ther ask you to communicate to us, for the use of the committee, any suggestions which you may think it desirable to make; as to the best methods of inaugurating a scheme; as to the constitution and means of maintenance of the Central Office; as to the exact character of the work to be carried on there; as to the language or languages in which the Catalogue should be published, and the like?

We are, your obedient servants,

(Signed) M. Foster, *Secretary R. S.*
Rayleigh, *Secretary R. S.*
J. Lister, *Foreign Sec. R. S.*

REPORT OF THE COMMITTEE OF THE UNIVERSITY COUNCIL APPOINTED TO CONSIDER THE COMMUNICATION OF THE ROYAL SOCIETY RELATING TO A CATALOGUE OF SCIENTIFIC PAPERS TO BE MADE BY INTERNATIONAL COÖPERATION.

To the University Council of Harvard University:—

The committee of the University Council, to whom was referred the accompanying circular of the Royal Society, respectfully submits the following report:

The committee finds itself fully in sympathy with the desire of the Royal Society to improve the methods of cataloguing scientific literature, and is distinctly of the opinion that the establishment of such a catalogue, to be compiled through international coöperation, is both desirable and practicable.

To determine in what way this result can be best attained, it will be well to consider what are the defects of existing methods, and what are the requirements which an improved system may be reasonably expected to fill.

Bibliographical catalogues and indexes are generally defective in one or two ways. Either they present simply a list of titles which often convey an inadequate, and sometimes a misleading idea of the contents of the articles catalogued, or they appear, like the various annual reports, so long after the publication of the articles which are reported upon that they lose a great part of their value as guides to current literature. A third defect is common to all existing catalogues, viz., that of necessitating a reference to a number of separate volumes whenever the literature of several years is to be sought for.

It is evident that some form of *card catalogue* can alone remedy these defects, so that the practical question is: How can a card catalogue of current scientific literature be best established and maintained? The requirements of such a catalogue may be stated as follows:—

1. It should appear promptly—if possible, simultaneously with the book or article catalogued.

2. It should furnish an accurate description of the purport of the book or article.

3. It should be readily accessible to all persons interested in the literature catalogued.

It seems probable that these requirements may best be met by the coöperation of a central bureau with the various publishers and editors of scientific literature in issuing with each book and with each number of every periodical a set of cards of standard size and type, each card to exhibit for a book, or for a single article in a periodical:—

1. The name of the author.

2. The title of the book or article.

3. The date, place, and house of publication of the book, or the title, volume, and page of the periodical in which the article appears.

4. A brief statement, not to exceed eight or ten lines, to be prepared by the author himself, setting forth the general purport of the book or article, so as to furnish the necessary data for cross references.

Each card should be in duplicate to permit of arrangement according to subject or

author, or both if desired, and additional cards should be issued whenever the character of the title necessitates cross references. A card when printed would present somewhat the following appearance:*

Calderwood, Henry. Evolution and Man's Place in Nature. Macmillan & Co., London and New York. 1893. pp. 349. sm. 8°.

Summary:

Gourlay, F. The Proteids of the Thyroid and the Spleen. Journal of Physiology. 1894. Vol. xvi. p. 23-33. Plate II.

Summary:

The dimensions and texture of the card should be determined by careful comparison of the cards already in use in the principal libraries of the world.

Space should be left at the top of the card for writing such words as may be desired for cross references. This could best be done by each person for himself, as there would necessarily be much difference of opinion as to the number and character of the cross references desired. Furthermore, subscribers of different nationalities would wish to catalogue the same subject under different headings, *e. g.*, an article on the spleen would be catalogued by a Frenchman under *rate* and by a German under *Milz*.

* The size is here reduced.

If thought desirable, the type used in printing the cards could be kept set up till the end of the year, and then, by arranging the material according to subjects, an annual report in book form could readily be published.

A central bureau charged with the work above outlined could very properly be established under the auspices of the Royal Society. In this central office subscriptions could be received from libraries and individuals for the cards relating to the articles published in certain journals, or to the literature of certain departments of science, and the subscriber would thus receive, in weekly instalments, a complete card catalogue of all the literature in his own line of work. The cards thus received could be arranged by each subscriber so as to form the sort of card catalogue best adapted to his own needs.

Although in this scheme the greater part of the work, including the printing of the cards, would be done in a central office, yet the coöperation of the publishers could not well be dispensed with, for from them must be obtained the summaries prepared by the authors, which form an essential feature of the scheme. No difficulty need be anticipated in obtaining such summaries; for it would be the interest of the writers to furnish them, and no one could prepare them so easily and correctly as the writers themselves.

A central office with this function would readily secure the coöperation of libraries and learned societies throughout the world; and to an undertaking thus endorsed the publishers of scientific literature would doubtless lend their aid, since they would find in it a means of advertising their business. The support of such an office could be provided for at the outset by international subscription; but it would doubtless in a short time become self-supporting, since portions of the total catalogue would be needed

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 Archæology 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