

and eventually obtain credit for them when they seek a civil degree in medicine. Three schools of military medicine have been established for their benefit in regions behind the front, and have been duly provided with professors, libraries and laboratories.

UNIVERSITY AND EDUCATIONAL NEWS

REACHING a total of \$515,436.09, federal grants of money to seventeen states under the Vocational Education Act were allotted at the meeting of the Federal Board of Vocational Education on December 21. Each of these states has complied with the terms of the law and has agreed to match every federal dollar with money publicly raised by the state or local community. The states are as follows: Alabama, Colorado, Florida, Iowa, Kansas, Michigan, Minnesota, Mississippi, Montana, Nebraska, North Carolina, Ohio, Oregon, South Dakota, Texas, Washington, Wyoming.

ACCUSATIONS of disloyalty against five members of the faculty of the University of Illinois were found on December 11 to be without grounds, by a subcommittee in a report to the board of trustees of the institution.

PROFESSOR G. H. SCOTT, for fifteen years professor of mathematics and astronomy in Yankton College, Yankton, South Dakota, has resigned to become principal of Benzonia Academy, Benzonia, Michigan.

FRANCIS W. KIRKHAM, of the Brigham Young University, has been chosen director of vocational education for Utah, following the laying of plans to bring the state under provisions of the Smith-Hughes act.

DR. WRIGHT A. GARDNER, formerly associate professor of botany and plant physiologist at the Idaho University and Station, has been appointed plant physiologist and head of the department of botany at the Alabama College and Station.

DISCUSSION AND CORRESPONDENCE A SUGGESTION FOR STAINING TECHNIQUE

WHERE one has many slides of sections passing through the various stages of dehydration and staining, a systematic method

of labelling must be followed. Suggestions have been made to do this by means of a diamond point pencil or waterproof ink. Neither of these methods have worked satisfactorily for me—the first being too difficult to perform rapidly even after a good point has been procured and the marking being very difficult to read when covered with a dark stain. The second has these disadvantages and in addition the marking is very liable to rub off.

Therefore I suggest the following method which has worked satisfactorily for me while staining hundreds of sections at a time. Small aluminum clips with a numeral stamped or stencilled on each were prepared. These clips fasten on the edge of the slide when in the staining jars and are not large enough to prevent placing a cover on the jar. The data may be written in whatever manner desired in a notebook with the number or character to correspond to that on the aluminum clip. These clips are cheap, may easily be made and very few reagents ever used in dehydrations or staining attack the aluminum. The same clip may be used repeatedly.

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A NOTE ON THE PREPARATION OF SKELETONS BY BACTERIAL DIGESTION

THE method of preparing skeletons by bacterial digestion is of long standing and has given excellent results. The present modification of the method was devised to obviate two objections which are of considerable importance when skeletons are prepared by students as class work. First, the digestion mass produces a foul odor and is disagreeable to handle, and, second, the digestion process, unless carefully controlled by frequent examinations is likely to result in displacement and subsequent loss of the smaller parts of the skeleton.

These objections are to a large extent overcome by embedding the roughly cleaned skeleton in a solid medium supporting bacterial growth. Agar-agar is preferable to gelatin, since it is not liquefied by the common bacterial enzymes. The method is as follows:

The skeleton of a freshly killed animal is more or less carefully cleaned of muscles and embedded in a plain agar solution (15 gm. per liter of water) which has been cooled to the pouring temperature (43° to 45° C.). The medium is allowed to solidify and the preparation is covered and set away at room temperature. The digestion requires from ten days to several weeks, depending largely on the extent of the preparatory cleaning. The time may be reduced by the use of incubator temperature. We have tried inoculating the skeletons with cultures of anaerobic proteolytic bacteria, but without great advantage.

The medium absorbs much of the odor and with suitably covered dishes it has been possible to leave the cultures standing in the laboratory. When the digestion is completed the bones can be conveniently dissected from the medium in their original relations. Washing the parts as removed completes the process. The skeletons thus prepared are very white, and bleaching is usually unnecessary. The method is best adapted to small skeletons, which can be embedded easily. It is these, however, which present the greatest liability to loss of parts in a fluid medium. The method promises to be particularly useful in the study of the cartilaginous skeletons of embryos.

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SHALL THE USE OF THE ASTRONOMICAL DAY BE DISCONTINUED?

TO THE EDITOR OF SCIENCE: The question has recently been raised in England whether the astronomical day should not be set back twelve hours, so as to begin at midnight instead of at noon. It is stated by those advocating the change that the practical consideration of those using the Nautical Almanacs should prevail as against the usage of astronomers. The opinion of American astronomers has been requested and a committee of the American Astronomical Society has been appointed to collect information for presentation at the next meeting of the Society.

The committee desires to obtain an expres-

sion of opinion on this subject from as large a number as possible of astronomers, geodesists, surveyors, navigators, and all others who have occasion to use Nautical Almanacs.

Communications may be sent direct to Professor W. S. Eichelberger, Director of the Nautical Almanac, U. S. Naval Observatory, Washington, D. C., or possibly better to some journal, where a public expression of opinion may stir up further discussion.

W. S. EICHELBERGER,
Chairman

SCIENTIFIC BOOKS

The Microscope. By SIMON HENRY GAGE, Professor of Histology and Embryology, Emeritus in Cornell University. The Comstock Publishing Company, 1917. Twelfth edition, 472 pages, 252 text figures.

This standard work is so well known to American students that extended comment upon its usefulness or upon its special merits is superfluous. The twelfth edition has been more extensively revised and rewritten than any one of the earlier ones. While many new things are presented, nothing has been considered which the author has not personally tested and found practical. Among the more important new devices described are: (1) the single objective binocular for both high and low powers; (2) improved apparatus for drawing with the projection microscope; (3) perfected ray filters which make it possible to get photomicrographs of almost any microscopic specimen; (4) the use of "daylight" glass in microscopical illumination, and (5) the dark field illumination for all powers which makes it possible to study living structures in much greater detail than heretofore. Some subjects treated in the previous edition, such as metallography and microchemistry, which are now presented adequately in other available works, have been omitted. Because of its clearness and accuracy of statement, its well-chosen material, and its wealth of information, the book will without doubt continue to be the most widely used volume on the microscope in American laboratories.

M. F. GUYER