

SCIENCE

VOL. 102

FRIDAY, AUGUST 17, 1945

No. 2642

<i>The Report of President Truman on the Atomic Bomb</i> 163	<i>Institute for Shellac in the Preservation of Smoked Paper Records:</i> DR. A. M. AMBROSE and DR. FLOYD DEEDS 178
<i>Microscopic and Chemical Properties of Precancerous Lesions:</i> DR. E. V. COWDREY 165	
<i>Obituary:</i>	<i>Discussion:</i>
<i>Max Bergmann:</i> DR. HANS T. CLARKE. <i>Deaths and Memorials</i> 168	<i>Bread "Enrichment":</i> DR. ROBERT R. WILLIAMS; PROFESSOR E. V. MCCOLLUM. <i>One-parent Progeny of Tubificid Worms:</i> PROFESSOR WM. C. PURDY 180
<i>Scientific Events:</i>	<i>Scientific Books:</i>
<i>Science in Denmark and Norway; The Office of Research and Inventions of the Navy Department; Study of the Causes and Treatment of Cancer; The Institute of Nuclear Studies and the Institute of Metals at the University of Chicago</i> 170	<i>Relativity:</i> PROFESSOR W. F. G. SWANN. <i>Wood Chemistry:</i> DR. ELWIN E. HARRIS. <i>The Analysis of Foods:</i> DR. MARK A. GRAUBARD. <i>Books Received</i> 182
<i>Scientific Notes and News</i> 172	<i>Science News</i> 10
<i>Special Articles:</i>	
<i>The in Vitro Protection of Penicillin from Inactivation by Penicillinase:</i> DR. DAVID PERLSTEIN and ALFRED J. LIEBMANN. <i>The Effect of Thiouracil on the Respiration of Bone Marrow and Leucocytes in Vitro:</i> DR. CHARLES O. WARREN. <i>Antagonistic Action of a Red Mould Pigment against Bacteria of the Typhoid-Paratyphoid-Dysentery Group:</i> DR. L. ROSENTHAL. <i>The Rh and Hr Factors in Chimpanzees:</i> DR. ALEXANDER S. WIENER and MARJORIE WADE. <i>Accumulation of DDT in the Body Fat and its Appearance in the Milk of Dogs:</i> GEORGE WOODARD, RUTH R. OFNER and CHARLES M. MONTGOMERY 174	
<i>Scientific Apparatus and Laboratory Methods:</i>	
<i>A New Test for Blood Estrogen:</i> PROFESSOR CARL G. HARTMAN and J. LITTELL. <i>Norelac—A Sub-</i>	

SCIENCE: A Weekly Journal, since 1900 the official organ of the American Association for the Advancement of Science. Published by the American Association for the Advancement of Science every Friday at Lancaster, Pennsylvania.

Editors: JOSEPHINE OWEN CATTELL and JACQUES CATTELL.

Policy Committee: MALCOLM H. SOULE, ROGER ADAMS and WALTER R. MILES.

Advertising Manager: THEO. J. CHRISTENSEN.

Communications relative to articles offered for publication should be addressed to Editors of Science, 1215 Fifth Avenue, New York 29, N. Y.

Communications relative to advertising should be addressed to THEO. CHRISTENSEN, Advertising Manager, Smithsonian Institution Building, Washington 25, D. C.

Communications relative to membership in the Association and to all matters of business of the Association should be addressed to the Permanent Secretary, A.A.A.S., Smithsonian Institution Building, Washington 25, D. C.

Annual subscription, \$6.00

Single copies, 15 cents

THE REPORT OF PRESIDENT TRUMAN ON THE ATOMIC BOMB

SIXTEEN hours ago an American airplane dropped one bomb on Hiroshima, an important Japanese army base. That bomb had more power than 20,000 tons of TNT. It had more than 2,000 times the blast power of the British "Grand Slam," which is the largest bomb ever yet used in the history of warfare.

The Japanese began the war from the air at Pearl Harbor. They have been repaid manifold. And the end is not yet. With this bomb we have now added a new and revolutionary increase in destruction to supplement the growing power of our armed forces.

In their present form these bombs are now in production and even more powerful forms are in development.

It is an atomic bomb. It is a harnessing of the basic power of the universe. The force from which the sun draws its power has been loosed against those who brought war to the Far East.

Before 1939, it was the accepted belief of scientists that it was theoretically possible to release atomic energy. But no one knew any practical method of doing it.

wall—cellulose, hemicellulose and lignin—giving their chemical constitution, relative relationships in the cell wall, chemical reactions, changes that occur when subjected to various chemical reactions, physical-chemical properties and the production and properties of derivatives. Comparisons are made frequently to cellulose from cotton to bring out differences and similarities. Information on x-ray studies and methods of molecular weight determination is given for both cellulose and its derivatives. Methods of isolation and study for both hemicellulose and lignin are described. Research on these two wood components has not progressed to the state of that for cellulose, and the authors of the two chapters illustrate that fact by giving the various points of view.

Part III, "The Extraneous Substances," points out the various types of materials that occur in wood as volatile oils, resins, fats, fatty acids, sterols, waxes, dyes, pigments, tannins, free carbohydrates, saponin and other extractives. The author has developed the field very well and, in addition, presents a procedure developed by himself for the isolation of these various extraneous substances.

Part IV, "Surface Properties of Cellulosic Materials," reviews such properties as adsorption by gases, water vapor and liquids, hysteresis, fiber-saturation point, selective adsorption, swelling, shrinking, anti-shrink treatments, electrical properties, diffusion, drying and solvent seasoning.

Part V, "The Chemical Analysis of Wood," describes various methods employed in analysis of wood and wood components and their significance in the chemistry of wood.

Part VI, "Wood As an Industrial Raw Material," describes the use of wood for fuel, for the production of chemical products through wood distillation, for the production of pulp and paper by chemical pulping, for sugar production by hydrolysis, for the production of oxalic acid by caustic fusion, for liquid products by hydrogenation and for wood plastics after chemical pretreatment.

Chapters 24 and 25 describe the decomposition of wood and wood products as brought about by various organisms and fungi.

Each chapter is supplied with a large list of references that show the scope of the work covered in the book and the thoroughness of the authors in the development of their chapters.

ELWIN E. HARRIS

THE ANALYSIS OF FOODS

The Analysis of Foods. By ANDREW L. WINTON and KATE BARBER WINTON. 999 pp. New York: John Wiley & Sons. 1945. \$12.00.

THOSE familiar with the four volumes of "The

Structure and Composition of Foods" by the same authors will not be disappointed in the present work, which is a compact but complete handbook on methods employed in food chemistry. The scope of the book is as vast as our knowledge of those aspects of organic and biological chemistry which have any bearing on food analyses. It towers without equal in the field for precision, clarity and breadth of subject-matter. There is hardly a method which is omitted, hardly a reference overlooked. It is a vast and laborious task, but one which will be amply rewarded by the gratitude of all workers who will have recourse to it.

A brief introductory section, describing such basic apparatus as refractometers, colorimeters and photometers, and citing the common reagents employed, is followed by a division of the bulk of the book into two parts. Part I deals with general methods for the analyses of organic elements, constituent groups such as water, protein, fat, nitrogen-free compounds, fiber and ash, as well as alcohol, vitamins, natural and artificial colors and preservatives. Part 2 describes methods adapted to special foods such as cereals, fatty foods, vegetables, fruit, saccharine foods, beverages, dairy products, animal foods, alkaloids, flavors, spices and yeast. There is an abundance of helpful diagrams, photographs and tables and an excellent index. Several descriptions have been put to the test by students who had had no previous knowledge of the methods described. Invariably the results proved that the instructive messages of the texts were fully comprehended and readily followed and that the desired results were obtained. "The Analysis of Foods" is an indispensable tool to all laboratory workers in the field.

MARK A. GRAUBARD

BOOKS RECEIVED

- BELL, E. T. *Men of Mathematics*. Illustrated. Pp. xv + 592. Dover Publications, New York. \$2.75. Reprinted edition, 1945.
- BENSLEY, B. A. *Practical Anatomy of the Rabbit*. Illustrated. Pp. xii + 358. The Blakiston Company. \$3.50. 1945.
- BORING, EDWIN G., Editor for the National Research Council. *Psychology for the Armed Services*. Illustrated. Pp. xvii + 533. The Infantry Journal, Washington. \$3.00. 1945.
- DONNAY, J. D. H. *Spherical Trigonometry, After the Cesàro Method*. Illustrated. Pp. xi + 83. Interscience Publishers. \$1.75. 1945.
- GREENBLATT, ROBERT B. *Office Endocrinology*. Second edition. Illustrated. Pp. xii + 243. Charles C Thomas. 1945.
- TANSLEY, A. G. *Our Heritage of Wild Nature*. Illustrated. Pp. 74. Cambridge University Press, The Macmillan Company. \$2.50. 1945.
- YOCUM, L. EDWIN. *Plant Growth*. Illustrated. Pp. 203. The Jaques Cattell Press, Lancaster, Pa. \$3.00. 1945.

Successful Texts for Biology Students

BREMER-WEATHERFORD

Textbook of Histology—6th Edition

Emphasis is given to normal functional changes in the cell and to their activities in the living state. Rewritten by HAROLD L. WEATHERFORD, PH.D., Harvard University. 598 Illus., 302 New; 723 Pages; \$7.00

LAMBERT

Introduction and Guide to the Study of Histology

The objective is to prepare an adequate foundation for the further study of physiology and pathology. By A. E. LAMBERT, PH.D., University of Iowa. 185 Illus.; 542 Pages; \$5.00

STILES

Handbook of Microscopic Characteristics of Tissues and Organs—2nd Edition

It gives in outline form the main histological characteristics of vertebrate tissues and organs. Excellent for identification studies. By KARL A. STILES, PH.D., Coe College. Illus.; 204 Pages; \$1.50

DAVIES

Fundamentals of Physical Chemistry—2nd Edition

This is a one-semester text introducing students to the fundamentals of physical chemistry with applications to medicine, biology and allied fields. By E. C. H. DAVIES, PH.D., West Virginia University. 86 Illus., 447 Pages. \$3.50

BLAKISTON BOOKS

MARSHALL

Laboratory Guide in Elementary Bacteriology

This manual presents 92 experiments grouped under Introductory Technique; Physiology of Bacteria; Applied Bacteriology; Serology and Infection. By M. S. MARSHALL, PH.D., University of California. 244 Pages; \$1.75

NEAL and RAND

Chordate Anatomy

This text offers material for a sound morphological course with functional interpretations. By H. V. NEAL, PH.D., Tufts College and H. W. RAND, PH.D., Harvard University. 378 Illus.; 467 Pages; \$3.50

NEAL and RAND

Comparative Anatomy

In this text the facts of vertebrate anatomy are explained in the light of human anatomy and tied together through embryology. By H. V. NEAL, PH.D., Tufts College and H. W. RAND, PH.D., Harvard University. 540 Illus.; 739 Pages; \$4.75

DAVISON-STROMSTEN

Mammalian Anatomy—6th Edition

A standard text on the anatomy of the cat. It will give a sound, practical knowledge of the essentials of each organ system. By F. A. STROMSTEN, D.Sc., University of Iowa. 174 Illus.; 328 Pages; \$3.00

THE BLAKISTON COMPANY PHILADELPHIA
5, PA.