



## AUDIO-VISUAL AIDS SUBCOMMITTEE ACTIVITIES

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SEVERAL YEARS AGO I came to the realization that visual material on chemical process equipment is not as readily available to present chemical engineering students as it used to be. I came to this realization from a question asked by a student after we had been studying heat transfer. The student asked, "What does a heat exchanger look like?" The only picture of an exchanger in the textbook was a schematic drawing of the flow pattern through an exchanger, and this drawing was located several chapters ahead in the book from where the class was studying. I recalled one textbook from which I studied as a student, "Unit Operations" by G. G. Brown et al., had a number of good pictures of heat exchangers and other process equipment. As a result, I was able to obtain a visual understanding of chemical process equipment that I was studying. Present ChE students usually do not have such visual aids available to them.

After discussing this problem with my depart-



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ment head, he found an old copy (1957) of a strip film on heat exchangers. This film along with a script was made by the C. F. Braun Company for the Education Projects Committee of AIChE. In this film the fabrication of heat exchanger along with a description of some of its uses were presented. After showing this film to my class, I observed the students to be more motivated to study heat transfer. Most of the ChE students that I have taught seem to be able to relate to physical objects better than abstract concepts.

With this experience I started searching for other films on chemical process equipment. I located a second strip film on fractionating columns that was also produced by the C. F. Braun Company. Unable to locate other films, I decided to make a sound-slide-show of one of my lectures on the uses of various kinds of pipe fittings. I discovered that it took me about ten hours to produce a ten minute show. Because of the time required to produce a ten minute show, I decided to learn who else has produced sound-slide-shows on chemical process equipment. Then if I could make a trade of shows, I could have two shows for the effort of producing one. I inquired into the present activities of the Education Projects Committee of AIChE and I was invited to join the committee to reactivate the old films subcommittee which was then renamed the Audio-Visual Aids Committee.

The first project of the A-V Committee was to survey the other ChE departments about their use and development of A-V materials. Questionnaires were mailed to about 140 ChE departments, and sixty nine replies were received. Two questions were asked. One, list the names of the faculty

members who are actively developing or using A-V material, such as 16 mm films, TV tapes or sound-slide-shows. Two, describe the A-V material being used by reporting the media employed, the name of the course in which the material was being used, a brief description of the material and who developed it.

### SUMMARY OF SURVEY

A summary of the results of this survey is as follows. Overall, many ChE faculty members are experimenting with different types of A-V material for use in the courses that they teach. A number of schools use audio cassettes with or without slides to present operating instructions for laboratory equipment. There are some movie films being shown. The two most frequently shown film series are films on fluid dynamics of drag by Shapiro and the fluid flow film loops produced by the National Committee for Fluid Mechanics Films and distributed by the Encyclopedia Britannica Educational Corporation. Two textbooks are being written which will have accompanying sets of slides and audio tapes. Dr. C. M. Thatcher at the University of Arkansas is making a set of slides and audio tapes to supplement his book titled "Fundamentals of Good Chemical Engineering". Professor B. E. Lauer at the University of Colorado has made 1100 slides to accompany his textbook on ChE techniques. Outside of the 16 mm movie films on distillation columns by Fractionation Research Inc. and by Shell Oil Company, there were no other A-V material on chemical process equipment reported.

From this survey it was learned that Professor B. E. Lauer has prepared a catalog of available self-paced material which utilized video tapes. For more information about this catalog write to:

The Catalog  
546 Fourteenth Street  
Boulder, Colorado 80302

Another activity of the A-V Subcommittee was to have Professor M. W. Bredekamp to update his movie film list. Professor Bredekamp divided his revised list into six parts. Part one contains all the films believed to be pertinent to the teaching of undergraduate ChE courses. Some of these films listed have been reviewed and evaluated with a brief comment about the film. In the second part of his list, films which deal with specific chemical industries are reported. Then local sections of AIChE have reviewed and judged these films to

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be unsuitable for classroom use. In part three are the addresses of film distributors from which the films can be ordered. In part four of the listing are sources of film information from which Professor Bredekamp compiled his list, and in part five a list of films which were included in the previous year's film listing but which are presently not available. Professor Bredekamp has also included the results of the A-V Use Survey in the Sixth part of his film listing. It is hoped that this listing by Dr. Bredekamp will be published by AIChE.\*

The A-V subcommittee is presently seeking more people to work on projects. There is a need for people and for companies to produce A-V material on chemical process equipment. The subcommittee will act as a clearing house for the A-V material. I have a ten minute sound-slide-show on the applications of different kinds of pipe fittings which I would be willing to trade for a sound-slide-show on pumps. I also have a few copies of the A-V survey which I will be happy to mail to anyone on request.

The goal of the A-V subcommittee is to assist educators to locate A-V material and to promote the production of new material. By the trading of material produced by individuals, more A-V material at less cost will become available to all. □

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\* Publication X-91 "Chemical Engineering Educational Films" can be obtained for \$4 by AIChE members and for \$10 by non-members by writing to AIChE's Publications Dept., 345 E. 47th St., New York, New York 10017.

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### LETTERS: Continued

Sir:

I was very pleased to notice the inauguration of the feature "ChE Lectures" in the Summer 1976 issue of CHEMICAL ENGINEERING EDUCATION. I believe it is an interesting and instructive addition to your quarterly, and I heartily welcome it. The choice of R. Aris for the first lecture was superb, for, leaving the main content of the lecture aside, who could top the quote in the Conclusion. Do I hear a leopard stalking in the wilds of Pennsylvania. . . ?

Arvind Varma  
University of Notre Dame