ORGANIZATION OF A FUNCTIONAL ChE LIBRARY

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THE ChE DEPARTMENT of Clemson University maintains a library for the use of faculty, students, and visitors. Contained in an 800 square foot room, the library has, in addition to cases and shelves for book storage, a current periodicals display rack, tables and chairs, typewriters, calculators, and other supplies for the users of the library. In recent years the library's holdings have increased significantly. This, along with the fact that users don't always return volumes to their proper places, had begun to make it difficult to locate materials quickly.

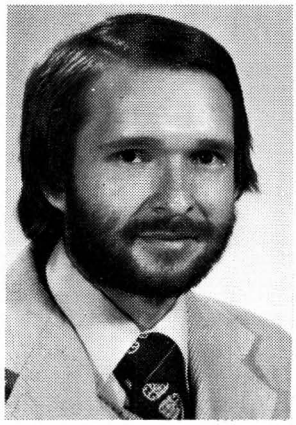
A reorganization of the library was undertaken during a summer break of 1975 to alleviate this problem. This included discarding out-of-date material and reclassifying the library contents by a streamlined "subject area" system. The standard Dewey Decimal and Library of Congress Systems were considered, but it was decided that engineers don't think in terms of these systems. Instead, engineers tend to classify things in certain distinct subject areas that are not well defined by either of the standard systems. It was with this in mind that the following classification system has been instituted.

THE CLASSIFICATION SYSTEM

THE FOLLOWING classification system has been found useful for cataloging the holdings of the department library at Clemson.

• **Chemical Abstracts.** Prior to 1962, the complete Chemical Abstracts series was received by the ChE department. Since 1963, only the Applied Chemistry Sections have been received. This results in a considerable saving of shelf space. The complete Chemical Abstracts are available at two other campus library facilities, the main university library and the Chemistry department library.

• **Bound Journals.** These include Industrial Engineering Chemistry, AIChE Journal, AIChE Transactions, Chemical Engineering Progress, and other pertinent journals.



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• **Current Periodicals.** This category includes at least twenty-five current magazines and journals. Attractive display shelves were constructed to allow prominent display of the current issues of each publication. These fold back to reveal storage shelves for previous copies of each periodical. This provides a convenient and safe method of storing each year's copies until year-end binding time.

• **Miscellaneous Abstracts, Conference Proceedings, and Government Reports.** This serves as a catch-all category containing such things as issues of Air Pollution Abstracts (one of the faculty has major research interests in this area), and final reports of a number of Environmental Protection Agency sponsored projects.

• **Dissertations and Theses.** This section contains copies of the dissertations and theses done by graduate students of the department.

• **Engineering and Reference Texts.** This category is by far the most extensive in terms of total

number of books and number of subcategories. This category contains many of the standard references and texts which find most frequent use in the engineering disciplines.

CATEGORIES OF ENGINEERING AND REFERENCE TEXTS

DIVISION OF THE standard reference and classroom texts into specific categories was by far the most difficult part of the reorganization. Of necessity, the categories were chosen somewhat arbitrarily, depending on the number of books we had which might conceivably fall within a certain class. The system decided upon is detailed below.

- **Reference Books—This category includes many of the standard references most used by engineers and students, such as the Encyclopedia of Chemical Technology, Perry's Chemical Engineer's Handbook, C.R.C. Handbooks of Chemistry and Physics, Laboratory Safety, Organic Compound Identification, Tables for Probability and Statistics, and numerous others. No attempt was made to further subdivide this category into engineering references, mathematics references, etc.; however, if a library's holdings are extensive enough such subdivision could be made with little problem.**
- **General ChE Texts—This category contains the sophomore and junior level texts which serve as introductions to ChE. This group of texts is particularly valuable to undergraduate students who use its holdings for review purposes and as a source of supplemental information.**
- **Unit Operations—This grouping of texts contains general texts on the unit operations as well as specilized texts covering individual processes. Subheadings of the various unit operations could be used if warranted by a large number of texts.**
- **Thermodynamics**
- **Kinetics**
- **Plant Design and Economics—This category contains texts on general chemical process plant design, special equipment design manuals, and texts on economics in engineering.**
- **Process Dynamics and Control**
- **Mathematics and Computers in Engineering—If a large number of books are to be catalogued under this heading, subdivisions such as calculus, computer theory, programming languages, etc. may be found useful.**
- **Miscellaneous Engineering—Under this category are filed texts in the other engineering disciplines, environmental sciences, and physics.**
- **Chemistry—Subdivision into analytical, organic, physical, etc. may be made if the number of books warrants it.**
- **Miscellaneous Texts—This is another catch-all category containing such things as histories of major chemical firms, biographies of scientists, and other miscellaneous books.**
- **Engineering Writing and Communications—This category contains several useful texts on improving communciation of engineering information. A good dictionary is an indispensible part of this division. (Dictionaries are also conspicuously present in the Reference Books section.)**

After this classification system was devised, the physical arrangement of the categories on the shelves was agreed upon. At this stage, the outside spine of each book was labelled with an abbreviation of its category, and on the inside front cover was written the category and the shelf number to which the book is assigned. This facilitates easy and accurate refiling of material by all library users.

ACQUIRING LIBRARY MATERIAL

MANY FACULTY MEMBERS choose to donate their desk copies of current texts to the library. Many texts which are not in current use find their way from faculty offices onto the library shelves. Also, many faculty members receive periodicals, conference proceedings, and government reports in the areas of their research interests,

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and these are often donated to the library.

A major (but often little used) potential source of library material is the main library of the institution. For example, Clemson's main university library receives the A.S.T.M. Standards each year. The current three years editions are on the shelves, and previous editions are kept in storage. It was discovered by calling the main library that a fairly recent edition of this work along with many others, could be removed from storage and be placed on extended loan to individual department libraries. Although the current edition of these publications would be kept in the main library, there could still be great value in having a three- to five-year old edition available in the department.

LOANING POLICIES

WITH THE COMPLETION of the reorganization, the need existed to revise and enforce a loan procedure for the library materials. The following policies have been adopted:

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WORLD OF SURFACE SCIENCE: Shah

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C. A. Villee, D. B. Villee and J. Zuckermann, Academic Press, pp. 47-75 (1973).
3. Margolis, S., In "Structural and Functional Aspects of Lipoproteins in Living Systems," eds. E. Tria and A. M. Scanu, Academic Press, pp. 370-415 (1969).
4. Dawson, R. M. C., In "Biological Membranes," eds. D. Chapman, Academic Press, pp. 203-231 (1968).
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8. Lecuyer, H., and D. G. Dervichian, *J. Mol. Biol., 45:* 39 (1969).
9. Shah, D. O., *J. Colloid Interface Sci.,* (submitted).
10. Falco, J. W., R. D. Walker, and D. O. Shah, *AIChE J., 20:* 510 (1974).
11. Williams, E. L., "Liquid Crystals for Electronic Devices," Noyes Data Corporation, 1975.
12. Porter, R. S., and J. F. Johnson, "Ordered Fluids and Liquid Crystals," Advances in Chemistry Series, Vol. 63 (1967).
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15. Langmuir, I., *J. Am. Chem. Soc., 39:* 1848 (1917).
16. Farger, E., "Nobel Prize Winners in Chemistry," Abelard-Schuman Press, pp. 132-136 (1963).
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18. Vanderkooi, G., and D. E. Green, *Bioscience, 21:* 409 (1971).
19. Shah, D. O. and J. H. Schulman, *J. Lipid Res., 8:* 215 (1967).
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21. Shah, D. O. and J. H. Schulman, *J. Lipid Res., 6:* 341 (1965).
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24. La Mer, V. K., "Retardation of Evaporation by Monolayers," Academic Press (1962).
25. Gould, R. F., "Contact Angle, Wettability and Adhesion," Advances in Chem. Series, Vol. 43 (1964).
26. Gould, R. F., "Pesticidal Formulations Research," Advances in Chemistry Series, Vol. 86 (1969).
27. Holly, F. J. and M. A. Lemp, "The Preocular Tear Film and Dry-Eye Syndromes," Little, Brown and Company (1973).
28. Shah, D. O. and J. H. Schulman, *J. Colloid Interface Sci., 25:* 107 (1967).
29. Shah, D. O. and J. H. Schulman, *J. Lipid Res., 8:* 227 1967).
30. Shah, D. O. and J. H. Schulman, *Lipids, 2:* 21 (1967).
31. Shah, D. O., In "Biological Horizons in Surface Science," eds. L. M. Prince and F. D. Sears, Academic Press, pp. 69-106 (1973).
32. Brauninger, G. E., D. O. Shah and H. E. Kaufman, *Am. J. Ophthalmo., 73:* 132 (1972).
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- Faculty and graduate students may check out any material contained in the library. Texts may be checked out for extended periods, subject to recall if needed. Reference books, journals, conference procedings, etc, may be checked out on overnight loan only.
- Undergraduate students may check out only texts and related material, on overnight loan only. Special reserve shelves are sometimes utilized by faculty who want to make available material for use only in the library. Special reserve material is not allowed to be checked out.
- Visitors from other departments on campus and from local industry may use any library material and may check out material upon approval of the department head.

CONCLUDING REMARKS

OF COURSE, NOT ALL ChE departments will find the classification system initiated at Clemson to be useful. The extent of subdivision will no doubt vary with the quantity of the holdings. The utility of any library is the ready availability of its materials; nothing is quite so frustrating as to waste valuable time searching for material that you know is there, if only you knew how to look for it. It was the purpose of our library reorganization to minimize this problem and to make our holdings available to all who need them.

The author expresses great appreciation to the ChE faculty of Clemson University for their assistance in choosing materials to be discarded and for suggesting additions to the classification system, and to the department secretaries, Mrs. Mary Ann Hayden and Mrs. Deborah Nelson for doing the cataloging and arrangement of the materials. □