# REVIEWS

**The How and Why Book of Weather.** By George Bonsall. Illustrated by George Pay. Grosset & Dunlap, New York, 1960, 48 pages. $1.00.

One might ask why a book on weather for children of elementary school age should be reviewed in a scientific meteorological publication. The supermarkets and drugstores (not to mention bookstores) of the country are flooded with colorful scientific books for juveniles. But rarely are these volumes considered worthy of serious attention in the scientific press.

Although Mr. Bonsall's book is a superior example of its class, it is not its uniqueness but rather a more general consideration that merits review. Meteorologists, like other scientists, have a responsibility to keep a watchful and critical eye on the popular and elementary literature in their field. To ignore this literature is to avoid a responsibility to our children, our schools, and our profession. Bad books for children should be damned; good books should be praised. Mr. Bonsall's book is a good book.

Written in a felicitous question-and-answer style, *The How and Why Book of Weather* covers the gamut of familiar queries from "Can you see air?" to "Where do hurricanes come from? The answers are given clearly and without recourse to technical jargon or circular statements. In many places, the author has succeeded in escaping from the well-worn standard explanations and has substituted imaginative and picturesque material. The discussion of atmospheric pressure and the decrease of air density with altitude, in which none of those words is used, begins with "Suppose you had a stack of pancakes three feet high."

The author has had the uncommon good sense to recognize that certain areas of meteorology are too difficult to be treated at the elementary-school-age level. He has avoided these entirely. Of course, not all the subjects that are covered are treated in a manner that will completely satisfy the purists. But no one who has ever attempted to write for children will cavil at the author's simplifications. On the other hand, there is an unfortunate confusion between density and temperature in the explanation of the decrease of temperature with altitude that could have been avoided.

The most pleasing aspect of the book is its frequent reference to homely and familiar experiences of children. Both the explanations and the many simple experiments with which the book is liberally sprinkled stay close to home. The experiments are especially effective.

The book is well illustrated, partly in color, in a manner both attractive to children and relevant to the text. Most of the errors are trivial, but it is unfortunate that the legend under a drawing of an aneroid barometer describes a mercurial barometer instead.

The author is to be congratulated on having successfully performed a difficult task of communication.—*Jerome Spar.*

**Fluid Dynamic Drag.** By S. F. Hoerner. Published by author, 148 Busteed Drive, Midland Park, New Jersey, 1958. $15.00.

This is one of those off-the-beaten-path books which one runs across while searching for something else in the library. After so coming up it, this reviewer opened it to find a remarkably rich compendium of facts, data, illustrations, graphs and equations about a wide variety of drag problems that can crop up directly or indirectly in the course of meteorological investigations. Anyone who finds himself turning frequently to authors such as Goldstein or Prandtl or Schlichting for insight into unusual flow problems should make certain that his institutional library has Hoerner's book on file, for here is an unusually comprehensive collection of information on drag and related dynamical phenomena with many hundreds of bibliographical references and hundreds of graphs of observational data.

Over and above its extensive treatment of conventional aircraft-drag phenomena, the book provides fascinating and useful drag and pressure-distribution data for buildings (skyscrapers, storage tanks, airship hangars, houses), bridges, chimneys, automobiles, motorcycles, trains and parachutes. It includes sections on ship-hull drag, hydrofoil phenomena and cavitation processes. Compressibility drag and drag of internal-flow systems are also covered. It has been this reviewer's experience that questions concerning almost all of those topics can arise in the course of meteorological research and, above all, in design or analysis of aircraft-mounted instruments. There is one exception: this reviewer has never in the past needed to know the drag characteristics of a motorcycle *without* a driver; however, when such need arises, he now knows where to go for the answer!

For some reason that is far from clear after studying this book, the author was unable to get a regular publishing house to handle it, so he has brought it out himself. For this very reason, it is not likely to be well known, especially among meteorologists. No meteorological research groups should be without access to Hoerner's book.—*J. E. McDonald.*

**Tables Related to Radiation Emerging from a Planetary Atmosphere with Rayleigh Scattering.** By K. L. Carlson, J. V. Dave and Z. Sekara. University of California Press, 1960; pp. x + 548.

Over the past ten years, a series of papers on the theory and observation of molecular scattering in a plane-parallel atmosphere have appeared from the UCLA group under Zdenek Sekara. Between the development of an ingenious Stokes parameter meter and the extension and application of the elegant methods of Chandrasekhar, the problem of the intensity and polarisation of skylight, first stated by Lord Rayleigh in 1871, can at last be said to be completely solved.

The present volume gives, in tabulated form, the results of the theoretical attack. A five-page introduction summarizes the theoretical problem; details can be found in Chandrasekhar's monograph. Then follow tables of the Total Intensity, Stokes' parameters $Q + U$,