

as the country as a whole, promises much for the future.

Under the auspices of certain of the national, private, and public health foundations and institutes concerned with the problem, Masland, Sarason, Gladwin (neuropsychiatrist, psychologist, and anthropologist, respectively) were commissioned to review critically the past and present research and thinking in the vast field of mental subnormality. The authors were not only to examine and cull the good work from the mass of poorly conceived and conducted studies of past generations, but also to integrate their findings into a meaningful whole, and in addition, to discuss the promising leads for future research. This volume is the result of 2 years of intensive work.

Interestingly enough, Masland, who summarized the prenatal and postnatal organic causes of mental deficiency, has titled his part "The Prevention of Mental Subnormality." Sarason and Gladwin enter upon the usually disconcerting effort of defining intelligence and then go on to an intensive discussion of the relationships of psychological and sociocultural variables to intellectual functioning. In this extensive review of years of effort by thousands of individuals, the authors have managed to produce a coherent, lucid, and eminently usable account of a large number of heterogeneous conditions which are multivariably caused and which may be related or unrelated. The authors come to no single or simple conclusion. However, beginning with quite different frames of reference, they "take very different avenues to attack a single worrisome and damaging concept, that of a hereditary taint as the basis for all mental subnormality. The attempt to lay this shibboleth finally to rest is implicit in much of both reports." It was apparent to the collaborators, as the attribution of etiological factors became increasingly specific and valid, that gene-borne disorders had been frequently offered on a *post hoc* basis.

The attempt to unravel and specify established and likely causations, separately and in combination, becomes the theme of the book, and it must be acknowledged that the authors have performed exceedingly well an almost impossible task. Illustrative of the magnitude of this massive effort is the fact that each one of the over 600 references given has been used at least once and frequently many times in the structure of their argument and has not been inserted as padding—a too-common occurrence in academic work. It is, therefore, not too surprising that a number of annoying bibliographic errors are found when attempts to trace specific references are made. There are a few errors in quotation or interpretation as well as over- and underemphasis. The authors,

themselves, are aware that they have not given sufficient effort to the integration of the interplay of organic, psychological, and social factors. It would be surprising in a work occupied with every level of integration from nuclear physics to culture if some errors could not be found to criticize. These can be left to succeeding editions for correction, and there would appear to be little doubt that succeeding editions will be forthcoming in view of the obvious and critical need for the book. This is a nodal piece of work in the field of mental subnormality. Its definitiveness and its stimulating and exciting qualities make it all the more valuable. It will be widely read and discussed, and it should be the fervent hope of all who work in the area of mental health that its implications and recommendations will be widely disseminated.

BENJAMIN PASAMANICK

Columbus Psychiatric Institute and Hospital, University Health Center, Columbus, Ohio

The American Labor Force: Its Growth and Changing Composition. Gertrude Bancroft. Wiley, New York; Chapman and Hall, London, 1958. xiv + 256 pp. Illus. \$7.50.

Following the 1950 United States census, several studies, entitled the *Census Monograph Series*, were prepared under the auspices of the Social Science Research Council in cooperation with the U.S. Bureau of the Census. These studies considered such topics as the changing population of the United States, American families, and urban and rural areas.

The American Labor Force is a volume in this series. By *labor force* is meant the total number of persons reported as employed, plus the unemployed—that is, persons so reported to the census enumerator at the time of the 1950 census (or at the time of the pertinent monthly sample survey of the population).

Bancroft's study is largely concerned with analyzing the statistics provided by the census of 1950 and earlier censuses supplemented by data from the Census Bureau's monthly sample surveys. She deals with selected aspects of the measurement, growth, and composition of the labor force. Chapter 1 describes the United States labor force as of 1956; some additional material about persons not in the labor force—that is, the non-workers—is included. Chapter 2 describes trends in the labor force from 1890 to 1955, giving the numbers and proportions of persons engaged in various occupations, together with brief mention of changing occupational patterns.

Chapter 3, the longest in the book, contains an exhaustive and detailed analysis of changes between 1940 and 1950—changes in labor force participation from the standpoint of age, color, marital status, and so forth.

Trends in the part-time labor force (chapter 4) and family employment patterns (chapter 5) are two topics which have been seriously neglected in past analyses of the labor force. This resulted in part from the lack of statistics which would permit study of these topics and in part from undue preoccupation with the individual worker rather than interest in the family as a working entity. Bancroft has brought together many data, most of which have become available only since the end of World War II, and has obtained some interesting findings, such as, "there is not much reason to believe that 'that interesting part time job' which is the goal of so many better educated women has become a very common feature of the present labor market" (page 107). More definitive analysis of these two interrelated topics, unfortunately, will have to await the availability of more statistics and information. The reader who is interested in these two topics should also see Paul Glick's *American Families*, another volume in the *Census Monograph Series*.

Projections of the labor force to 1975 are given in chapter 6. Four methodological appendices complete the volume.

On the whole, this is an excellent census type analysis, in line with the presentations in other volumes of the series. I feel, however, that the inclusion of more noncensus material and analyses (of which there is a considerable body available) would have given more breadth and scope to the findings and, indeed, would have strengthened them.

A. J. JAFFE

Bureau of Applied Social Research, Columbia University

On the Magnet. William Gilbert. A volume in the "Collector's Series in Science." Derek J. Price, Ed. Basic Books, New York, 1958. xi + 247 pp. \$8.50.

The period between the mid-16th and mid-17th centuries was one of great creative activity in the field of natural philosophy. A number of investigators took a fresh look at the world about them and sought not only to comprehend that world but to apply the newly gained understanding.

One of these men was William Gilbert, Elizabethan physician and student of the loadstone. His findings were incorporated in *De Magnete*, first published in London in 1600. Basic Books

has reprinted the English edition of S. P. Thompson, the well-known author of many 19th-century texts on electrical engineering, and D. J. Price of the Institute for Advanced Study has contributed a biographical introduction.

The appearance of this book has added another important work from the history of science to the growing list of reprints. It is a highly commendable selection and one that should do much to change the status of the book from that of a classic that is commonly quoted but infrequently read to one whose significance is justly appreciated.

JAMES KING

*Division of Electricity,
Smithsonian Institution*

The Chemical Analysis of Food and Food Products. Morris B. Jacobs. Van Nostrand, Princeton, N.J., ed. 3, 1958. xxiv + 970 pp. Illus. \$13.75.

The new edition of this well-known book contains 69 pages of new material, divided between consideration of analytical methods for radioactive materials, pesticide residues, and artificial sweetening agents. The original material of the other chapters has been retained substantially intact. In a few cases where radical revision has been required (for example, with reference to coal-tar colors and to coumarin), the necessary changes in text have been accomplished without altering the original pagination.

The revision appears to me to be somewhat less thorough than the publisher states, particularly in a field developing as rapidly as this one.

JOHN R. MATCHETT

*Agricultural Research Service,
U.S. Department of Agriculture*

New Books

Biochemistry and the Central Nervous System. Henry McIlwain. Little, Brown, Boston, ed. 2, 1959. 295 pp. \$10.

Canadians in the Making. A social history of Canada. Arthur R. M. Lower. Longmans, Green, Toronto, Canada, 1958. 499 pp. \$7.50.

Celestial Mechanics. E. Finlay-Freundlich. Pergamon, New York and London, 1958. 158 pp. \$7.50.

Čerenkov Radiation and Its Applications. J. V. Jelley. Pergamon, New York and London, 1958. 314 pp. \$10.

Charles Darwin, Evolution and Natural Selection. Bert James Loewenberg, Ed. Beacon Press, Boston, 1959. 438 pp. \$5.75.

Colorimetric Determination of Traces of Metals. E. B. Sandell. Interscience, New York, ed. 3, 1959. 1054 pp. \$24.

Combustion and Propulsion. Third AGARD colloquium. Noise, shock tubes, magnetic effects, instability and mixing. Combustion colloquium, Palermo, Sicily,

17-21 March 1958. Including four selected papers presented at the Washington AGARD meeting. M. W. Thring, J. Fabri, O. Lutz, A. H. Lefebvre, Eds. Published for and on behalf of Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization. Pergamon Press, New York and London, 1958. 626 pp. \$20.

Communications des invités étrangers. Congrès National des Sciences Médicales, Bucharest, 5-11 Mai, 1957. Académie de la République Populaire Roumaine, Bucharest, Rumania, 1958. 908 pp.

Digging into History. A brief account of fifteen years of archaeological work in New Mexico. Popular Series, Anthropology, No. 38. Paul S. Martin. Chicago Natural History Museum Press, Chicago, Ill., 1959. 157 pp. \$1.50.

Ecological Processes. Alan Mozley. Lewis, London, 1959. 79 pp. 9s.

The Ecology of Human Disease. Jacques M. May. M.D. Publications, New York, 1958. 348 pp. \$7.50.

The Education of Women. Signs for the future. Report of a conference on the present status and prospective trends of research on the education of women, sponsored by the American Council on Education, Rye, N.Y., 27-30 October 1957. Opal D. Davis, Ed. American Council on Education, Washington, D.C., 1959. 153 pp. \$2.

Electromechanical Energy Conversion. David C. White and Herbert H. Woodson. Wiley, New York; Chapman & Hall, London, 1959. 661 pp. \$12.50.

The Enzymes. vol. 1, *Kinetics, Thermodynamics, Mechanism, Basic Properties.* Paul D. Boyer, Henry Lardy, Karl Myrback. Academic Press, New York, ed. 2, 1959. 798 pp. \$24.

The Family Medical Encyclopedia. Justus J. Schifferes. Little, Brown, Boston, 1959. 636 pp. \$4.95.

Fundamentals of Ecology. Eugene P. Odum. Saunders, Philadelphia, Pa., ed. 2, 1959. 564 pp.

The Magneto-Ionic Theory and Its Applications to the Ionosphere. J. A. Ratcliffe. Cambridge Univ. Press, New York, 1959. 217 pp. \$7.50.

Materials for Nuclear Reactors. Bernard Kopelman, Ed. McGraw-Hill, New York, 1959. 421 pp. \$12.

Physiology of Muscular Activity. Edward C. Schneider. Peter V. Karpovich, Ed. Saunders, Philadelphia, Pa., ed. 5, 1959. 385 pp.

Television Works Like This. Jeanne and Robert Bendick. Whittlesey House, McGraw-Hill, New York, ed. 3, 1958. 64 pp. \$2.75 (juvenile book).

The Theory and Design of Magnetic Amplifiers. E. H. Frost-Smith. Wiley, New York, 1958. 506 pp. \$12.50.

Thrills and Regressions. Michael Balint. International Universities Press, New York, 1959. 148 pp. \$4.

Tree Maintenance (originally published as *Maintenance of Shade and Ornamental Trees, 1941*). P. P. Pirone. Oxford Univ. Press, New York, 1959. 501 pp. \$10.

Viral and Rickettsial Infections of Man. Thomas M. Rivers and Frank L. Horsfall, Jr., Eds. Lippincott, Philadelphia, Pa., ed. 3, 1959. 985 pp. \$8.50.

Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, but to the publisher or agency sponsoring the publication.)

Joint FAO/WHO Expert Committee on Nutrition. Tech. Rept. Ser., No. 149. World Health Organization, Geneva, Switzerland, 1958. 55 pp. \$0.60.

School Sites. Selection, development, and utilization. Special Publ. No. 7. James L. Taylor. Office of Education, Washington 25, 1958 (order from Supt. of Documents, GPO, Washington 25). 91 pp. \$0.75.

Satellite Data and Analyses. Special Rept. No. 18, Optical Satellite Tracking Program. Smithsonian Institution, Astrophysical Observatory, Cambridge, Mass., 1958. 49 pp.

Air Pollution. Fifth Report of the Expert Committee on Environmental Sanitation. WHO Tech. Rept. Ser. No. 157. World Health Organization, Geneva, Switzerland, 1958 (order from Columbia Univ. Press, New York). 26 pp. \$0.30.

Albinism in North American Amphibians and Reptiles. Biological Ser. Max Hensley. Michigan State Univ., East Lansing, 1959. 24 pp.

Birds of the Pleistocene in North America. Miscellaneous Collections, vol. 138, No. 4. Publ. 4353. Alexander Wetmore. Smithsonian Institution, Washington, D.C., 1959. 24 pp.

The Status of the Lizard Cnemidophorus Perplexus Baird and Girard (Teiidae). Proceedings, vol. 108, No. 3406. T. Paul Maslin, Richard G. Beidleman, Charles H. Lowe, Jr. U.S. National Museum, Smithsonian Institution, Washington, D.C., 1958. 14 pp.

National Advisory Committee on Research in the Geological Sciences. Eighth Annual Report, 1957-58. Including survey of current research in the geological sciences in Canada, 1957-58. Geological Survey of Canada, Ottawa, 1958. 165 pp. \$0.50.

Cobalt and Its Alloys. A summary of allotropy and phase diagrams. F. R. Morral. Cobalt Information Center, Columbus 1, Ohio, ed. 2, 1958. 125 pp.

Contributions à l'étude des rafales. Brest-Guipavas, Juillet 1946-Juin 1956. Monographies de la Météorologie Nationale, No. 10. M. Bérenger and B. Pages. Secrétariat Général à l'Aviation Civile et Commerciale, Paris, 1958. 31 pp.

Cooperative Research Program, Projects under Contract. 1 July 1956-31 December 1958. Office of Education, Washington 25.

The Dispersion of Carbon Black in Rubber and Its Role in Vulcanizate Properties. Columbian Colloidal Carbons, vol. XVI, No. 3. C. W. Sweitzer, W. M. Hess, J. E. Callan. Columbian Carbon Co., New York, 1958. 37 pp.

Flora of Peru. Botanical Ser., vol. XIII, Pt. IV, No. 2. Publ. 861. Rogers McVaugh. Field Museum of Natural History, Chicago, Ill., 1958. \$3.75.

The Gore Mountain Garnet Deposit, New York State, Structure and Petrography. Paul Bartholome. Université Lovanium, Leopoldville, Congo Belge, 1958. 32 pp.