

Book Reviews

Women in industry: their health and efficiency. Anna M. Baetjer. (Issued under the auspices of the Division of Medical Sciences and the Division of Engineering and Industrial Research, National Research Council.) Philadelphia-London: W. B. Saunders, 1946. Pp. xi + 344. (Illustrated.) \$4.00.

Over the period of the last 100 years there was a steady increase, both in absolute figures and relatively with respect to men, in the number of gainfully employed women. In the United States, by 1900, about 5,000,000 women were employed; in 1940 the number increased to 12,000,000. The trend has been accelerated by the war, the number reaching some 18,000,000 in 1945. A particularly marked increase occurred in the number of women employed in industry.

The personnel man, the production engineer, the industrial physician, the public health officer, and the insurance agent have become more acutely concerned with women's occupational fitness and with the effects of the industrial work on health. It was in response to this growing demand for a critical and systematic summary of available information on problems specifically connected with the employment of women in industry that Dr. Baetjer's book was written.

Most of the material is based on statistical data concerning such characteristics of industrial populations as sickness absenteeism, accidents, morbidity, and mortality. It is a well-established fact that men throughout the employable age range have a significantly higher mortality rate than women. However, the causative factors are not understood well enough to allow a safe prediction of changes in the mortality rate of women resulting from the increased industrial employment.

In contrast to mortality, women have a higher apparent morbidity. They are absent more frequently and lose more time. The yearly absences average from 7 to 11 days per woman as compared with 2 to 7 days per man. This difference in the incidence of absences reported and recorded as "sickness absenteeism" do not necessarily reflect a constitutional difference in the susceptibility to disease, *i.e.* differences which would be present if the accessory factors, such as the household duties of the women and financial responsibilities of the men, were equated.

The reported causes of sickness absenteeism in the great majority of instances are common to the two sexes, 50 per cent of absences being accounted for by respiratory diseases and 20 per cent by digestive diseases. Gynecological disturbances play a minor role; the loss of time due to dysmenorrhea is small and can be further reduced by appropriate methods. Pregnancy definitely limits the capacity for heavy work and increases the danger of exposure to toxic factors, such as lead. Beyond these facts no generalization can be made, and the continued employment of a pregnant employee is essentially an individual medical problem.

Except for the effect of some toxic agents in pregnancy, there is no adequate evidence that women have a greater susceptibility to occupational diseases than men. Industrial accidents

do not contribute significantly to women's absenteeism; the lower rate of industrial accidents of women as compared with men is attributable to a difference in exposure.

In reference to women's physical "fitness" the following mean values are quoted, expressed as percentages of the men's mean: height, 93; weight, 81; pull, 51; and grip, 53 per cent. Even though the interindividual differences between women are great and can be utilized in the process of scientific placement, the employment of large numbers of women should lead to a redesigning of the work place, machines, and tools. Although the author reports, with special reference to women's record in World War II, that properly trained women were essentially equal to men in all types of industrial activities, except for their handicap in heavy work, and were especially capable at jobs requiring manual dexterity and fine coordination, the statistics are singularly absent.

The basic philosophy of the book is sound. It places emphasis on proper selection, placement, training, and supervision. An adequate placement is one of the key points in an efficient utilization of man power. It involves a skillful appraisal of the physical, mental, and emotional characteristics of the applicants and requires a close coordination between the medical and the personnel department. Dr. Baetjer does not point out the inadequacy of the present methods of medical diagnosis of occupational fitness and the dearth of follow-up studies necessary for the clarification of the relationship between pre-employment "fitness," production efficiency, and effects of work on health.

This review represents a useful summary of an important sector of the science of human work. Its value consists as much in the able and critical sifting of the available and often contradictory data as in pointing out, directly and indirectly, the large gaps in our knowledge about the interrelationships between health and industrial work. In addition to group statistics there is an urgent need for information obtained by means of controlled observation and experimental analysis.

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Enzymes and their role in wheat technology. J. Ansel Anderson. (Ed.) (American Association of Cereal Chemists Monogr. Ser., Vol. I.) New York: Interscience Publishers, 1946. Pp. ix + 371. (Illustrated.) \$4.50.

This volume represents the efforts of two distinct types of research workers, the academic and the industrial. In general design it consists of a systematic review of five major enzyme fields, each of which is first reviewed as a whole and then, in a second chapter, related to wheat technology. Although designed primarily for grain specialists, the book has a far wider appeal, providing, as it does, comprehensive reviews on various branches of enzymology, including amylases, esterases, respiratory enzymes, proteases, and fermentative enzymes.

Half of the book, then, is unrelated to wheat technology and

provides a general introduction to enzymology of distinct value in its own right. The other chapters, written for the grain specialist, undoubtedly will be of great value both as text and reference source.

The five chapters dealing with the industrial application vary more between themselves than do the uniformly excellent general survey articles. Basically, this inequality derives from the ambitious design of the book, whereby the full range of enzymology is discussed from one limited application, viz., breadmaking. It is thus inevitable that some fields, such as esterases and proteases, provide their technological reviewers with less material than do others, such as fermentation enzymes.

It is also probably inevitable that 15 contributors should use the word "enzyme" in quite different ways, no particular effort being made to distinguish between isolated enzymes with proven characteristics and the enzymes which are presumed to be present in the living cells by virtue of the recognition of certain metabolic processes. Indeed, the 15 or so enzymes described in the final chapters on yeast fermentation are referred to in the opening chapter as the single enzyme, "zymase."

Despite these minor criticisms, the book should immediately become a standard text for all cereal chemists, especially in view of the excellent bibliographies included with each review. These include the titles of the original papers—a practice that has much to recommend it. Author and subject indexes are provided.

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The people look at radio. Paul F. Lazarsfeld and Harry Field. Chapel Hill: Univ. North Carolina Press, 1946. Pp. ix + 158. (Illustrated.) \$2.50.

This is a report of a survey which was planned in part by the National Association of Broadcasters (the sponsors of the study) and in part by Denver's National Opinion Research Center. NORC, under the direction of the late Harry Field, was responsible for polling a cross-section sample of over 3,000, and the resulting data were analyzed, interpreted, and reported by Lazarsfeld. Over a third of the volume is devoted to appendices which include characteristics of the sample, percentage tables for responses to the questions, and percentage tables for breakdowns and cross-tabulations.

Apparently the people think that radio is doing a better job than such institutions as the newspaper, church, school, and local government, yet about two-thirds of the people are critical of some phase of radio. It may surprise some readers to learn that a third are never annoyed by the radio, and that less than a third of those who are critical voice objections to radio advertising. For evening listeners, news broadcasts lead the list of preferred programs, followed in order by plays, comedy, quiz, old familiar music, talks and discussions, classical music, etc. It would seem that only 50 per cent of the people know that the Government has anything to do with the operation of radio; two-thirds would have the Government see to it that news broadcasts are truthful and that both sides of public issues be given. Of those who expressed definite opinions, four out of five think that the radio gives fairer, more unbiased news than the newspapers; 81 per cent believe the radio fair in pre-

sending both sides of issues, whereas only 39 per cent so regard the newspapers.

These and other over-all findings plus interrelationships indicate that one of the tools of the social scientists—opinion surveying on a sampling basis—can lead to results which are of interest to the student of the American scene. It is not easy to determine the extent to which the results of this study need qualifications because of the difficulties of the polling operation, which the reviewer has discussed elsewhere (*Psychol. Bull.*, 1946, 43, 289–374).

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Scientific Book Register

ANDERSON, ARTHUR K. *Essentials of physiological chemistry*. (3rd ed.) New York: John Wiley; London: Chapman & Hall, 1947. Pp. vii + 395. (Illustrated.) \$3.50.

BARNES, H. F. *Gall midges of economic importance*. Vol. I: *Gall midges of root and vegetable crops*; Vol. II: *Gall midges of fodder crops*. London: Crosby Lockwood & Son, 1946. Vol. I: Pp. 104; Vol. II: Pp. 160. (Illustrated.) 12/6; 15/–.

COOKE, ROBERT A. *Allergy in theory and practice*. Philadelphia-London: W. B. Saunders, 1947. Pp. xxv + 572. (Illustrated.) \$8.00.

FRIEDMANN, HERBERT (commenced by the late Robert Ridgway). *The birds of North and Middle America*. (Pt. X.) (Smithsonian Institution, U. S. National Museum Bull. 50.) Washington, D. C.: Government Printing Office, 1946. Pp. xii + 484. (Illustrated.) \$1.25.

JONES, W. NORTON, JR. *Inorganic chemistry*. Philadelphia-Toronto: Blakiston, 1947. Pp. xii + 817. (Illustrated.) \$4.25.

KNIGHT, J. BROOKES. *Some new Cambrian bellerophon gastropods*. (Smithsonian Miscellaneous Collections, Vol. 106, No. 17.) Washington, D. C.: Smithsonian Institution, 1947. Pp. 11. (Illustrated.)

MUNROE, HELEN. (Compiler.) *Classified list of Smithsonian publications available for distribution December 1, 1946*. (Publ. 3858.) Washington, D. C.: Smithsonian Institution, 1946. Pp. 53.

PELSENEER, JEAN. *Morale de savants: d'Hippocrate à Einstein*. Brussels: Office de Publicité, 1946. Pp. 128.

PRATA, EMIDIO. *La scissione nucleare dell'uranio: fenomenologia generale*. Milan: Ulrico Hoepli, 1946. Pp. 160.

STRONG, RALPH K. *Chemistry for the executive: a layman's guide to chemistry*. New York: Reinhold, 1946. Pp. 445. (Illustrated.) \$6.00.

WETMORE, ALEXANDER. *New birds from Colombia*. (Smithsonian Miscellaneous Collections, Vol. 106, No. 16.) Washington, D. C.: Smithsonian Institution, 1946. Pp. 14.

———. *Catalogue of films of general scientific interest available in Great Britain*. (Compiled by the Scientific Film Association.) London: Association of Special Libraries and Information Bureaux, 1946. Pp. 188.