future are outlined, such as the *conversion of our national forests into game preserves.* It is encouraging to know that there are already three endowments devoted to animal protection, one of $340,000, a second for $51,000 and a third of $5,000. Of course these funds should be greatly increased as the period of relatively easy conquest is now over and the opposition is organized with powerful financial support. This contest is a permanent obligation.

The two concluding chapters of the volume are contributed by F. C. Wolcott. One is a valuable summary of the present status of private game preserves, and the other is a very useful bibliography on preserves, protection and the propagation of game.

With this volume and Hornaday's "Our Vanishing Wild Life" (1913) any intelligent person can become informed upon the present status of this phase of conservation.

Chas. C. Adams

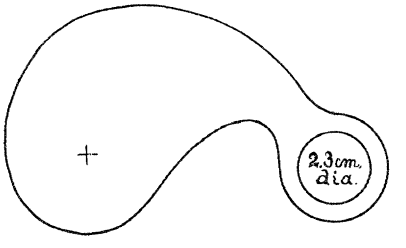
New York State College of Forestry,
Syracuse, N. Y.

An Eye Screen for Use with the Microscope

Most beginners, as well as many practised observers, usually close one eye when using the microscope. This practise of "squinting" when one is using the microscope for any length of time causes a decided eyestrain. The other alternative of keeping both eyes open requires first of all considerable practise, and if it does not tend to strain the muscles of the eyes, it does give rise to a mental strain, if it may be so expressed; *i. e.,* one has to concentrate his attention constantly on what is seen with the one eye through the microscope, otherwise the objects seen with the other eye will prove very distracting.

The writer, after having tried many different shapes and kinds of eye screens, has worked out one that seems to be the most efficient. It does away with the eyestrain of both types described above, and is very simple and inexpensive.

The accompanying sketch shows the outline of the screen. The material from which it is made is a composition called "vulcanized fiber board," 1.5 mm. in thickness and black in color. This composition board is very tough and durable. It may be obtained from the Diamond State Fiber Company, Ellesmere, N. J. The screen is cut from this board with a knife or with heavy shears. A hole 2.3 mm.



in diameter (a hair larger than the outside diameter of the standard eyepiece) is bored by means of an extension bit at one end of the screen. The distance from the center of this hole to the middle point of the broad wing of the screen is 8 cm. The extreme length and width of the screen is 12.5 cm. by 7.5 cm.

If the composition board is not available, aluminum 1 mm. thick, painted black or dark green on both sides, will be found a good substitute.

The eyepiece of the microscope is slipped through the hole in the screen. The sketch shows the eye screen in position for use with the right eye, and to change to the left eye it is a matter of only a few seconds to take the screen from the eyepiece and invert it.

It will be found that the black surface of the screen is very restful to the eye not in use, and when one alternately uses the right and left eye, it is possible to use the microscope for a much longer period before the eyes become tired than without the eye screen.

Orton L. Clark

Mass. Agr. Experiment Station,
Amherst, Mass.

Exhibition of the Royal Photographic Society

To the Editor of Science: The Royal Photographic Society of Great Britain is holding its sixtieth annual exhibition in August and September of this year. This is the most representative exhibition of photographic work

in the world, and the section sent by American scientific men last year sufficiently demonstrated the place held by this country in applied photography. It is very desirable that American scientific photography should be equally well represented in 1915, and, in order to enable this to be done with as little difficulty as possible, I have again arranged to collect and forward American work intended for the scientific section.

This work should consist of prints showing the use of photography for scientific purposes and its application to spectroscopy, astronomy, radiography, biology, etc. Photographs should reach me not later than Thursday, July 1. They should be mounted but not framed.

I should be glad if any worker who is able to send photographs will communicate with me as soon as possible so that I might arrange for the receiving and entry of the exhibit.

C. E. K. MEES

RESEARCH LABORATORY,
KODAK PARK,
ROCHESTER, N. Y.

SCIENTIFIC BOOKS

Report on Gyroscopic Theory. By SIR GEORGE GREENHILL. Reports and Memoranda, No. 146, Advisory Committee for Aeronautics. London, T. Fisher Unwin, 1914. Pp. iv + 278, with 49 illustrations. Price 10 shillings.

Many people wonder at the expenditure of time and energy given by the mathematician to subjects like the theory of groups and differential equations. Others can not understand why men of the ability of Klein, Perry and Crabtree should lecture upon the theory of the top. Still others fail to see in the studies made by Maxwell of his spinning top in an agate cup, or of Sommerfield and Noether on the gyroscope, anything to justify a student in following in their footsteps. And yet, when we reflect that the spinning top illustrates a group of motions, that its theory involves the differential equation at the very outset, that the earth is merely a moderate-sized top spinning in space, that the solar system is a somewhat larger one, and that many nebulæ are solar systems in formation, the subject assumes a different aspect, even to the man in the street. And when he further reflects that the stabilizing gyroscope, now made in large numbers by Sperry's company, is used on the aeroplanes above the firing lines in the great war, and acts as a literal balance wheel on the super-dreadnoughts of the warring powers and can be bought in the offices of the makers in any of the large capitals of the world, this same man in the street begins to see that the theorist may touch upon the very practical and that the practical man may well afford to look to the man of theory for help in the affairs of the real life of the present day.

It is such popular considerations as these that may well lead the man of dollars to welcome, even if he can not understand, a monumental treatise like this which Sir George Greenhill, with his usual modesty, has called a simple report. To the general man of science the work will mean much more, even if he too shall fail to read 278 large quarto pages devoted chiefly to mathematics. But to students of analytical mechanics, and particularly to those who look for applications of modern mathematics to dynamics, the work will stand as a monument of patient research on the part of a man who works *con amore* and with an extended vision in a field of rapidly increasing importance.

Sir George Greenhill always writes as he talks, and he never talks like the man whom he delights to refer to as "a mere mathematician." As he sits at the head of a work table in his quaint room in Staple Inn—the room in which Dr. Johnson may have written Rasselas—and talks of his labors on the gyroscope, he is a mathematician for about a minute, a man with the zeal of a boy for another minute, a charming raconteur of stories of his master, Maxwell, the minute later, and an appreciative student of his friends Klein and Sommerfield in the next unit of time. And this description characterizes his addresses, his books, his memoirs and his reports—they are all human, the product not merely of the mathematician, not merely of the student of dynamics, not merely of the experimenter in the laboratory, but always of the big-hearted man.