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SOME BASIC CONSIDERATIONS IN PLANNING FOR RESEARCH IN SOUTHERN PROBLEMS¹

By Professor GEO. H. BOYD

UNIVERSITY OF GEORGIA

THERE are so many existing organizations that scientists, as well as others, have long since grown weary of the addition of more organizations with more or less duplication of purpose, more meetings to attend and more papers to be read. Every new organization which is to succeed must justify itself in terms of a distinct purpose and plan of activities. The Southern Association of Science and Industry, organized with the purpose of bringing together science and industry in the South in the effort to focus scientific research upon the problems and the resources of the South, may, I believe, be adequately justified.

¹ Address given before the Southern Association of Science and Industry, meeting in Atlanta, Georgia, April 2, 1942.

This organization has had its beginning under the sponsorship and direction of persons who are prompted by a larger consideration than their own research or the industries which they represent. Recognizing the limitations under which the South is laboring and realizing the opportunities which lie here and the part which scientific research and industry may play in the development of these, they have committed themselves to the task of bringing together the research talents of scientists in this area and the resources of southern industries to contribute what they can toward the building of a greater South. This is a worthy purpose and one which has not hitherto been undertaken in a comprehensive way in the South. Scientific research is capable of making a great con-

washed with alcohol and ether, and dried in a vacuum desiccator. Yield, 13.5 gms (85 per cent. of theoretical). Upon recrystallization from 80 per cent. alcohol glistening white plate-like crystals are obtained. No impurities were detected by polarographic analysis by Dr. R. J. Winzler.

WILLIAM V.B. ROBERTSON²

BETHESDA, MD.

DRAWING LAMP FOR CAMERA LUCIDA

ONE of the main difficulties in drawing microscopic objects by the aid of a camera lucida is that of balancing the brilliance of light on the drawing paper with that coming through the microscope. It is generally done by laboriously pushing a lamp around the table or by neutral filters which dim the image.

By the simple expedient of putting a variable resistor in series with the lamp, quick and easy control of illumination on the paper is accomplished. Such a scheme is shown diagrammatically in Figure 1, which indicates the connections of the three electrical components, power plug (P), rheostat (R) and lamp socket (S). In wiring the only caution to observe is that the rheostat turns *clockwise* to increase brightness of the bulb.

On the right in Fig. 2 is an easily made unit adaptable to any set-up of the microscope. It consists of a 3" x 4" x 5" iron shield box (B) to hold the rheostat (R) and act as a base for the 15" gooseneck tubing (T) and socket (S). These boxes have two loose sides which are held in place by screws in each corner. On the side used as a top are mounted the rheostat and a tripod fixture known as a "crowfoot" into which screws the flexible tubing. On the inside of the bottom plate a pound or so of sheet lead is bolted for

Mazda bulbs are made in two ratings 25 and 40 watt (120 volt). The 25-watt bulb is entirely adequate and the rheostat should be 500 ohms for proper dimming, and as it carries a maximum current of 0.25 amps. it must be in the 50 watt class.

For one who uses a binocular microscope and has much drawing to do it is well worth while to build the wooden frame with drawing board (C) and microscope stand in one piece (Fig. 3) which assures that all drawings are at the same magnification; paper can be conveniently fastened down by Scotch tape. The part of the camera lucida which fastens to the microscope is left in place and only the mirror removed so a dust cover can be put over the instrument at night. The gooseneck tubing (T) is fastened by the crowfoot directly to the frame, and the rheostat (R), enclosed by a guard of perforated metal, is mounted conveniently for the drawing hand. The board (C) must be inclined from the horizontal exactly as are the ocular tubes from the vertical to avoid distortion.

It will be noticed that the microscope is slightly elevated by the frame. We have found that this puts the eyepieces in a more comfortable position which eliminates some of the "stooping" associated with microscope work, and Dr. D. H. Linder has taken advantage of this space to insert a small drawer (D) in which to keep lens paper, micrometer-ocular, etc. This stand and lamp, as shown in Fig. 3, will surprise with its convenience anyone used to changing to the monocular, assembling the camera lucida and drawing on a flat table with daylight or an ordinary desk lamp. It is so easy to use that many objects can be sketched "when you see them" rather than waiting until some later time or being mislaid or neglected completely.

EDGAR V. SEELER, JR.

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BOOKS RECEIVED

- BENNETT, JESSE LEE. *The Diffusion of Science*. Pp. ix + 141. Johns Hopkins Press. \$2.25.
- BERNHEIM, FREDERICK. *The Interaction of Drugs and Cell Catalysts*. Pp. ii + 85. Burgess Publishing Company, Minneapolis, Minn. \$2.25.
- BUERGER, M. J. *X-ray Crystallography*. Pp. xxii + 531. Illustrated. John Wiley and Sons, Inc. \$6.50.
- FINCH, VERNOR C. and GLENN T. TREWARTHA. *Elements of Geography; Physical and Cultural*. Second edition. Pp. xii + 823. Illustrated. Ten plates. McGraw-Hill. \$4.00.
- FINCH, VERNOR C. and GLENN T. TREWARTHA. *Physical Elements of Geography*. Pp. x + 641. Illustrated. Ten plates. McGraw-Hill. \$3.50.
- LEHMAN, CHARLES H. *Analytic Geometry*. Pp. xiv + 425. John Wiley and Sons, Inc. \$3.75.
- LEVINE, MAURICE. *Psychotherapy in Medical Practice*. Pp. xiv + 320. Macmillan. \$3.50.
- MACY, ICIE G. *Nutrition and Chemical Growth in Childhood*. Vol. I. Pp. xxiv + 432. Illustrated. Charles C Thomas, Springfield, Ill. \$5.00.
- Physical Science*. Edited by WILLIAM F. EHRET. Pp. x + 639. Illustrated. Macmillan. \$3.90.

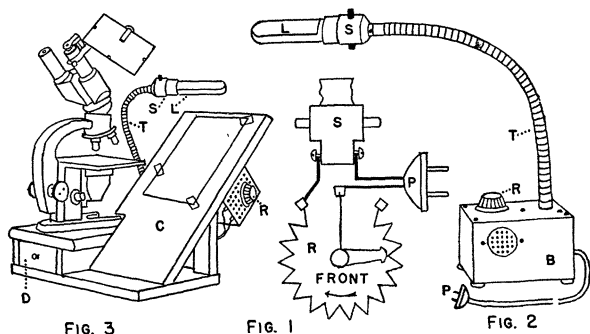


FIG. 3

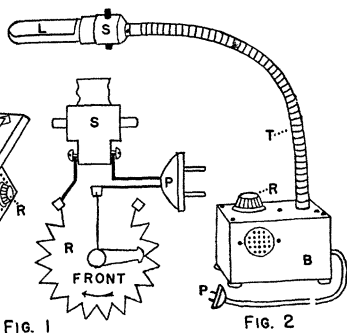


FIG. 1

FIG. 2

ballast, and ventilation holes are punched in the sides and covered by metal screening. The socket has a push-through switch and holds a tubular half-silvered showcase bulb (L). As this bulb is small it causes less interference with the camera lucida mirror than the usual bulb and reflector of a desk lamp. The

² Research fellow, National Cancer Institute, National Institute of Health, U. S. Public Health Service.

McGraw-Hill Books of Unusual Interest

ELEMENTS OF GEOGRAPHY, *New second edition*

By VERNOR C. FINCH and GLENN T. TREWARTHA, University of Wisconsin. 823 pages, 6 x 9. \$4.00

The first edition of this distinctive text was regarded everywhere as one of the best books ever published for beginning students in geography. The book was immediately successful; its completeness, its organization, its wealth of excellent illustrations, were among the features which contributed to its popularity. Now the authors have brought the text completely up to date in terms of new advances in the various fields dealing with physical earth. There is a new and much enlarged section discussing the cultural elements of geography.

PHYSICAL ELEMENTS OF GEOGRAPHY

By VERNOR C. FINCH and GLENN T. TREWARTHA. 641 pages, 6 x 9. \$3.50

This book comprises Part I of the authors' *Elements of Geography*, and is designed to supply textual material covering the physical elements of geography in a form particularly suited to classroom discussion in beginning courses in college geography. The material included is confined to the development of what might be considered a check-list of the elements of natural earth and their characteristic associations. An attempt has been made to lay a solid foundation for the social studies by description and analysis of the habitat potentialities of the earth's regions.

CHILD DEVELOPMENT

By ELIZABETH B. HURLOCK, Columbia University. *McGraw-Hill Publications in Psychology*. 478 pages, 6 x 9. \$3.50

Here is an important new text that presents the results of experimental studies of children, from birth to maturity, in a simplified form, as free as possible from statistical data and other technicalities. The material has been coordinated in such a way that the student may get a picture of the normal child in the different phases of his development. Common behavior problems are discussed with emphasis on their causes and the best methods of dealing with them.

ELEMENTS OF HEALTHFUL LIVING

By HAROLD S. DIEHL, M.D., University of Minnesota. 315 pages, 6 x 9. \$1.75

This condensation of the author's highly successful *Textbook of Healthful Living*, generally accepted as one of the leading texts in its field, has been written to meet the requirements of short courses in hygiene. At the same time, *Elements of Healthful Living* is not merely a truncated version of the larger book. All material and data have been brought up to date and much of the subject matter has been rewritten in more compact form. In view of the special health needs created by the war, the sections on physical fitness and mental hygiene have been revised and expanded.

CHEMICAL TECHNOLOGY OF PETROLEUM. *New 2nd Ed.*

By W. A. GRUSE, Mellon Institute of Industrial Research, and D. R. STEVENS, University of Pittsburgh. *Mellon Institute Technochemical Series*. In press—ready in August.

A complete revision of Gruse's *Petroleum and Its Products*, this volume is an almost entirely new book. Every chapter has been rewritten and new chapters have been added on thermodynamics as applied to the problems of hydrocarbon chemistry, production chemistry, etc. A wealth of new material has been added on distillation, physical properties, motor fuels, lubricants, cracking, crude oils, refining of oil stocks, utilization of the product, etc.

REFRACTORIES. *New second edition*

By F. H. NORTON, Massachusetts Institute of Technology. 775 pages, 6 x 9. \$7.50.

The new edition of this book is a thoroughly up-to-date treatise on refractories. As before, the author deals mainly with the fundamental processes involved in the manufacture and use of refractories, and confines the descriptions of the manufacturing processes to American practice. Every chapter in the book with the exception of the history has been completely revised, and about half of the chapters have been wholly rewritten in order to bring the material in line with the latest advances in the field.

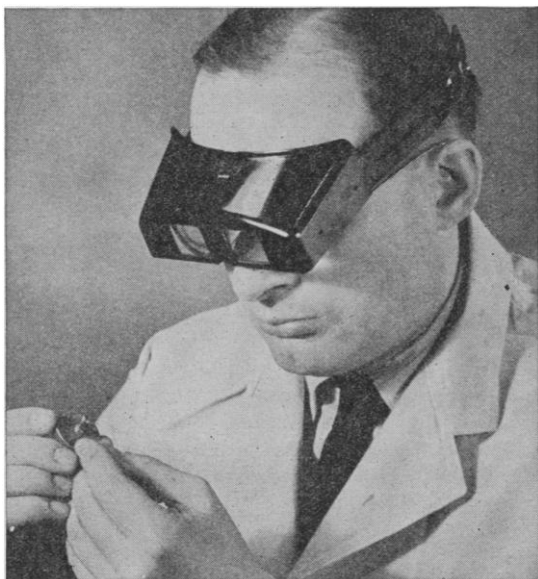
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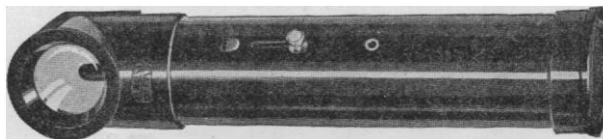
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