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Results of a Survey of Magazine Science Writers' Commentary on Their Profession

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This report gives the results of a survey of magazine science writers' commentary on their profession. The main goal of the survey was to learn if it is necessary for science writers to have an educational background in a specific scientific field. The survey asked the writers to give their educational background, to state what skills are necessary or helpful to a science writer, to explain how they select topics and gather information, to comment on the present opportunities for science writers, and to list the rewards and drawbacks of their profession. The results, provided by eleven science writers, show an education in a specific scientific field is valuable to a science writer but not necessary. The results indicated that good communication skills and knowledge of the history and sociology of science are at least as valuable as a degree in one or more of the sciences.

As a beginning graduate student in Technical and Science Communication at Drexel University, one of my first classes was "The Practice of Technical and Science Communication." In this seminar professional technical writers and science writers talked to the class about what their jobs require of them and what skills are needed to qualify for those jobs. Because many of the students in the class had undergraduate degrees in areas other than science, a very frequent question put to the professionals was, "How much technical or science background do I have to have to qualify for a job in technical writing or science writing?"

I decided to use this question, limiting it to science writing for magazines, as a basis for a term project. Along with an answer to the question above, I wanted to know how science writers choose topics, gather information, and what are the opportunities, rewards, and drawbacks of the profession.

Procedure

I sent questionnaires dealing with these questions to forty magazine science writers and editors who write or have written for *Discover*, *National Geographic*, *U.S. News & World Report*, *Nature*, *Scientific American*, *Sci-Tech News*, and *Smithsonian*, among others. I received eleven completed or partially completed questionnaires — two from editors, the other nine from writers. (However, throughout this report I often refer to all the respondents as "writers," since presumably the editors worked previously as writers.) One of the writers is a freelance writer. Also, another freelance writer who did not have time to fill out the questionnaire sent an article he had written about science writing.

I also received four refusals to participate in the survey: three because the persons, although they have contributed articles to science magazines, do not consider themselves "science writers." The fourth refusal was from a science writer for *U.S. News & World Report*, who wrote that he considered studying writing and communication in college a waste of time. In addition, a writer for *Discover* sent along with her completed questionnaire a letter stating that she, too, thought studying writing in college was time misspent.

Results

Do you or does your editor select the subject topics you write about?

The responses to this question indicate that in most cases the writer and the editor work together to select topics for articles. Eight out of eleven writers said that both they (the writers) and their editors select topics, although the editor has final approval. These writers indicated that for them the usual topic-selecting process is as follows: either the writer or the editor suggests

a topic, the writer and editor discuss how important and interesting the topic would be to their readers, and then the editor either does or does not give the writer the go ahead to pursue the topic. The other three writers responding to this question said that they alone choose the topics they write about.

How do you go about gathering information?

All the writers responding to this question said that "reading" and "interviewing" were their primary ways of gathering information. They read scientific periodicals, newspapers, and press releases to keep up with what is going on in science and to find out what has already been printed on the particular stories they are working on. Interviewing is often done by phone. In addition to interviewing scientists, science writers contact friends and working associates who might have knowledge about specific topics. Science writers gather information also by attending meetings and news conferences.

How do you decide what is and what is not important to your readers?

Of the eight writers who answered this question, five gave "interest" as their primary criteria, two gave "importance to the scientific community" as their primary criteria, and one writer said "length and what's been said before" is his criteria for judging the importance of a story. The answers indicate that the two major criteria are interest and scientific importance. Personal interest is a primary criteria because the writers believe that what interests them will interest their readers.

The responses about scientific importance included: "having a sense of what is interesting and of discoveries/ inventions that could make a difference;" "basic stage-setting information is always essential;" "editors work as a counter-influence, demanding newsworthiness and relevance to man;" "anything related to research and its dissemination that involves political or scientific conflicts or policy changes."

What types of scientific events and meetings do you attend?

Only one respondent (an editor) stated that he attends no scientific meetings or events. Four out of eleven attend American Association for the Advancement of Science meetings, along with other scientific events. Other responses were Capitol Hill hearings and meetings or events of the American Chemical Society, the New York Academy of Sciences, and the Texas General Relativity Conference. Most of the

writers said that their decisions to go to events depend on personal interest and what particular stories they are working on at the time.

Please briefly describe your workplace.

The two free-lance writers, of course, work at home. Nine of the other ten respondents described their workplaces as being located in large corporate buildings. The majority of them work in private offices.

If possible, please describe a typical workday.

The responses to this question indicated that science writers spend most of their time reading and researching. The rest of their workday is spent writing, editing, rewriting, answering correspondence, interviewing, generating story ideas, and attending conferences.

What is your educational background?

As the list below shows, six out of eleven respondents have degrees in specific fields of science. One writer stated that he designed his own major at the Ivy League School he attended, entitled "The Communication of Scientific Ideas," which combined science, journalism, and the history of science. Of the remaining four respondents, one has a degree in journalism, and the others have degrees in fields other than science or journalism.

1. B.Sc. Physics and Chemistry
B.Ed. (Physics, Chemistry, Math)
M.A. Journalism
2. B.A. Combined Sciences
3. M.S. Biology
4. B.A. Zoology
Ph.d. Animal Behavior
5. Psychology, Law School
6. Ph.d. Psychology
7. B.A. "The Communication of Scientific Ideas"
8. Columbia School of General Studies,
Columbia Journalism School
9. B.A. Political Science, L.L.B.
10. B.A. Music
11. Liberal Arts

What is the salary range someone can expect as a science writer?

Ten respondents answered this question. The range was \$12,000 to \$100,000. The average starting salary was \$19,000. The average salary figured to be \$38,000. The list below shows individual responses.

- \$20,000 — \$35,000
- \$30,000 — \$50,000

\$20,000 — \$60,000
 \$12,000 — \$100,000
 \$20,000 — \$50,000
 \$17,000 — \$50,000
 \$20,000 — \$100,000
 \$18,000 — \$35,000 (free-lancing)
 \$15,000 — \$20,000

What starting opportunities and opportunities for advancement exist for a science writer?

Responses to this question ranged from “bleak” to “plenty.” Three out of eleven said that the best starting opportunities are in trade papers and newsletters. Two said that opportunities are fewer now with the recent closings of *Science '86* and *Science Digest*. The writer who answered “bleak” pointed out that no new science magazines are starting. The writer that answered “plenty” wrote “don’t ignore technology/business ... that’s booming now.” Other responses given were, “if you’re a good writer, you’ll have opportunities,” and “fairly good starting opportunities for someone who familiarizes themselves beforehand with the nature of the magazine.”

Because of the nature of the job, few opportunities for advancement exist. Once you are a science writer, the two major opportunities for advancement are editing and free-lancing. However, the respondents indicated that although there are few advancements in titles, advancements in pay are usually fairly good.

What skills do you think are necessary for a science writer? Which are helpful?

By far, the most common response to necessary skills was good communication/writing skills. The next most common response was “scientific background.” However, only two writers indicated that by “scientific background” they meant direct lab experience. The other nine responded that “an appreciation of how science works” and “interest in science subjects” are very helpful, if not necessary, to a science writer.

Other responses about helpful skills included: “clear thinking,” “creativity,” “broad general knowledge,” “well-developed sense of where to look for information,” “aptitude for and experience with scientific thinking,” “interest in science,” “accuracy,” and “widely read.”

What are the rewards of your profession? What are the drawbacks?

The most frequently stated reward (seven out of eleven) was that science writers are constantly learning. Their jobs both require and reward them to stay as up-to-date as possible in a wide

area of subjects and especially in their areas of expertise. From the responses given, this aspect of the job is a very satisfying one. Other reward responses were meeting “fascinating people,” “making an impact,” “keeping in touch with research,” “creating,” “writing,” and “working alone.”

Six of the writers also listed drawbacks of their profession. No two answers were the same: “tedious stories,” “not much money, scientists don’t want publicity, fighting for magazine space,” “editors, long hours,” “hard work,” “deadlines, lack of freshness in writing,” “The pay and the security will never be great. Sometimes you feel on the outside of things, looking in.”

Do you know of any differences between magazine science writing and newspaper science writing?

The most frequent response to this question (five out of nine) was that magazines have “more depth” — they have more space and time to analyze. One respondent wrote that in magazines “the quality of writing is more formalized and important.” Other responses were that newspaper science writing is “superficial coverage,” and the articles are “instant stories.”

The last question of my questionnaire concerned Drexel University’s graduate program in Technical and Science Communication. The program consists of thirty credit hours in courses which cover written and visual communication and communication theory. Students also take fifteen credit hours of electives. I enclosed a brochure of the program with each questionnaire, and asked the respondents if they thought the program would be valuable to someone preparing for a science writing career. I also asked if they would suggest any additions to the program.

Eight of the eleven respondents answered this question. Five of them gave overall favorable responses to Drexel’s program. One of the three respondents who did not give a favorable response stated, “... I think a science education is more important than a journalism education ... a wide ranging knowledge of science is important if you want to be ‘where the action is.’” Another simply stated “Any journalist/science writer should be widely read and knowledgeable in a wide variety of fields — from music and art, geography and politics, to technology and scientific research.” The third stated, “You’d be better off with a history or sociology of science degree and some free-lance clips.”

Conclusion

Several of the writers stated throughout the questionnaire that knowledge of the history of science and/or sociology of science can be very valuable to a science writer. I did not expect this response. I expected the majority, if not all, of the writers to say that an educational background in a specific field of science (i.e. Physics, Biology, etc.) is far more useful to a science writer than a background in any other field. However, although an education in a specific area of science is extremely valuable, the results of my survey show good communication skills combined with knowledge of the history of science, of how scientists work, and of how science effects society are at least equally valuable.

I believe science writers find such a background so valuable for several reasons. Firstly, a wide knowledge of science is very helpful to a science writer because he or she must interview and deal with scientists on a regular basis. Secondly, knowledge of the history of science is quite simply excellent background for a science writer to have. By knowing scientific history, a science writer knows where science concentrated its efforts in the past and where science is headed in the future. Thirdly, the science writer who understands the interconnections between science and society knows what is important to his or her readers, which is, of course, the backbone of writing.

Continued from page 37

older, less frequently used periodicals with microfilms to be able to live within the available space.

I am sure that Bloomfield doesn't want to be taken literally in this suggested change. A library which discards all of its hard copy literature collection and replaces it with microfilm would be a library which definitely loses a major portion of its users. The typical library patron wants to be able to satisfy his information requirements as easily as possible. Only the dedicated researcher is willing to spend hours on the microfilm reader.

The third change Bloomfield suggested was that the librarian, especially in the larger companies, improve the current awareness service to the library user. There is no argument with this objective.

In the first sentence of the final paragraph Bloomfield challenges the reader with the statement "I expect the library profession to change

as much in the next thirty-five years as it has in the last thirty-five years — which isn't all that much." It is the statement after the dash which makes the knowledgeable librarian gasp. The last thirty-five years saw the most exciting, dramatic changes the library profession has ever known. Among these changes were the acceptance of the special librarian as an important member of the library profession, the emergence of the scientific or technical report as an important part of the literature collection for scientific, industrial and government libraries, the introduction of the computer into the housekeeping and information retrieval activities of the library and the rapid growth of the microform in the library collection.



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