

stimulation is due to the direction of the rays of light, and not to differences of light intensity. In its place he advances the hypothesis that the direction of the light can act but indirectly by producing differences of intensity. In support of this view, it is assumed that the perception of light stimuli is localized in the upper epidermis, and that the arched epidermal cells of *Ficus*, *Hedera*, *Magnolia*, *Oxalis*, etc., and the so-called ocelli of *Fittonia*, *Impatiens* and *Peperomia* serve as definite sense organs for perceiving light. The author proves experimentally by photographic prints of the epidermis that these sense-organs concentrate the light upon or near the cytoplasm of the inner epidermal wall. Further than this, his exposition, as he himself states, 'oftentimes possesses a purely hypothetical character.' The facts gained by the author's experiments are a valuable addition to our knowledge of the intimate details of the reception of light by the leaf. As a whole, however, the book contains far too much speculation, and is too much pervaded by an obvious bias in favor of 'sense-organs.' It is an excellent example of first-class experimental work marred by unscientific treatment of the results obtained.

FREDERIC E. CLEMENTS.

THE UNIVERSITY OF NEBRASKA.

Soil Bacteria and Nitrogen Assimilation. By FREDERICK D. CHESTER. Bulletin 66 (Nov., 1904), Delaware College Agricultural Experiment Station, Newark, Del.

In a bulletin bearing the above title Frederick D. Chester records his experiments with free nitrogen-assimilating bacteria. He states that nitrogen-fixing bacteria are present in all soils. Some fix nitrogen more actively than others. These microbes are stimulated to greater activity by free soil tillage, due to the fact that they are essentially aerobic and frequent stirring up of the soil supplies them with the necessary oxygen (air). Since these low organisms further require organic matter and lime for their food, he advises the liberal supply of these articles to the soil in order that the organisms may multiply rapidly and fix the free nitrogen of the air more actively for the use of higher plants. The more tech-

nical side of the paper deals with the methods of technique and the culture characteristics of the microbes described. The first part of the paper is historical, reviewing largely the European work along similar lines. It is an exceedingly interesting paper and the reader is advised to consult the original.

ALBERT SCHNEIDER.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for August contains the following papers: 'A Systematic Study of the Saliaceæ,' by D. P. Penhallow, containing, among other conclusions, that the Saliaceæ as a whole is an old world family with a strong tendency to a boreal habitat, and the present tropical and subtropical members of the group probably represent the relics of a wider distribution in Cretaceous and Tertiary time. 'Developmental Stages in the Lagenidæ,' by J. A. Cushman. The writer considers that Hyatt's laws of development may be applied to the Foraminifera and that where young individuals can be obtained their relations are usually made out with ease. B. M. Davis gives the seventh of the series of 'Studies on the Plant Cell,' accompanied by a bibliography of papers referred to in section V.

The Popular Science Monthly for September has the following articles:

CHARLES KEYSER EDMUNDS: 'China's Renaissance.'

FRANK LINCOLN STEVENS: 'The Science of Plant Pathology.'

J. MADISON TAYLOR: 'Sleep and its Regulation.'

C. W. FOULK and R. F. EARHART: 'State University Salaries.'

EDWIN RAY LANKESTER: 'Nature and Man.'

CHAS. D. MARX: 'General Education for Engineers.'

DUDLEY F. SICHER: 'Quackery.'

LAWRENCE J. BURFEE: 'How Canada is solving her Transportation Problem.'

EDWARD J. BERRY: 'The Ancestors of the Big Trees (Sequoias).'

SOCIETIES AND ACADEMIES.

RECENT FOLK-LORE MEETINGS IN CALIFORNIA.

THE first regular meeting of the Berkeley Folk-Lore Club, founded May 3, 1905, was

held on the evening of August 18 at the University of California.

The committee appointed to draft an organization reported as follows:

REPORT OF THE COMMITTEE.

The committee appointed May 3, 1905, by unanimous vote of the charter members of the Berkeley Folk-Lore Club to report on a scheme of organization for the club, beg leave to submit the following:

CONSTITUTION OF THE BERKELEY FOLK-LORE CLUB.

1. This society shall be called the Berkeley Folk-Lore Club.

2. Besides the fifteen charter members, to wit: Messrs. Lange, Mitchell, Goddard, Dresslar, Hart, Setchell, Merriam, Richardson, Fryer, Gayley, Miller, Ritter, Keeler, Noyes and Kroeber, members shall consist of such men members of the academic senate of the University of California, and such men members in good standing of the American Folk-Lore Society, as are unanimously elected by the club; and of such only.

3. The officers shall be a president, vice-president and secretary, who shall constitute an executive committee which shall arrange for all meetings and transact all business of the club.

4. Four or more meetings annually shall be held, at the first of which in each academic year the officers shall be elected.

5. Five shall constitute a quorum for the transaction of business.

6. Amendments to this constitution may be proposed at any meeting of the club and adopted by a two thirds vote of those present at the next meeting.

The committee recommend the adoption of this constitution and the immediate organization of the club under its provisions.

Signed: A. L. KROEBER,
CHARLES KEELER,
G. R. NOYES.

The report of the committee was discussed and accepted, the proposed constitution being thereby adopted.

The following officers were then elected:

President—A. F. Lange.
Vice-President—Charles Keeler.
Secretary—A. L. Kroeber.

New members elected were: Professor F. W. Putnam, Dr. B. P. Kurtz and Professor H. K. Schilling.

The committee on the establishment of a California branch of the American Folk-Lore Society reported as follows:

REPORT OF THE COMMITTEE.

The committee appointed May 3, 1905, on vote of the charter members of the Berkeley Folk-Lore Club to report on the feasibility of the establishment of a California branch of the American Folk-Lore Society beg leave to submit the following recommendations:

That the formation of the Berkeley Folk-Lore Club provides an opportune basis for the establishment and successful development of a California branch of the American Folk-Lore Society, which will extend the work undertaken by the Berkeley Folk-Lore Club to a wider sphere of influence and bring it before a larger body of persons, thus enhancing the promotion of folk-lore interests on the Pacific coast. Be it resolved, therefore,

That a California branch of the American Folk-Lore Society be hereby organized by such of those present as signify their willingness; and

That a committee of five be appointed to arrange for a meeting, including a program, in Berkeley, on the evening of August 28; said committee to submit at this meeting a formal draft of organization, with nominations for officers, for the California branch of the American Folk-Lore Society.

Signed: A. L. KROEBER,
CHARLES KEELER,
G. R. NOYES.

This report was adopted, and the following committee appointed under its provisions to report at the first meeting of the California branch on August 28: J. C. Merriam, G. R. Noyes, A. L. Kroeber, W. C. Mitchell and Charles Keeler.

DISCUSSION AND CORRESPONDENCE.

LATIN AS THE LANGUAGE OF BOTANICAL DIAGNOSIS.

AMONG the resolutions passed by a majority vote at the recent congress of botanists at Vienna, one only seems to have altogether surprised us in America, and that is the one the import of which is conveyed in the above caption. A large number of botanists—a list of names embracing very many of the leading systematic botanists of Europe—have announced that after two years more new genera