

SCIENCE

VOL. 86

FRIDAY, AUGUST 27, 1937

No. 2226

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SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal
Lancaster, Pa. Garrison, N. Y.
Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

THE CONTROL OF POPULATION GROWTH¹

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UNLESS I misread the signs of the times, we are approaching a period in which nations will give more attention than formerly to the control of their population growth. Hitherto, as a rule, population has been suffered to take care of itself. Nations have adopted measures for the conservation of their natural resources of coal, iron, oil, forests and animal life, but they have given little heed to the conservation of their human material, and much less to the improvement of its quality. According to the familiar teachings of Malthus, population is subjected to an automatic regulation in that it tends to increase faster than its means of support, and hence increases until conditions become so bad that further growth becomes impossible.

For the majority of mankind, therefore, Malthus believed that there was little prospect of escape from a life of hardship and toil. The only hope he held out

¹ Address before the annual joint meeting of the chapters of Phi Beta Kappa and Sigma Xi of the University of Washington.

by which human beings could avoid the unhappy lot which their reproductive propensities inevitably bring upon them was in so-called prudential restraint, or voluntary abstention from marriage, or its postponement until numbers became reduced to the point at which there would be plenty for all.

Malthus was evidently unaware of the extent to which many peoples have contrived to avoid the drastic checks which nature imposes upon unregulated fertility. His celebrated essay brought out the very important principle that population tends to increase faster than the means for its support, and that nature regulates its growth by her none too gentle methods. The rapid growth of population during the nineteenth century following the publication of this essay was hailed by many of Malthus's opponents as affording a refutation of his gloomy conclusions. In this century the population of Europe increased from 187,000,000 to over 406,000,000; that of England and Wales from

is snipped off and immediately inserted into a test-tube containing a saturated solution of sodium citrate and then dried by gentle wiping with clean gauze. The blood drips freely from the wound and no clotting occurs in the pipettes or on the slides. If a number of counts or blood films are to be made from the same animal the end of the tail may from time to time be wiped with gauze very slightly moistened with the sodium citrate solution.

This method is time-saving and satisfactory in every way. The only necessary caution is not to have the site of puncture or wound too wet, as an excess of sodium citrate will cause the cells to crenate and might also interfere with the vital staining. This, however, is easily avoided by leaving the skin of the animal only slightly moist.

SAVAS NITTIS

UNIVERSITY OF MICHIGAN

A CONVENIENT METHOD OF SECURING BLOOD FOR ANALYSIS

MICRO methods for blood analysis are rapidly replacing those requiring larger samples. The advantages of finger prick over venepuncture are too apparent to require comment. However, it has been difficult to secure enough blood by sticking the finger even for analyses which require but 0.2 cc. A drop large enough falls off the finger before it can be taken up with a pipette. If a number of smaller drops are used, it is difficult to avoid the introduction of air bubbles.

These difficulties may be obviated by pricking the finger with a lancet and letting the blood drop onto a paraffin block with a depression on it. Slight pressure proximal to the wound or a rubber band placed around the finger will produce free flow and as much as 1 cc may readily be obtained. Then the blood can be drawn up into the pipette. The blood will not clot on the paraffin in the short time necessary for collection.

The paraffin blocks are very easily prepared. A muffin tin, consisting of six depressions in a tin plate, can be purchased in any hardware store for a few cents. The depressions are filled with melted paraffin and then set aside to cool. The contraction of the paraffin in cooling will produce a smooth depressed surface that serves admirably for the collection of blood. The blocks are easily removed from the tin after solidification by chilling under running water.

E. M. ABRAHAMSON

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THE JEWISH HOSPITAL OF BROOKLYN

AN INEXPENSIVE VIEWER FOR MANUSCRIPT FILM

USERS of *Bibbiofilm* and others interested in reading printed matter copied on 35 mm motion picture film

may find useful a simple film-reading device on sale for twenty cents at the F. W. Woolworth stores.

The instrument is intended for use with stereoscopic films prepared by its manufacturer, Novelview, Inc. It is simply designed and sturdily built of metal and neatly molded bakelite. Light enters and is diffused through translucent celluloid screens (see diagram) each the size of a standard motion-picture frame. The

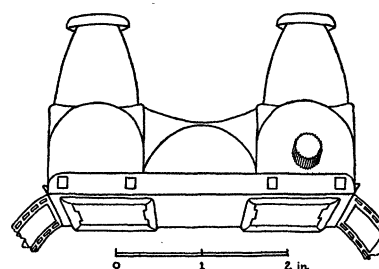


FIG. 1.

film passes through a metal track and is advanced by turning a knurled knob conveniently located. The track maintains tension at the edges of the film, holding it firmly in place and preventing it from being scratched.

The twin eyepieces are equipped with lenses of fixed focal length which magnify sufficiently to permit reading of copies of typewritten manuscript or of average size print. Considering the instrument's low cost, the lenses have remarkably flat fields and give good rectilinear rendition. The metal eyepieces are removable and more highly corrected lenses could be substituted if desired. Because of its binocular construction the instrument is easy to handle. One field may be blacked out with India ink, cardboard or Scotch tape, thus making it easier to keep both eyes open.

Although the viewer could not be used for long periods without eyestrain, it serves adequately for occasional use. The small size, light weight, extremely low cost and wide availability of the Novelview make it worth the attention of any scientist who wishes an instrument of this type for occasional use.

LOIS KREMER SHARPE

WASHINGTON, D. C.

BOOKS RECEIVED

- MICHEL, RUDOLF K. *Economics; Basic Principles and Problems*. Pp. viii + 614. Illustrated. Gregg. \$1.60.
MOULTON, FOREST R., Editor. *The World and Man as Science Sees Them*. Pp. xix + 533. Illustrated. University of Chicago Press. \$3.00.
New Jersey Mosquito Extermination Association: Proceedings of the Twenty-fourth Annual Meeting Held at Atlantic City, March 17, 18, 19, 1937. Pp. 236. Illustrated. The Association, New Brunswick.
WILLIAMS, JOSEPH J. *Africa's God: V—Congo and Angola. Anthropological Series of the Boston College Graduate School, Vol. II, No. 2, Serial No. 6, June, 1937*. Pp. 80. Boston College Press. \$1.00.

HYGIENE

BACTERIOLOGY

textbooks for fall classes!

TURNER'S—

PERSONAL HYGIENE

Dr. Turner has made this another outstanding text for schools. In it can be found the logical principles of teaching the subject to students. At all times, Dr. Turner places stress on the application of these principles to each individual student. In this way, it is practical. In further addressing the student, the author uses a simple, direct style that is plain and intelligible. The material is complete. It covers every phase of hygiene, bringing in the newest thought on the subject. Many illustrations, list of references, and a glossary add to this new book's value as a classroom textbook.

Personal Hygiene—By CLAIR ELSMERE TURNER, M.A., DR.P.H., Professor of Biology and Public Health in the Massachusetts Institute of Technology. 315 pages; 87 illustrations; price \$2.25.

TURNER'S—

PERSONAL AND COMMUNITY HEALTH

This book is becoming recognized more and more as the leading hygiene text covering both the personal and community aspects of the subject. This recognition comes because it covers its subject completely; the author has an easy style of presenting the material; he uses the right approach; the material is uninvolved because it sticks entirely to hygiene; it is up-to-date; and it distinctly helps the teacher to get the message to the student. Teachers who have used it like it very much for a good, modern hygiene course.

Personal and Community Health—By CLAIR ELSMERE TURNER, M.A., DR.P.H., Professor of Biology and Public Health in the Massachusetts Institute of Technology. 680 pages; 135 illustrations; price \$3.00.

FAIRBROTHER'S—

MEDICAL BACTERIOLOGY

This is an English publication that was brought to this country because of its outstanding qualities. A book of 437 pages, it is intended for the course requiring the medical side of bacteriology. Being comparatively short, it is concerned entirely with the teaching of fundamentals. This is done well. The author, before submitting the book for publication, tried it in his classroom with his students. The weaknesses were overcome and the rough spots were smoothed out, so that now the text is clear and well-balanced.

Textbook of Medical Bacteriology—By R. W. FAIRBROTHER, D.Sc., M.D., M.R.C.P., Lecturer in Bacteriology, University of Manchester; Late Research Fellow in Bacteriology, Lister Institute, London. 437 pages; 12 illustrations, 4 color plates, 34 tables; price \$4.50.

CARTER'S—

MICROBIOLOGY AND PATHOLOGY

As indicated by the title, this text covers two complete subjects. They are taken up as entirely separate units, while at the same time their interrelationship is brought out. The student is given a broad vision of each subject by 1, laying a foundation of underlying principles and explaining them as carefully as possible; and 2, showing the application of these principles to disease. Beautifully illustrated, well organized, and well arranged, this is an ideal textbook for the classroom.

Microbiology and Pathology—By CHARLES F. CARTER, B.S., M.D., Director, Carter's Clinical Laboratory, Dallas, Texas. 682 pages; 152 illustrations; price \$3.00.

The C. V. Mosby Company :: Publishers :: St. Louis, Mo.