

not only in every public library, but on the study table of every serious student in every department of science.

The above report is submitted not as an elaborated plan, but as a suggestion of the end to which effort should be directed. Your committee would further express the hope that some plan may be put into operation at an earlier date than the year 1900, the time suggested in the circular of the Royal Society.

In accordance with the views above set forth the committee respectfully recommends the adoption by the University Council of the following votes:—

1. That, in the opinion of the University Council, the establishment of a catalogue of scientific literature to be maintained through international coöperation is both desirable and practicable.

2. That a copy of this report be transmitted to the Royal Society as the suggestion of a way in which this plan may be successfully carried out.

3. That the Corporation be requested to contribute a suitable sum toward the carrying-out of this enterprise, provided the plan finally adopted by the Royal Society shall appear to the University Council to be practicable.

HENRY P. BOWDITCH, *Professor of Physiology,*
Chairman.

FREDERICK W. PUTNAM, *Peabody Professor of American Archaeology and Ethnology.*

NATHANIEL S. SHALER, *Professor of Geology.*

EDWARD C. PICKERING, *Paine Professor of Practical Astronomy.*

JOHN TROWBRIDGE, *Rumford Professor and Lecturer on the Application of Science to the Useful Arts.*

WILLIAM G. FARLOW, *Professor of Cryptogamic Botany.*

HENRY B. HILL, *Professor of Chemistry.*

EDWARD L. MARK, *Hersey Professor of Anatomy.*

WILLIAM T. COUNCILMAN, *Shattuck Professor of Pathological Anatomy.*

IRA N. HOLLIS, *Professor of Engineering.*

HUGO MÜNSTERBERG, *Professor of Experimental Psychology.*

WILLIAM F. OSGOOD, *Assistant Professor of Mathematics.*

JUNE, 1894.

SCIENTIFIC LITERATURE.

Systematic Survey of the Organic Colouring Matters. By Drs. G. SCHULTZ and P. JULIUS.

(Translated and edited, with extensive additions, by ARTHUR G. GREEN, F. I. C., F. C. S., Examiner in Coal-tar products to the City and Guilds of London Institute.) London and New York, Macmillan & Co. 1894. 4°, pp. viii + 205. Price, \$5.00.

The industry of the organic coloring matters has within a comparatively few years grown to enormous dimensions, and it is becoming difficult even for the specialist in organic chemistry to keep track of the new products. In this valuable book a carefully classified list is presented of 454 dye stuffs which have been patented, and many of these are now in extensive use. All of them are derived indirectly from coal-tar. Under each dye we find the common name, together with other names sometimes used; the scientific name; the empirical formula; the constitutional formula; the method of preparation; the year of discovery; the name of the discoverer; reference to the patents granted; behavior with reagents; shade and dyeing properties, and method of employment. The original German edition is so well known, and it has acquired such a high reputation that any words of praise for the book would be superfluous. The translator's work seems to have been done with care, and he has not only furnished a translation of the original, but brought the work up to date, that is to say, up to the date of publication, for it must be borne in mind that a book treating of organic coloring matters bears to the general subject somewhat the relation that an instantaneous photograph bears to the rapidly moving object which it attempts to represent.

The authors tell us that: "The average quantity of gas tar worked up per annum is given at 350,000 tons for England, and 530,000 tons for the whole world, whilst the

quantity of coke-oven tar, though constantly increasing, probably does not at present exceed 50,000 tons. It may be expected, however, that with the more general introduction of electricity for lighting purposes and the consequent diminution of the supply of gas tar, the coke-oven tar will eventually become the main source of our aromatic hydrocarbons." To this it should be added that the increasing use of 'water-gas,' in this country at least, is decreasing the supply of coal-tar, so that the time is certainly approaching when it will pay to collect the tar from the coke-ovens.

The translator expresses the hope "that this work will be found valuable not only to the technical chemist, but also to the dyer, analyst, merchant, patent agent, etc., and in fact to every one concerned with the production, handling, or use of the coal-tar colours." His hope is undoubtedly well founded. He might have added the patent lawyers, many of whom have learned to rattle off their 'ortho,' 'meta,' 'para' with a facility that would put many a modest chemist to the blush. IRA REMSEN.

Elementary Lessons in Electricity and Magnetism. SYLVANUS P. THOMPSON. New York, Macmillan & Co. 1894. Pp. 628. Price, \$1.40.

The first edition of this book appeared in 1881. It at once became immensely popular, and deservedly so, on both sides of the Atlantic. The author combined in a rare degree the three principal requisites for the preparation of a good text-book. He was himself a widely known scholar and investigator in the department of science specially treated; he was more than ordinarily accomplished in the art of exposition, and he was an experienced and successful teacher. His possession of these qualifications in undiminished magnitude is evidenced in the preparation of this new edition now offered to the public, which is the original work in plan, but entirely revised and largely re-

written, with an enlargement of scope sufficient to embrace the important additions to the science which have been made during the past fifteen years. To enable this to be done without undesirable condensation, the size of the volume has been somewhat increased. Indeed, one of the larger merits of the plan of the book is to be found in the conscientious retention of the long known and well established principles and facts of the science, to neglect which for the newer and more novel developments is a temptation to which too many authors of text-books in physical science have yielded. While retaining all essential 'fundamentals,' Professor Thompson has found place for the presentation of all of the essentials of recent discovery, and while this has been done with conciseness it has also been done with that clearness and logical appropriateness for which the writings of this author are justly celebrated. The wonderful results of the study of alternating currents and alternating current machinery are well presented in this edition, as are recent advances in both theory and experiment due to Hertz, Fitzgerald, Boltzmann, Lodge and others. At the end is an excellent series of questions, classified as to the chapters of the books to which they refer, which cannot fail to add much to the value of the book in use, especially for those who study without an instructor. In fact, as an 'all around' elementary text-book in electricity and magnetism it will be difficult to find another in the English language that is superior or even equal to this.

T. C. M.

The Birds of Eastern Pennsylvania and New Jersey, prepared under the direction of the Delaware Valley Ornithological Club. By WILMER STONE. Philadelphia, 1894. 8°, pp. vii+185.

Eastern Pennsylvania has long been a favorite field for lovers of birds. Audubon, Wilson, Nuttall, Cassin, Peale, Woodhouse, Gambel, Bonaparte, Heerman, Haldeman,