

## BOOKS AND REPORTS

*All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.*

**Studies in Air Hygiene**—By R. B. Bourdillon, O. M. Lidwell and J. E. Lovelock, with W. C. Cawston, L. Colebrook, F. P. Ellis, M. van den Ende, R. E. Glover, A. M. MacFarlan, A. A. Miles, W. F. Raymond, E. Schuster and J. C. Thomas. *Medical Research Council, Special Report Series No. 262. London: His Majesty's Stationery Office, 1948, 356 pp. 7s 6d.*

This volume is a technical symposium presenting in detail the extensive studies on air hygiene conducted in Great Britain through the later war years by a research team under the auspices of the Medical Research Council. The major emphasis has been directed toward the development and evaluation of quantitative methods for studying the properties of aerial disinfectants and for making basic observations on bacterial contamination in a wide variety of occupied spaces. A limited number of animal studies are also included.

The slit sampler has been shown to be a practical and versatile instrument for counting bacterial particles in air. It has the great asset over other sampling devices of measuring the rapid and often extreme fluctuations in aerial contamination that occur in occupied spaces. Furthermore, the rate of decline in bacterial counts following the introduction of disinfectants can be determined with accuracy in short time intervals. This instrument has not received the attention in the United States that it deserves.

The use of the logarithmic decay constant as the expression for the rate of removal of bacteria from air has been adopted as a standard procedure. This rate, as Wells originally pointed out, can be expressed in the terms of

equivalent air changes per hour. Since the constants for measuring removal of bacteria by ventilation or sedimentation and killing by disinfectants are additive, a quantitative measure of the three effects is possible.

The capacity of a wide variety of chemicals, ultra-violet radiation, heat and filtration in killing or removing air-borne bacteria have been measured and the limiting conditions of their usefulness have been studied. There is no dearth of bactericidal agents, but many practical problems must be solved before large scale applications are feasible.

Extensive field observations of bacterial contamination of the air were conducted in operating rooms, homes, factories, air-raid shelters, and war ships under active service conditions. The relation of bacterial counts to the degree of human activity has been described in detail. The problem of achieving a substantial reduction in air-borne bacteria in the face of constant introduction of new bacteria has been clearly presented.

This report represents a major landmark in the development and application of quantitative methods in air hygiene. While the main body of the work will be of primary interest to students and research workers in the field, the final section presents a clear and succinct summary of the problem that will be of general interest to all workers in public health.

ALEXANDER D. LANGMUIR

**Mineral Nutrition of Plants and Animals**—By Frank A. Gilbert. *Norman, Okla.: University of Oklahoma Press, 1948. 131 pp. Price, \$2.75.*

This book reviews the more impor-

tant papers in the literature dealing with mineral nutrition of plants at a level which makes it interesting and useful both to those who would like to be generally informed in the field and to those who might like a starting place from which to delve deeper into the subject. The book is of interest also to those who are concerned about soil conservation and its far-reaching economic effects, for the author gives some attention to this aspect of the subject too.

The book presents what is known concerning mineral requirements for plants and animals. It describes what happens to plants when the soil in which they are grown is deficient in minerals and, in turn, what happens to animals when they are raised on such plants.

The importance of more attention to the mineral content of soil is well established. While further knowledge is accumulating it is also important to apply the knowledge we now have to useful purposes. This book should be helpful in stimulating such action.

A bibliography of over three hundred references is included.

OTTO A. BESSEY

**The Unexpected Gift**—By Dorothy Stephens Laird. Illustrated by Harrison Covington. University of Florida Project in Applied Economics, College of Education, Gainesville, 1948. Price, \$0.35 single copy, 20% discount for 25 or more copies.

This booklet is one of a series of science readers for the junior high school pupils. The material—presented in story form with nine pen and ink illustrations—should stimulate interest of pupils in an adequate diet and call attention to the role of the lunchroom in providing good nutrition as a part of the total school program.

The philosophy regarding the lunchroom program and the choice of nutrition teaching material is excellent. To present all of this in story form is an

almost impossible task, and there are certain places where basic information is obviously tacked on to the framework of the story, but the earnest reader is rewarded by the realization that all essential information does get presented before the climax of the story is reached.

There is a story, complete with a pet dog, a wild cat, a barbecue, and a hero. It would be interesting to know how this presentation of rural Florida life would be received in New Mexico, where there are no swamps and alligators, but as an example of local material developed by collaboration of many interested persons, the book could well serve as an example for emulation by any state desiring truly local teaching material.

The type is clear. There is much conversation to add to interest and readability. It should prove interesting, usable, and instructive for children of junior high school age, and should help teachers who are attempting to serve their communities by teaching basic facts concerning food and nutrition.

MARGARET C. MOORE

**American Standard Plumbing Code.** Sponsors: American Public Health Association and American Society of Mechanical Engineers. New York: Published by American Society of Mechanical Engineers, 1949. 77 pp.

The A.S.M.E. has published *The American Standard Plumbing Code, A 40.7-1949*, representing the work of a committee formed in 1928.

The organizations, their subcommittees, and consultants from industry and government are to be commended. Many cities and states need guidance when they come to consider plumbing regulations.

The committee recognized that plumbing is not a static subject by appointing a Standing Committee to consider the results of present and future research on controversial plumbing subjects.