of human affairs: the avoidance of war, economic depression, social intolerance, and other causes of human suffering. He supposes that we have no major disasters this year, next year, and the next. . . . Even so, he concludes, there are great problems that confront us.

The problem which he proceeds to analyze in some detail is that of providing a high standard of living, in the American style, for as many of the world's inhabitants as possible during the period discussed. He is not concerned with evaluating the advantages or disadvantages of our materialist culture, but simply acknowledges that it has become well-nigh universally accepted. In this world, where we all seek salvation through industrialization and a higher level of productivity and consumption, Brown asks: Where is this leading us? To be specific, what is the future of the Industrial Revolution?

This question is one which involves a vast complexity of detail, more than one book can include or one man know. The author sees two main threats to man's future living conditions, the first being population pressure, the second depletion of natural resources. Concerning the first he is a follower of Malthus. "In practically all times in practically all places," he writes, "some human beings have lived on a marginal subsistence basis and, either rapidly or slowly, they have starved." With food inadequate over most of the globe, and the supply increasing less rapidly than the population, the present is