

Weather Studies. By L. P. Smith (President of the WMO Commission for Agricultural Meteorology). A Pergamon Press Book distributed by The Macmillan Co., New York, 1964. 100 pages. \$2.45.

Intended for use in schools, this 100-page book will have a ready acceptance among amateur weather observers, hobby gardeners, and the many others who have learned that the weather intimately affects a wide variety of human pursuits and recreations. The suggestions for study and experimentation apply to either groups or individuals. Therefore, teachers should examine it carefully, especially for its high merit as a possible laboratory manual.

The organization logically proceeds from the identification and explanation of weather elements which one can observe at the surface to the diurnal and longer period variations of weather by construction of graphs and charts, next to a comparison of pairs of weather elements (viz., visibility and wind direction), then to local variations of weather, and finally to the forecasting of weather (clouds, precipitation, temperature, fog, and frost) based on local indications.

Each chapter includes questions to stimulate critical review of the observed phenomena so as to draw related conclusions. Teachers as well as students in both high schools and colleges will do well to equip themselves with additional reading and course work in atmospheric physics lest they draw erroneous conclusions in answering the questions stated in the book, since no official answers or automatic correctives appear in the text.

The habits of the weather in the British Isles have to support some of the comments, and thus readers in the United States will have to allow for the differences between their own climates and that of Britain. For instance, whereas precipitation might always occur as snow at the surface with temperatures of 32F or less in Britain, the Pacific Coast region from British Columbia to Oregon has experienced examples of freezing rain ("silver thaw") with spectacular damage and hazard.

Well adapted to local observational work and critical examination of such data, this book does not attempt to introduce readers to the concepts of synoptic meteorology beyond the introduction of the published weather map as a kind of graph, to which the reader should relate his own observations by correlating the beginning and ending of rain with the movements of fronts.

The use of the British idiom and the necessity to adapt to his own local weather should not deter any conscientious teacher from fully exploiting the many ingenious practical suggestions for enlivening and enriching his own and his students' study of meteorology.—*Fred W. Decker*

Science and Ideas: Selected Readings. By Arnold B. Arons and Alfred M. Bork. Englewood Cliffs, N. J., Prentice-Hall, Inc. 278 pages. \$3.95.

The fifteen essays of this anthology are a provocative collection. They make one think deeply about basic scientific concepts. They trace the evolution of some of these and show their impact on thought. They probe the relationship of science to the rest of modern western culture.

The authors chosen are as distinguished and varied as Dr. Richard P. Feynman, the brilliant theoretical physicist, Henri Poincaré, and Norman Juster, whose phantasy "The Phantom Tollbooth" is a "children's" book that perceptively dissects western society. The selection from Juster nicely caricatures Lord Snow's "two cultures" of scientist and humanist. It complements the more scholarly treatment of this theme by Harvard University's Dr. Gerald Holton.

In their style and approach, the essays are balanced literary fare. But their scientific basis is exclusively physics. One misses the biologists especially. Surely the field that now is unveiling the chemical foundations of organic life should have been represented.

The late Percy Bridgman is the only author to appear twice. This is a tribute to the enduring appeal of the controversial physicist. The first selection outlines his operational approach to scientific concepts. His insistence that these have meaning only in terms of what we do to measure or physically to define them is pressed with puritanical zeal. Bridgman also has the last word. In the final essay, he begins to analyze the way we look at everyday life. He adopts the same uncompromising manner with which he has attacked the physicists' modes of thinking.

May there not be faults in the very foundations of everyday thought?, he asks. He suggests these will be found to be as significant and unexpected as those uncovered in the revolution of physical concepts embodied in relativity and quantum theory. Bridgman and the anthology leave one with this disquieting challenge.

The value of all this is to spur thinking and further reading. The collection by itself is fragmentary. It would tend to leave one a bit muddled. As a supplement to classroom study, it would be only one of several source books. As bedtime reading, it would broaden one's outlook. But any lines of thinking it opens should be followed up.

The book doesn't aim to present a coherent view. The editors say their purpose is simply "to make a body of significant ideas more readily accessible both to students and to the general readers." They have succeeded. There isn't a dull or insignificant essay in the lot.—*Robert C. Cowen*