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DR. ROBERT HENRY THURSTON'S EIGHTEEN YEARS AT CORNELL[1]

By Dr. WILLIAM F. DURAND

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To me has been allotted the pleasant task of giving you some account of the life and work of Dr. Thurston during his eighteen years as director of the Sibley College of Cornell University. To compress into a period of some twenty-five or thirty minutes' time any adequate account of the activities over a period of eighteen years of a man such as was Dr. Robert Henry Thurston will be, I am sure you will agree, quite out of the question; and I can only hope to give some account of what appear to be the more important features of this story.

The initial point in the sequence of events which led to Dr. Thurston's call to Cornell appears to have been a gradually growing conviction in the minds of the then president, Dr. Andrew D. White, and members of his board of trustees, that the Sibley College, as representing the School of Mechanic Arts of Cornell, was hardly realizing, in its condition during the middle eighties of the last century, the full measure of its potential standing in the domain of higher technical education.

This is evidenced by the appointment by the trustees, on June 18, 1884, of a special committee known as the "Committee on Revision of Sibley College." This committee comprised the president of the university, Dr. Andrew D. White, Honorable Hiram Sibley (the founder of Sibley College), the chairman of the Board of Trustees, and one graduate of the Department of Mechanic Arts to be selected by the trustees. The resolution calling for the appointment of this committee prescribed its duty as that of considering "all

[1] Address at the celebration at Cornell University of the hundredth anniversary of the birth of Robert Henry Thurston, October 25, 1939.

We have used many different cloths in preparing these cards. If no attention is paid to the expense, a most excellent material is tracing cloth. However, we have found equally suitable and much cheaper ordinary book-binding fabrics. Another inexpensive material which we have used successfully is oiled silk. We have noted no injury to our films as a result of the use of the latter material. Any cloth which does not ravel along its cut edges and presents a smooth, non-scratching surface can be used. In sewing the cloth to the board, care must be taken that it is not pulled tight across the board but rather caused to cup slightly between rows of stitching to provide space for the insertion of the film strips. This may be accomplished by putting a small piece of cardboard, slightly greater in thickness than the film strips, underneath all the pieces of cloth when sewing the material to the cardboard. In order to have pockets accommodating 16 pages, the seams are run lengthwise of the card. In some cases, it is convenient to prepare cards to hold shorter strips, running the seams crosswise. It is also advantageous to indent each successive cloth layer one quarter of an inch further from the right-hand edge of the card than the cloth layer immediately beneath it. This affords easy access to the various pockets in a given row and reduces the number of pages which can be stored in the top pocket of a three-pocket card by only one page. Each pocket is 40 millimeters wide, thus giving ample clearance for the 35-millimeter film.

In filing the film, it is convenient to record the identifying data concerning the film and the source of the material which has been copied on a strip of gummed paper which can be pasted onto the cloth surface. There is ample room on the top surface of each row of pockets to record full information concerning each of the three films filed in the three pockets beneath. The films themselves may be given identifying numbers or notches on the leader of the film indicating pocket and card numbers, readily facilitating the return of the film to the card and pocket in which it belongs.

The use of such a system of cards makes possible the assembling of material pertaining to a given topic from widely divergent sources. On the other hand, we have used the cards as a means of assembling copies of several items from the same volume of a journal. The system is quite flexible and, as peculiar needs for variation in the filing scheme arise, can readily be adjusted to meet the immediate needs. For libraries, the issuance of an entire film card to the patrons can at least partially combat the drawback of the inability to scan shelf titles in a library of film, since the scanning of related titles on the card may serve to suggest further readings of interest.

Another use which we have made of these filing cards is to file copies of complete books and volumes of bound magazines in short strip lengths rather than in long reels. An advantage which we have found in this procedure is that, particularly in the case of reference works, it is more convenient to examine a short strip length containing the desired page rather than going through the majority of a 50- or 100-page reel to obtain a desired page reference. One other advantage of this scheme is that more than one person may make use of a book at the same time, provided that they wish to consult different pages. It is particularly convenient to file indices in this fashion.

The majority of books which are copied on microfilm do not exceed 550 pages. It will be noted that it is possible to file such a book on two cards prepared as described above to hold 288 pages each. However, if 18 pockets are prepared on each side of the cardboard, the entire book may be filed on one card. Probably most material on film lengths of 25 feet or more can best be filed in roll form. But it has been our experience in acquiring research material on microfilm during the last five years that a large majority of the items which we have required in connection with chemical research have been articles of 16 pages or less. Frequently the items do not exceed five pages.

We have found that this method of filing enables us to put a maximum number of films into a given space when short film lengths are involved. Thus it is possible to file, in a 28-inch filing drawer, 65,000 pages of material. If cloth is sewn on both sides of the cardboard and if more numerous pockets seem advisable, this number may be increased. Certainly such a system of filing makes possible the assembling of the research material required by individuals and small industrial research laboratories in an ordinary 4-drawer filing case.

A catalogue notation on 3×5-inch filing cards recording, in addition to the ordinary information found on library catalogue cards, the file card and pocket number in which the film is kept serves to locate the film. We have found an author and a journal listing of items received useful.

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BOOKS RECEIVED

BENNETT, H., Editor. *The Chemical Formulary.* Vol. IV. Pp. 638. Chemical Publishing Co. of N. Y. $6.00.

National Resources Committee. *Consumer Expenditures in the United States; Estimates for 1935–36.* Pp. iii + 195. Illustrated. Superintendent of Documents, Washington. $0.50.

SEDGWICK, W. T. and H. W. TYLER. *A Short History of Science.* Revised by H. W. TYLER and R. P. BIGELOW. Pp. xxi + 512. 61 figures. Macmillan. $3.75.

SOKOLNIKOFF, IVAN S. *Advanced Calculus.* Pp. v + 446. McGraw-Hill. $4.00.