Meetings

Science News Writing

"Learning without thinking is useless. Thinking without learning is dangerous." So wrote Confucious about 500 B.C. Concern regarding this precept prompted the National Science Foundation to underwrite costs covering six science-news-writing seminars and conferences during 1960. These conferences were held in the following localities: Chapel Hill, North Carolina; Louisville, Kentucky; New York City; Fort Collins, Colorado; Manhattan, Kansas; and northern Minnesota.

The Science News Writing Seminar held at Colorado State University in Fort Collins from 12 to 18 September was sponsored by the Denver *Post*, the Boulder Laboratories of the National Bureau of Standards, and Colorado State University. Herman Weisman of Colorado State University was seminar director; Mortimer Stern of the Denver *Post* and David M. Gates of the National Bureau of Standards were associate directors. Participation was limited to 25 science reporters, primarily from a 15-state region centered on Colorado, although several came from other parts of the United States. In addition to the science news writers in attendance, another dozen individuals in the field of communications attended sporadically, and some 20 scientists participated in one or more of the sessions.

The seminar program was arranged so that the scientists expressed their views on science, education, and science news writing early in the week. The science news writers presented their problems, attitudes, and objectives later in the week, and the final session consisted of replies and a summing up by both groups. Three basic questions represented the framework for the seminar: What is going on in the exploding world of science? How best can reporters tap the sources of scientific information? How can science news stories best be told to newspaper readers?

Keynote addresses were given by Palmer Hoyt, editor and publisher of the Denver *Post*, and Frederick W. Brown, director of the Boulder Laboratories of the National Bureau of Standards. Other addresses given during the seminar were by Theodore Puck, professor of biophysics, University of Colorado; John M. Parker, Rocky Mountain district manager of the Kirby Petroleum Co.; Henry Eyring, dean of the Graduate School, University of Utah; and Graham DuShane, editor of *Science*. Panel discussions were held on the following subjects: "Philosophy of Scientific Research," "Biology Research," "Soil and Water Research," "Science Writing," "Science News Writing," and "The Scientists Talk Back."

Speakers on the panels were as follows: William E. Morgan (president, Colorado State University); M. L. Albertson (director, Colorado State University Research Foundation); Robert V. Bartz (executive director, Associated Rocky Mountain Universities); S. I. Johnson (director, Denver Research Institute); William Purdy (director of engineering, the Martin Company, Denver); Willard C. Haselbush (Denver *Post*); Gene Lindberg (Denver *Post*); Richard E. Slawsky (New York *World-Telegram and Sun*); Arthur J. Snider (Chicago *Daily News*); Lawrence Durrell (dean emeritus, Colorado State University, College of Arts and Sciences); Rue Jensen (dean, Colorado State University, College of Veterinary Medicine); John R. Olive (American Institute of Biological Sciences); Frank Salisbury (Colorado State University); Verne L. Van Breeman (Mercy Hospital, Denver); Watson Davis (director, Science Service); H. J. Geiger (Harvard Medical School); Harold F. Osborne (American Institute of Biological Sciences); Daniel Q. Posin (DePaul University); A. R. Chamberlain (vice president, Colorado State University); Robert Dils (Colorado State University, College of Forestry); Omar J. Kelley (U.S. Department of Agriculture); Herbert Riehl (Colorado State University); and Robert Whitney (Colorado State University).

The participants spent one day at the Boulder Laboratories of the National Bureau of Standards. They also visited the High Altitude Observatory of the University of Colorado, with

Robert J. Low, executive officer, leading the tour. There was a half-day excursion into the Rocky Mountains, which included a visit to the National Bureau of Standards' Fritz Peak Observatory, directed by Franklin E. Roach. Each evening the sessions were continued informally, and discussion ran into the night. At week's end the participants were weary, enlightened, and still friends, despite the fact that the gap between the two professional groups had been large indeed at the beginning of the seminar. Much of the success of the seminar was due to the pleasant and efficient handling of the rigorous 14-hour day, six-day schedule.

Specific answers formulated at the Fort Collins meeting to the question, How can science news stories best be told to newspaper readers? and comments relating to the whole subject of science news writing were as follows:

1) An outstanding science reporter must first be an excellent reporter. The best possible science reporter is a true hybrid, a real journalist and a real scientist.

2) There is a lack of aggressiveness in science writing; reporters are not skeptical enough about handouts, are timid in their presentation, and seldom do interpretive writing based on a careful background study of the subject matter.

3) A science reporter should know and use a "stable of experts"—that is, he should have a friend in each of the major scientific disciplines on whom he can call for advice.

4) There is little coverage of basic research and almost no coverage of negative experiments and research projects. The public should be educated in the philosophy of science and should understand that some experiments and projects, both basic and applied, are failures. Since a large part of what the public learns is from our daily newspapers and since the public is paying very directly for most of the research going on today, it is obvious that taxpayers, legislators, and all people concerned with formulating and administering educational and research programs must have a deeper understanding of science.

5) Newspapers have too many "sacred cows" of both the inclusive and the exclusive variety. For example, there is prodigious coverage of sports despite the fact that reader surveys show that science news stories are read by approximately twice as many people as stories on sports; newspapers exclude critical and analytical reporting of technological or applied science if such stories cover one of the local sacred minorities, such as the lead-zinc lobby group or the western reclamation lobby group.

6) Too many stories promise a

"breakthrough." This leads people to think that science evolves primarily around breakthroughs, and breakthroughs for a specific purpose, such as the control of cancer and heart disease. Further, in regard to medical stories, statistical results are sometimes accepted willy-nilly from scientists and medical men who may not qualify or properly limit the conclusions based on statistical data.

7) There is little coverage of the social sciences.

8) Being a good reporter and a good writer is not enough. A reporter must continue to educate himself in order to advance his knowledge of science. A science reporter should seek the opportunity to work in a laboratory or in the geological department of an oil company or to attend a field camp in session in order to get the "feel" of scientific investigation. This period should be at least a week and preferably a month or more, and it should be repeated. A medical reporter should make the round of the wards with an intern once every six months.

9) The "lead concept" is not necessarily the best way to tell a science news story.

10) The wire services and some newspapers at times arbitrarily limit science news stories to 150 words.

11) Managing editors wrongly think everyone can cover everything.

12) Poor techniques are frequently used in telling a science story of the expository type. The correct techniques are as follows: (i) Use graphic aids (pictures, diagrams, sketches, cartoons, and good pictures); (ii) keep the development slow, do not amaze; explain, teach, have a logical re-enactment, build up to a climax; (iii) don't use technical jargon unduly, but be willing to introduce new words to the public when necessary; (iv) write to one person—*yourself*.

The reporters had some specific and appropriate things to say to scientists.

1) The scientist should be willing to cooperate with the press and society.

2) The scientist should have a better concept of the public that is to be informed. Scientists work with things. Reporters know about and write for people. The reporter's reader cannot be told what to read. If a science writer can convey the excitement of science he will get and hold the attention of the reader. The excitement factor is most important since newspapers, to be successful, must be read, and therefore a newspaper must appeal to both intellect and emotion.

3) The scientist should be willing to interpret his subject for the layman.

4) The scientist should realize that a reporter works with a deadline, not only on straight news stories but also on feature stories.

5) Newspapers contribute to civic projects, and they need more help from scientists than they are getting at the present time. In the opinion of the science news writers this is particularly true with regard to crusades to raise teaching standards and teachers' salaries, wherein scientists, both as individuals and as groups, could work with the press better than they now do. Scientists appear not to accept enough public responsibility.

6) Scientists should realize that newspapers must crusade for 200 different things, of which science is only one.

7) Universities give very few honorary degrees to scientists in basic research; this shows poor judgment on the part of the university and is bad public policy.

8) There is a common tie between scientists and reporters; both are curious and both are skeptical.

The 20 points listed above are representative of the general consensus of the Fort Collins meeting. Individual reactions and interpretations on these points varied widely among the reporters and the scientists present, but the general feeling was clear.

It was evident from the Fort Collins meeting that editors and publishers must be convinced of the need for improving the quality and quantity of science news reporting. We urge *Editor and Publisher*, the National Science Foundation, and any other interested group to sponsor science reporting seminars limited to editors, publishers, and scientists.

We believe that some specific steps are in order. Presidents of scientific societies should stress the fact, in letters and in conversation with newspaper publishers, that our country needs better coverage of basic science news and research. Local scientific societies should assist with public-school reforms and projects of similar nonpartisan nature. Local or national scientific groups should not become involved in group endorsement of partisan political activities, but it is important that the consensus of professional opinion, within a scientific organization, concerning a specific issue be made known to the public through the press. Concerning nonpartisan issues, very few scientific societies avail themselves of the "poll" type of survey. If a legitimate poll is made (by a nonmember) of the membership of a scientific organization, such a poll is news for the local press and is also an effective means of influencing public opinion.

On a national level, related scientific disciplines need umbrella-type organizations in order to maintain effective professional responsibility, ethics committees, public information offices, school curricula committees, and the like. Several organizations of this type exist and are doing a good job. We believe that these organizations should be supported and strengthened.

Science, the organ of the oldest and largest of the umbrella-type associations in this country, published the following pertinent items in 1960 on the subject of science news writing and related topics: "Science reporting—today and tomorrow," by Joan Troan [**131**, 1193 (1960)]; "Dons or crooners?" by Eric Ashby [**131**, 1165 (1960)]; "Popularization of science," by Jean Rostand [**131**, 1491 (1960)]; "Science and human welfare" [**132**, 68 (1960)] and "Science teachers and the scientific attitude: An appraisal of an academic year institute," by Howard E. Gruber [**132**, 467 (1960)].

Nothing new regarding science news writing and scientists was said at Fort Collins, but the inspiration, the impact, and the results are new. Reporters and scientists agreed unanimously as to the tremendous value to be gained from conferences of this type and urged that other such conferences be convened in the future to further understanding between the two professions.

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