WRITING FOR TECHNICAL AND NON-TECHNICAL READERSHIP

D G Thomas

Introduction

From the communicator's standpoint, information and knowledge that he wishes to convey must be promulgated in a form and style that will be read and absorbed by the desired readership. He must therefore give careful thought to the attitudes, interests, reading habits, even the life-style of his potential audience.

Scientists often wish to be informed on developments in other branches of science; technologists want clear, concise information about their own work interests; managers and decision-makers must sometimes be provided with details of research activities but not of research methods; operators want ready answers to operational problems and information on increasing productivity; and the general public like to know "what's happening" in research, science and technology.

Types of publications

Various types of technical publications exist to meet different situations:

Annual reports are for the purpose of reviewing progress on activities at a research institute or Department. It is an account of stewardship during the previous year to Parliament or the Minister or to a Board of Directors. Too often these are detailed, overbulky, dull and remain on shelves unread. They need not be so if there is careful selection of stories worth telling, attractively designed and produced, and published as soon as possible after the end of the review period. Some organizations issue two forms of the Annual Report, one demanded by statute with statistical information, and an abridged, well-illustrated form for public consumption.

Guides to Research Institutes and Experimental Farms are frequently produced at the time of open days. An essential element is a plan of the site, a general background account of the purpose of the institute, an organizational chart, and short descriptions of sectoral research and even individual experiments. A new edition must be published for each occasion, whether open-day or season. Some Experimental

Farms overcome the difficulty of annual publication by placing information of an unchanging nature (lay-out, soil and climatic data, etc.) in an attractive brochure, with a pocket at the back for information of transient interest on individual projects.

Advisory bulletins are prepared when recent research findings may have a bearing on production or productivity of an enterprise. These publications are usually directed to the extension advisory or industrial liaison officer, but they could well be directly useful to the operator. These bulletins should be so written that the necessary background is given to convey the significance of the research findings, and that the potential benefit is high-lighted. Equally important is to indicate any undesirable side-effects that may arise through varying a recommended method or materials. Advisory bulletins are also issued when it is desirable to bring together scattered information and to relate this information to an applied problem or situation. Whatever form is prepared, it is important that the reader is not distracted by over-detailed description of how the information was obtained.

General review articles are written for different types of readership. They can range from the form of advisory bulletins mentioned above, to a general discourse on the most recently acquired knowledge in an abstruse field of science. But there is at least one feature in common - they are directed at those outside the field of speciality of the subject matter. The articles therefore contain a considerable amount of background information to enable someone of average intelligence to appreciate the significance and import of the main message.

There are also Guides to processes and equipment. These are specialized technical publications for those with technical knowledge. The principles of simplicity, clarity and conciseness equally apply to this type of literature.

Although not usually regarded as publications, written submissions to committees and commissions, require as much attention as more usual forms of technical literature. Again, there is need for much background information, clarity of expression and due emphasis on the main arguments. Here, any generalizations must be supported by cogent reasoning. A submission to a committee, although an 'official' document, is not a licence for dull, lifeless prose. Submissions would be more eye-catching and thought-concentrating if the techniques of graphics, sharp prose-form and attractive lay-outs were adopted.

Promotional literature is associated with commercial companies in efforts to stimulate sales and foster good-will. Similar procedures can be successfully adopted in a possibly less forceful manner by scientific and technological institutes. This can be done very effectively by making good use of typographical and graphic aids, and conveying in a persuasive but not a strident manner, to the reader that he, as the taxpayer and therefore financial supporter, is getting

good value for the money expended. There is need here again to indicate why the work is being done, and how the work is helping, for example, to improve a factory process, increase crop yields, or to control diseases.

Educational publications have a place in technical literature not only as advisory bulletins, but also as a means of bringing together new knowledge on a subject of economic or social importance. This can be the duty of a scientific institute as its staff has access to and the special ability to collate isolated items of information and to show how these meld to further knowledge in a specific area.

Principles of writing technical articles

Before any action is taken, the writer must ask:

Who is expected to read it?
Why do we want it read
- to educate or instruct?
- to motivate action?
- to influence opinion?
- to gain good will?

How much will the reader know already?
What will the readers' level of education be?
Will it be a mixed readership?

The answers to these questions will decide the purpose, the depth of explanation required, the form of the publication, and the eventual distribution.

Whatever the form of the publication, there should be an indication on the first page what it is all about, and in one sentence. This could be entered in a box, or in bold print.

The graphics and the text should complement one another and be married together in such a way that there is no separation of the components of the message. If an idea or piece of information can be conveyed entirely in an uncomplicated graphic, all the better. The juxtaposition of text and graphics must be such that there is an easy, flowing sequence, not one jarring the other. Build up the story easily and clearly, without leaving unanswered questions.

The language should be simple and direct, avoiding tortuous sentences and ambiguous statements. Rely as far as possible on short sentences, with no more than 15 words and 32 syllables. The purpose of written communication is to convey knowledge and information and opinions with ease and interest. There is no place for false exhibitions of erudition.

For some types of publications, it is useful to add a note to indicate where further information can be obtained.

Organization of work

You may be solely responsible for the preparation of a publication or you may be part of a team. Ideally, the team should consist of an interpretive writer, graphic designer, a research scientist, and possibly a photographer. The team should work together right from the initial planning stage. The sequence of work should be as follows:

Phase 1	Obtain background information from the research people (This is not meant to be a first draft!) Decide on readership, budget, print order
Phase 2	Select the theme (what is to be told) Decide on sequence of story Prepare rough draft (text and graphics)
Phase 3	Graphic designer to prepare first working plan Writer to prepare draft of accompanying text Photographer to assemble appropriate prints
Phase 4	Modification to working plan Assembling
Phase 5	Final art work and setting up Checking and proof-reading
Phase 6	Printing