Another matter that deserves attention is the pronunciation of the terms and symbols. Who has not heard the word "centimeter" pronounced with a French beginning and an English ending? The writer as a student thought from the class-room pronunciation that Joule was a Frenchman until his biography chanced to come into view. The pronunciation of Greek symbols runs all the way from the Doric to the Attic. The writer recently ran across a text in which it was explained that "micro" was Greek for "millionth."

It is most unfortunate in mathematical discussions that the letters of the English alphabet have no distinctive names. It is troublesome enough over the telephone, but when the letters C and Z come through the filter of a professorial full beard the probability of distinction is fifty-fifty. The English have of course avoided this confusion by calling the latter letter "zed."

The importance of taking immediate action in the matter is well illustrated by Professor Uhler's reference to the present usage of the word "battery." It is probable that "battery" has been used incorrectly in place of "cell" for at least thirty years. It is doubtful indeed that a present attempt to revert to the proper usage would have any measure of success.

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SCIENTIFIC BOOKS

The Elements of General Zoology. A Guide to the Study of Animal Biology Correlating Function and Structure with Notes on Practical Exercises. By WILLIAM J. DAKIN. Oxford University Press, London (American Branch, New York) VII+1—496 pp., 252 figs. 1927.

ZOOLOGY is so rapidly becoming an experimental science that the need for an elementary text stressing the physiological rather than the morphological aspect has been keenly felt by many teachers. Professor William J. Dakin has attempted to meet this demand by writing a text-book of physiology illustrated by numerous examples from all fields of zoology. Among the topics considered in this very attractive volume are: the composition of the animal body, nutrition, respiration and the respiratory organs, the blood and its circulation, temperature and animal life, movement of animals, nervous system and sense organs, excretion, growth and reproduction, etc. The book affords an excellent outline for those teachers desiring to change the usual course in general zoology into a more physiological one.

It must be admitted, however, that the title is somewhat misleading, for only a few of the elements of general zoology are included in the work, while others are treated very inadequately. Such is particularly true of the brief chapter on heredity and evolution. The shortcomings of the physiological approach to a general course in zoology are all too obvious in the chapter on the skeleton, where various parts are considered as so many distinct types of machines and no suggestion is given as to how one type has evolved from another. To-day, when function is being emphasized, frequently to the exclusion of form, beginning students should be made to realize that many structures, such as the thyroid, for example, may assume totally new functions in vertebrate evolution without losing their morphological identity. It is evolution which makes zoology a unified science and the student of zoology at the outset of his career should be given the opportunity of glimpsing the whole edifice of animal life before being called upon to analyze the functions of its various parts.

Professor Dakin's book is splendidly illustrated and the many original diagrams will be welcomed by all teachers of zoology. Some teachers, however, will consider the scattering of laboratory directions throughout the body of the text a decided disadvantage from the pedagogical standpoint. Further, one can not help but wonder how long a book without head bands will last in the hands of the average college student.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A NEW DEVICE FOR FILING MICROSCOPE SLIDES[1]

THE usual difficulties in filing microscopic preparations mounted on glass slides are: (a) They are inaccessible or lost among hundreds of others filed in small boxes of one sort or another; (b) the more elaborate small cabinets designed for this purpose are relatively expensive and inelastic; (c) slides filed one against the other in drawers stick together and are easily broken; (d) bacterial smears, which are usually without coverslips and sticky with immersion oil, can not be filed one against the other; (e) it is time-consuming to hunt up slides filed in one place and notes filed in another. The device to be described is believed to overcome these difficulties.

A piece of sheet metal, preferably aluminum, three

[1] From the Department of Pathology and Bacteriology of Johns Hopkins University, Baltimore, Maryland.

by five inches in size, is stamped and bent as shown in Fig. 1. There are runways to hold four slides. The lower edge is turned to support the lower ends of the slides. The upper edge is cut with semicircular notches to facilitate grasping the slides and is slotted between the slides and bent forward slightly

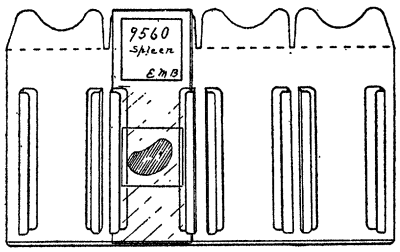

FIG. 1

where indicated by the dotted line so as to exert pressure against the upper ends of the slides, holding them in place so that they do not fall out if the holder is held upside down. As the upper ends of the slides are forced forward against the upper ends of the runways the lower ends are forced backward away from the runways so that the coverslips are not in contact with the runways. The slide labels are conspicuously in view at the upper ends of the slides. With the forefinger against the back of the holder and the thumb against the label a little pressure serves to disengage the slide and allow it to be withdrawn without scraping the coverslip against the runways. The holders containing slides may be filed along with cards bearing notes in any ordinary card-filing box or drawer of standard size for 3 x 5 inch cards as shown in Fig. 2. When so filed the slide labels are easily read without removing the slides or holders from the filing drawer. The surfaces of the slides are protected from contact with each other or with cards that may be filed with them, even though the slides may be without coverslips and sticky with immersion oil. About five hundred slides may be filed in one foot of drawer space. The device is equally useful for small or large collections of slides.

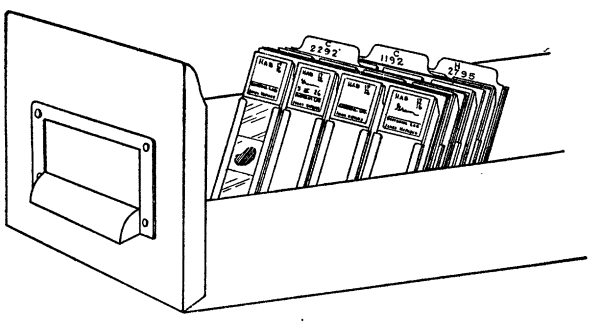

FIG. 2

No special equipment is needed other than the holders and these may be procured in any quantity desired and as needed. The filing cost per slide will probably be somewhat greater than when the cheaper slide boxes are used but less than that of special cabinets and filing drawers.

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A METHOD OF HANDLING SMALL OBJECTS PREVIOUS TO SECTIONING

TINY marine eggs, such as those of cumingia, are fixed in shell vials measuring one and a half centimeters in diameter and three centimeters in height. The eggs settle rapidly to the bottom in most fixing fluids, and, after the proper interval of time the fixing fluid may be removed by tilting the vial and using a curved tipped pipette. The vial is next flooded with water or alcoholic solution of the desired strength. After each successive treatment the eggs sink to the bottom, and most of the fluid which covers them is easily withdrawn by means of the pipette. Upon reaching 75 per cent. or 85 per cent. alcohol, the vial is stoppered, a gummed label bearing the proper index is affixed and the stoppered end is dipped in melted hard paraffin deep enough to cover the label. The vial is thus sealed and the label protected by a film of hard paraffin.

When the worker is ready to dehydrate, clear and infiltrate his material, the stopper is removed from the vial, the preserving alcohol drawn off with a pipette, and the vial filled with 95 per cent. alcohol. The dehydrating and clearing fluids are added or withdrawn in the same manner after proper intervals of time, and the material flooded with melted paraffin. At this point it is well to slip a small elastic band tightly over the label, since the heat of the paraffin oven sometimes loosens a label. The paraffin may be changed as desired by using a warm pipette.

Thus far, the eggs have never left the vial in which they were fixed. For casting the material into paraffin blocks, small rectangular porcelain dishes in which artist's water colors are purchased will prove satisfactory. These little dishes with flaring sides measure approximately two centimeters in length, one and one half centimeters in length, and one half centimeter in depth. The bottoms and sides of these casting molds are lightly smeared with glycerine or vaseline. Paraffin is next withdrawn from the vial until only enough remains to fill the casting dish, the vial is passed rapidly once or twice over an alcohol flame, and its contents poured into the porcelain receptacle. At the proper moment, the paraffin is hardened by submerging under 70 per cent. alcohol or water. After hardening, the point of a scalpel