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Books

Magnets
Soap Bubbles
The Neutron Story
How Old is the Earth?
Echoes of Bats and Men

Doubleday-Anchor Books . . . 95c each

These are the first five paperbacks to be published in a new Science Study Series, "designed to bridge the gap between scientists and laymen." The series is one of the by-products of the work of the Physical Science Study Committee, set up at MIT in 1956 to revise the teaching and study of high-school physics. The committee is writing a new physics textbook, producing a library of classroom films, and designing simple apparatus that can be constructed by teachers and students. The Science Study Series has been conceived as supplementary reading to this program, and about 15 titles will be published every year.

The books are designed for both students and the general public. High school pupils who have these paperbacks forced on them are going to be delighted with most of the books. But the general public, unless it is encouraged to seek them out, is likely to avoid the books because their straightforward titles promise only dry accounts of specialized (even esoteric) fields. But this is far from the fact. *Magnets* and *Soap Bubbles*, in particular, are little masterpieces of popular science writing. *Magnets*, as it turns out, is the absorbing autobiography of a physicist, Francis Bitter. (Now professor of physics at MIT, he was at Caltech on a National Research Fellowship in the late '20s, working under R. A. Millikan on the magnetic properties of gases). *Soap Bubbles* is a charming, and famous, series of talks given by Sir Charles Vernon Boys to an audience of children at the London Institution in 1889 and 1890.

Of the other books, *The Neutron Story* is perhaps the most "difficult." Its author, Donald J. Hughes, is a senior physicist at the Brookhaven National Laboratory. Patrick H. Hurley, author of *How Old is the Earth?*, is a geophysicist at MIT. Donald R. Griffin, who wrote *Echoes of Bats and*

Men, has spent most of his scientific career investigating the navigating techniques of animals. He is professor of zoology at Harvard.

Forthcoming titles in this new Science Study Series (in 1960) include *The Physics of Television*, *Galileo*, *Crystals and Crystal Growing*, *Radio Astronomy*, *The Birth of a New Physics*, and *Waves and the Ear*.

Men and Atoms

by William L. Laurence

Simon & Schuster \$4.50

Reviewed by Robert F. Christy,
professor of theoretical physics

Mr. William L. Laurence has had almost unparalleled opportunities as a writer in the field of atomic energy. Through his position as science editor of the *New York Times*, he was acquainted with the beginnings of fission work in this country in the New York area. Later, he was chosen as official correspondent in the last stages of the atom bomb project. Since then he has witnessed tests and followed the developments in atomic energy with a tremendous advantage over other writers.

This book, *Men and Atoms*, covers the field of atomic energy from its inception with the discovery of radioactivity by Becquerel, through the discovery of fission by Hahn and Strassman, to the explosion of an H-bomb, and then to a discussion of the aging process in man and the bearing thereon of isotope research. Parts of this wide-ranging story are fascinating, but the book lacks the underlying unity that might tie together what ends up as a strange collection of essays.

The book starts with the remarkable story of the discovery of fission and the spread of that knowledge around the world. It is on the whole well told and is indeed one of the classic episodes of physics discovery. It tells how Hahn and Strassman tried for years to understand the radioactivities associated with the capture of neutrons by uranium, until they

continued on page 10

were finally forced to the conclusion that meant fission. Laurence tells of the spread of this discovery to New York. The reviewer can attest that it was no less exciting on its arrival in Berkeley a few days later.

Atomic energy project

Laurence then tells of the early work in fission in America and the struggling beginnings of the atomic energy project. He was close to these developments and offers some interesting sidelights to the story.

There follows a wonderful action story of the raids on the Norwegian heavy water plants. This, in fact, makes one of the most exciting episodes in the book.

The fact that Laurence had no connection with the most important years in the atom project—the vital and exciting years at Berkeley, Columbia, Chicago, Oak Ridge, Hanford, and Los Alamos—is reflected in the almost entire absence of the 1942-1945 period in the book. This is an unfortunate omission from the

point of view of the overall picture, since these were the big years of the project.

The book then returns to episodes that Laurence is best known for—his reporting of the Alamogordo test and of the dropping of bombs on Hiroshima and Nagasaki. These are competently reported by someone who was there. There follows a remarkable chapter—which appears to be based largely on a report of Father Siemes, S. J., who went through it—of the bombing of Hiroshima and its aftermath. The report tells in simple form of the initial explosion, which seemed, in the suburbs, just like a blockbuster going off nearby. The unfolding of the story then shows the slow dawning of the magnitude of the disaster, as it becomes clear that it was not just one house, or just a block, or a neighborhood, or a district, but indeed a whole city that had been engulfed.

The rest of the book seems to lack any coherence whatsoever. One of the best known, and indeed dramatic, stories of the H-bomb development

—the arguments and discussions leading to the Oppenheimer hearings—is not even mentioned in Part Two, “The Hydrogen Bomb.” Perhaps Laurence was afraid that he would be damned no matter what he said on that subject.

People in science

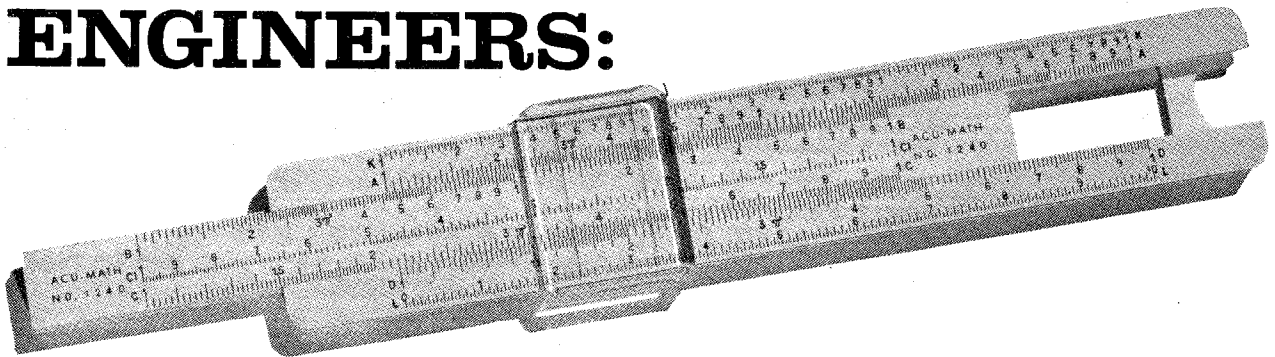
Part Three seems little more than a collection of essays—on people from the Curies to Einstein—which, although occasionally of interest, don't seem to be tied into the book at all.

Part Four, “Looking Forward,” also reads like excerpts from various newspaper stories on the future of atomic energy, rather than the kind of well-organized material one expects to find in a book.

At this point the reviewer broke down and did not read Part Five, “Atomic Primer”—24 pages on the atom according to William L. Laurence.

Robert F. Christy, professor of theoretical physics at Caltech, worked on the atomic energy program at the Los Alamos Scientific Laboratory from 1943 through 1946.

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