Meetings

Literature Program of Engineering Societies

The literature program of the engineering societies underwent a critical appraisal at a conference held 16–18 January 1967 in New York City under the auspices of the Engineers Joint Council. The president of the Council, Clarence Linder, had suggested the conference to explore: Ways in which the member societies might better serve their own members through the media of publications; current problems facing the publication efforts of the societies; and systems for the rapid access and retrieval of engineering literature. Although the discussion was primarily concerned with engineering's needs, much of it applied to the sciences.

The subject of information retrieval itself has created a minor literature explosion, but comparatively little has been said about the planning and management of literature services by the professional societies. For this reason, I omit discussion on the rapid access and retrieval systems, and concentrate instead on the publications programs of the engineering societies. Furthermore, though speakers repeatedly documented the existence of a "literature explosion," I assume that this condition is as central to any discussion on technical literature as F=Ma is to the space program.

A major problem facing the societies, said O.B. Schier II (American Society of Mechanical Engineers) is the steadily rising costs of publication. Referring to a recent survey of 18 engineering societies, Schier reported that their combined budgets exceeded $30 million, "half of which is expended for publications." This figure amounted to $75 per page for the 177,000 pages published in 1966, or an average cost of $27 per member (based on a combined membership of one-half million.) Printing and paper costs for transactions have been increasing 3½ percent each year. Length of papers have increased by more than 50 percent since 1946. Meanwhile, income from advertising in the monthly journals has been declining since the late '50's because of inroads that have been made by the commercial press.

To offset rising costs and decreasing income, Schier reported that seven societies have established page charges for papers appearing in their transactions. Fees start at $25 per page. For the scientific societies, the average page charge is $75. Schier forecast greater use of microfilm, abstracts, and preprints as additional measures that the societies will take to cope with the financial squeeze, while formal archival publications—such as transactions, journals, and proceeedings—will be distributed only to subscribers and depositories. Forthcoming advances in reproduction techniques, he said, should also reduce costs without sacrifice of quality.

"Knowing page cost per member is the first step in deciding how to obtain revenue to meet expenses," said S.W. Herwald (Westinghouse). He reviewed the cost structure of the publications of the Institute of Electrical and Electronics Engineers, the world's largest professional technical society. "Few societies," he commented, "know their detailed publications costs. . . ." The cost analysis of IEEE, Herwald said, indicates, for example, that the more economical procedure for covering new specialties that arise is to broaden the coverage of existing publications rather than to establish additional journals. Unfortunately, it should be noted, this economic fact of life conflicts with the more widespread hope for greater selectivity in the dissemination of technical material to match reader interest.

Donald Fink (IEEE) urged that the interests of readers be the primary concern of any publications program. He described four "cardinal sins": (i) Gratuitous duplication of material already published; (ii) automatic publication of conference presentations, without review or editing; (iii) the "generated paper" drummed up to fill a spot in a program; and (iv) publication to gratify a sense of organizational or personal prestige.

According to Fink, the primary lack in society publications "is the absence or subordination of the executive function in editing society journals." This, of course, is what leads to the sins above. "Too often, a committee rather than an editor determines what should be published in our journals. . . ." As a consequence, Fink explained, society journals are loaded with marginally acceptbale material that lacks the crisp, sharp impact that good editing can give it. "The commercial publishers learned years ago that there is no substitute for a capable editor, supported by an able staff, who truly directs his publication."

Papers that review a field's state-of-the-art were singled out by Ernst Weber (Polytechnic Institute of Brooklyn) as a vitally needed publication service that was not being fulfilled by the societies. Weber cited two commercial magazines that have made a success of publishing state-of-the-art articles, *Scientific American* and *International Science and Technology*. He suggested that the societies consider developing separate journals for this purpose or the setting aside of special issues of existing journals. After noting obstacles that would preclude the societies from obtaining first-rate contributed articles, Weber proposed as a more efficacious alternative the employment of full-time staff writers to prepare such reviews, as does the journal *Spectrum* published by IEEE.

Weber also suggested that the societies provide for specific fields bibliographies of authoritative tutorial and state-of-the-art papers, around which members could plan a reading program.

Taking a look at the "big picture," that is the meaning of science and technology in modern society, Dael Wolfle (American Association for the Advancement of Science) claimed that no engineering journal is currently "doing a good job of interpreting for its engineer readers the social and political climate and trends within which they work." Using the "News and Comments" section of *Science* as a model, Wolfle suggested that the quarterly publication, *Engineer*, issued by Engineers Joint Council (bimonthly

starting in 1967) receive sufficient financial support so that it may more effectively report on and discuss "the influence of governmental, political, economic, and social actions, decisions, trends, and policies on the nature of science and technology and the opportunities and limitations that confront them." The publication is circulated to nearly one-half million engineers.

A paper by Alan R. Putnam (American Society for Metals) was delivered by John H. Fellows; he discussed the value and uses of membership profile studies. ASM had concluded such a study in 1963, the results of which, Putnam said, "surprised us . . . and had a healthy effect on the planning of activities." A profile was developed on such important statistics as educational level, length of memberships, technical information needs, and metals of interest to members. Membership surveys, Putnam disclosed, can be used to reveal member interests that are not being served or that are being "over-served"; they give business staffs deeper insights into the market accorded to advertisers; and they may be used for planning purposes and even recruitment efforts.

Cautions were also noted. Changes in a membership profile occur with time, and important minorities may not be revealed. Surveys, moreover, tend to be poor instruments for detecting future or emerging interests of members. To overcome this last drawback, ASM has created an Advisory Technical Awareness Council whose sole function is to identify new and emerging areas of science and technology that may require the attention of the society. Also, Putnam warned, membership profiles cannot answer philosophical questions for the society, and they are not substitutes for good editorial judgment, reasonable business acumen, or effective long-range planning.

In the conference's most sweeping analysis of the societies' publications efforts, Derek J. de Solla Price (Yale University) claimed that "80 percent of the value and function of the scientific paper lies outside the realm of communication." Speaking specifically about science, Price charged that it has become a purchased commodity whose appeal is no longer solely intellectual in nature. A consequence of society's (in the larger sense of the word) largesse in supporting science is the demand for publication regardless of the merits of what it is that's being published. Rather than maintain the current Alice-in-Wonderland publishing pace, Price suggested that a wiser attitude would be to explore more deeply the new technologies of preprint exchanges in small groups and selective use of citation methods to provide alerting services. To provide for the dissemination of research front findings, whose useful life-span tends to be ephemeral, Price called for the establishment of a science daily newspaper. Its size, Price calculated, need be no greater than that of the *Wall Street Journal*. Meanwhile, he added, research communications of lasting value would be published in a relatively small archive consisting of a few journals of high-status quality.

In discussing the literature of technology, Price was even more severe in his condemnations. "Nobody seems to know what the technologist wants to read nor why there seems to be such an enormous mass of technological literature that satisfies so little of his appetite. . . . I suggest that most of the literature is there for accidental reasons or because some people think it should be there rather than because of any need or actual use." The answers to typical engineering questions—"What is the torsional breaking strength of the human ankle?"—Price said, are to be found not in an archive, but in a data bank.

Earlier in the session, Walter M. Carlson (U.S. Defense Department) had reported findings of DOD studies that lent support to Price's comments. The DOD had sampled the information-gathering habits of engineers associated with the defense industry (about one-quarter of the engineering population). "We are finding," Carlson said, "that engineers make little or no effective use of information that is thrust upon them by one of our so-called information systems or that is packaged in one of the general media such as technical journals. . . ." Referring to the content of society publications, Carlson observed, "You could become quite convinced that the 64,000 engineers in research and teaching are the only people in the profession. . . . Development, consulting, design, production, sales and management people do not make very large use of journals and similar formal media established to provide useful general communications."

STANLEY KLEIN

Engineers Joint Council, New York, New York

Forthcoming Events

April

11–13. **Nursing Service and Hospital Administration**, American Hospital Assoc., Chicago, Ill. (E. J. Lanigan, AHA, 840 N. Lake Shore Dr., Chicago 60611)

12–14. **Optical Soc.** of Amer., Columbus, Ohio. (Miss M. Warga, OSA, 1155 16th St., NW, Washington, D.C. 20036)

12–14. **Shock Tube** Symp., 6th intern., Freiburg, West Germany. (R. G. Fowler, Dept. of Physics, Univ. of Oklahoma, Norman 73069)

13–14. **Teaching of Mathematics to Physicists**, Inst. of Physics and Physical Soc. and Inst. of Mathematics and Its Applications, conf., Exeter, England. (Meetings Officer, Inst. of Physics and Physical Soc., 47 Belgrave Sq., London, S.W.1, England)

13–15. American Assoc. for **Cancer Research**, 48th annual mtg., Chicago, Ill. (Secretary-Treasurer, The Association, 7701 Burholme Ave., Philadelphia, Pa. 19111)

13–16. **British Medical Assoc.**, annual clinical conf., Londonderry, Northern Ireland. (Secretariat, Tavistock Sq., London, W.C.1, England)

14–15. **Echoencephalography**, intern. symp., Univ. of Erlangen-Nurnberg, West Germany. (W. Schiefer, 8520 Erlangen, Krankenhausstrasse 12, West Germany)

14–21. **French Physical Soc.**, 61st exhibition, Paris. (The Society, 33 rue Croulebarbe, Paris 13e)

15–16. American Soc. for **Artificial Internal Organs**, annual mtg., Atlanta, Ga. (P. M. Galletti, Dept. of Physiology, Emory Univ., Atlanta)

15–16. **Histochemical** Soc., 18th annual mtg., Chicago, Ill. (G. M. Lehrer, Div. of Neurochemistry, Mount Sinai School of Medicine, 11 E. 100 St., New York 10029)

15–16. **Nucleic Acids** Symp., Santa Monica, Calif. (M. S. Dunn, 9325 Venice Blvd., Culver City, Calif.)

15–16. **Scientific Photography**, 2nd symp., Pacific Northwest Chapter of Biological Photographic Assoc., Univ. of Washington, Seattle. (J. W. McKim, Symp. on Scientific Photography, Univ. of Washington, Seattle 98105)

16–21. American **Physiological** Soc., spring mtg., Chicago, Ill. (The Society, 9650 Rockville Pike, Bethesda, Md. 20014)

16–21. Federation of American Societies for **Experimental Biology**, annual mtg., Chicago, Ill. (FASEB, Convention Office, 9650 Rockville Pike, Bethesda, Md. 20014)

16–21. International **Cartographic** Assoc., general assembly and technical conf., Amsterdam, Netherlands. (F. J. Ormeling, Secretary-Treasurer, Bachlaan 39, Hilversum, Netherlands)

16–21. Society of **Motion Picture** and **Television Engineers**, 101st semiannual conv., New York, N.Y. (Executive Secretary, 9 E. 41 St., New York 10017)

16–21. Society for **Pharmacology and Experimental Therapeutics**, spring mtg., Chicago, Ill. (The Society, 9650 Rockville Pike, Bethesda, Md. 20014)

17–19. **Elementary Particles**, Inst. of Physics and Physical Soc., conf., London,