However, the highlight of this part of the trip was the study of the magnificent, raised shoreline features in the area and particularly at Richmond Gulf. Marine limit for the Tyrrell Sea is as much as 315 m above present sea level in the area and as many as 185 strandlines provide a continuous record of emergence from about 8,000 sidereal years B.P. to the present. Radiocarbon dates have indicated a possible periodicity of 45 years for shoreline development; this has been attributed to storm periods and high tides perhaps related to a so-called "double-Hale cycle" of solar activity (Hillaire-Marcel and Fairbridge, 1978). Though the merits of curve fitting and smoothing were debated considerably, all participants were impressed with the nature of the field evidence and the detailed field surveys and analyses.

As a bonus for those interested in neotectonics, evidence of postglacial rock fracturing, primarily due to isostatic effects, was demonstrated throughout the area. Those who oppose the burial of nuclear wastes in fracture-free, homogeneous granitic rock were happily arming themselves with photographs of such features.

The trip was a tremendous success with every logistical detail covered. For those uninitiated to Arctic and Subarctic conditions diversions such as black bears, canoe trips in sea ice, bunk house fires, and coastal flying in new zero-zero conditions were arranged. Reportedly the first North American Excursion of the Shoreline Commission, the standard has been set at a high level. The leaders are to be congratulated for their efforts. The trip was heavily subsidized and supported by federal and provincial government agencies, various Quebec universities, the James Bay Energy and Development Corporations, numerous individuals, and the dynamic Quebec Association for Quaternary Studies.

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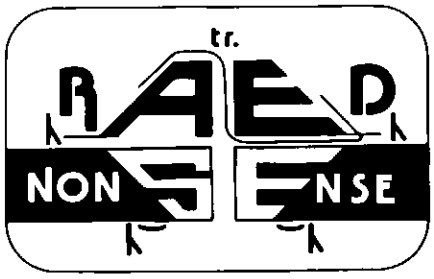

Earthbound Editing

Catharine Findlay,
Publications Officer,
Alberta Oil Sands Environmental Research Program,
15th Floor, Oxbridge Place,
9820 - 106 Street,
Edmonton, Alberta T5K 2J6

Approximately 120 delegates, mainly from various parts of the United States and Canada, attended the 13th Annual Conference of the Association of Earth Science Editors in Tulsa, Oklahoma (October 14-17, 1979). Unfortunately, budget cutbacks resulted in a dearth of representatives from Canada's Federal Government departments, including the host of next year's conference in Halifax. Sessions on such varied topics as publishing innovations, the roles of editors, and how to write a scientific paper allowed the delegates to put on their thinking caps and to participate in some lively discussions.

Innovations in Editing and Publishing

A short history of printing from the viewpoint of the publisher was presented by William Kaufmann (William Kaufmann, Inc.). Quoting from the "History of Scholarly Publishing", published by Associated University Presses, Kaufmann outlined some of the highlights of the early printing industry. One of the first innovations came when an editor demanded that manuscripts be submitted double-spaced, using only one side of the stone. This was followed many years later by the invention of the word "ibid." (This invention has become almost a disease!) However, one of the most notable events was the first printing subsidy - a government grant to purchase umlauts!

On the serious side, Kaufmann cited two innovations which dramatically changed the industry and which proved to be of great value to geoscientists. The first, which took place in the mid-17th Century, was the development of illustrations in books and the second was the use of colour. Could the geosciences have developed without coloured maps, cross-sections, etc.?

"Accurate communication is the key to avoiding misunderstandings and unnecessary costs", said Craig Brown and Nancy Firestone (Edwards Brothers, Inc.). In an excellent presentation, they outlined many of the do's and dont's which an editor should consider before passing a manuscript on to the printer. A quality manuscript is the best means to communicate with the typesetter. Problems in handling are created by using both sides of a sheet, and by using tissue paper or odd-size sheets. These problems will be compounded if legibility is poor; i.e., if the manuscript is single-spaced, has small type, is a carbon or xerox copy, is messy or heavily edited, or is handwritten.

To communicate effectively, the editor should take the time to get to know the typesetter, and he should make sure that each manuscript is accompanied by: a specification sheet, layouts, a sample book, a house style sheet, and a symbols and/or nomenclature list.

At the galleyproof stage, the aim is to minimize the work for the typesetter. Make changes at the end of paragraphs if possible, and new words should not be longer than those they replace.

Before sending illustrations to the printer, the editor should check the line weights and type sizes to make sure they are adequate for reduction, and should also check for type consistency between illustrations. Original photographs are needed for reproduction; dull or matte finishes are not acceptable. If marking is necessary, an overlay should be used as marking on either the front or the back will damage the quality of the photograph. These suggestions result in increased accuracy, fewer corrections, and a reduction in costs.

Increasing submissions have forced the United States Geological Survey to speed processing of their reports, using fewer typists and yet allowing a more thorough review by editors in a shorter time. Diana Schnabel and Barbara Hillier (USGS) reported that, after a careful assessment of their own needs and evaluation of the available products and services, the USGS adopted a word processing system which has resulted in a more efficient and faster processing of their reports. They presented tips to other prospective users. Before deciding on a particular word processor, the user should have a demonstration of the equipment's capabilities. Do they tie in with his or her needs? A sample of work should be given to the demonstrator. Inquiries should be made into the service provided; the training required and where it is obtainable; the maintenance of the equipment and can it be updated easily; whether it should be leased or purchased; does it feature an optical character reader and/or telecommunication features; are data lost if there is a power failure? These and many more queries have been put together in a checklist. Handouts of this list were available to the delegates and can be obtained by writing to the authors.

AESE and Geowriting Education

Wendell Cochran gave a workshop for geologists just before the GSA meeting in San Diego in November. In a preview to us he stated that he would be dealing with methods of introduction and leads that can be used for technical reports, how to make a manuscript easier for keyboarding, and effective use of illustrations. The value of reading analytically was stressed and Cochran emphasized that an author should be able to copyedit his own report. Exercises were devised to sensitize participants to poor grammar, non-English syntax, cliches, etc. Cochran emphasized the importance of sentence structure in one particular example. He used the sentence "I hit him in his eye yesterday", and then asked the delegates where the word "only" could be added. The suggestions offered showed that the sentence could have eight different meanings, depending on the placement of that word.

Helen Hodgson (USGS) summarized the need of more general and widespread geowriting education. The AESE, she pointed out, is a pool of writing expertise that could and should be used to help geoscience writers. She herself has given talks and lectures to various geoscience agencies, as have a few other AESE members. Hodgson would like to compile a list of people who would be willing to conduct workshops or seminars so that, if a group would like to have help, there would be a ready and able supply of leaders.

Challenges of the Elected Editor

The elected editor, according to Robert Bates (Geotimes), often comes to his task with very little or no specialized training for it. Often the major credentials of an elected editor consist of his being able to read and write. It is therefore his duty to get to know the job requirements and to master them as rapidly as possible. To be a good editor is very challenging. With a smaller journal, he can find himself doing just about everything, from editing, to proofing, to dealing with the printers. With a major journal, however, he is the arbiter of content and, to fulfill this responsibility, he must organize a corps of associate editors and referees, and set up a system of review and evaluation.

James Shea, editor of the Journal of Geological Education, agreed with Bates that one of the main problems of a selected editor is his lack of experience, but he took it one step farther by saying that there is an overall lack of continuity when a new editor takes over. Generally, he must enlist new referees, typesetters and printers, set up new guidelines, policies and procedures, and determine new goals for the publication. His job would be made much easier if the departing editor made up a checklist of mistakes from his own apprenticeship and handed it over to an incoming editor. Perhaps organizations like AESE could publish such a checklist and hold occasional workshops on journal publishing. Unfortunately, by the time an editor is beginning to feel confident and comfortable with his role, it is time for him to step down.

Alan Coogan, editor of the Journal of Paleontology, has found many of the same problems as Shea. These problems fall into two main categories - money and people. Many journals operate on a shoestring which definitely restricts an editor. Explicit formats and a strict review system keep problems with an author to a minimum. Problems with the supporting Society officers can also be kept to a minimum by thorough discussions at annual meetings. Coogan finds that the greatest difficulty lies with the differing perceptions of the paleontological community as to the purposes, policies, and expectations of the Journal. Specialities are becoming more and more narrow and many readers want issues devoted entirely to such subjects as Tertiary plankton or Cretaceous tintinids. At last year's AESE conference at Butte, it was noted that the readership of very specialized papers is very small, therefore if the specialists will not join together to support the publication of diverse articles, they might have to resort to xerox and microfilm as their only alternative.

The Editor and the Use of Geoscience Information

Librarians and readers, according to Aphrodite Mamoulides (Shell Development Co.), have a number of problems which editors could help solve. For example, individual papers in a journal are often xeroxed by a reader and, if there is no bibliographic citation on any of the pages, the document is difficult to retrieve and to cite. With the increasing use of computer indices, it would be of great value to have five to ten keywords used in the abstract, these keywords preferably selected by the reviewers. This would help the reader to find further information on the subject and the librarian could use the keywords to prepare an annual index and the computer-based index.

Readers have a tendency to look for something familiar on the library shelf

and, if a journal occasionally changes mastheads, an issue might not be recognized and therefore overlooked. Journals should have the same number of issues each year as otherwise it is difficult for subscribers to know if they have received all issues.

In the past, it was often difficult, if not impossible, for a researcher to locate all published literature which would aid him in his work. Slowly, a wide variety of geoscience data bases developed throughout the world. Jo Anne DeGraffenreid (Kansas Geological Survey) presented a dizzying list of these information services, each with an astounding number of listings. These listings include both publications and "nonpublications", i.e., computer-accessible data files, numeric data bases, published and nonpublished programs, and listings. These repositories still await their full and effective utilization.

Dictionaries are some of the editor's basic tools and therefore it is necessary to find a good one. Jay Fussell, lexicographer on Webster's Third International Dictionary, thinks it will give the editors help with such problems as capitalization, hyphenations, pluralizations, abbreviations, etc. However, in the future, editors can expect to turn to computerized data bases would expand unabridged dictionaries up to ten times.
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The geoscientist can be helped in his search for information not only by the editor, but also by librarians and data processors. Kenneth Johnson (Oklahoma Geological Survey) endorsed the suggestions made by Mamoulides that proper organization and indexing of reports and other sets of data can help simplify the search by readers for pertinent information. Open file systems should be strongly supported for faster dissemination of material. Information placed on open file would probably otherwise be lost to public use but is now made easy to find, cite, and order.

Update '79

The second edition of the AGI Glossary is in its final stages of preparation and Julia Jackson is hopeful that it will be available by the end of 1979. The new edition will contain approximately 36,000 terms including over 3000 new ones. Coverage has been expanded and updated to cover such subjects as remote sensing, plate tectonics and vertebrate paleontology. The glossary will again be in one volume; cost has not yet been determined.

Jean Thyfault updated the continuing saga of the GSA Bulletin. Some surprises were in store - although authors still have a strong resistance to publishing on microfiche, the suscriptions for the microfiche Part II have been four times the expected number, and membership and total suscriptions have both increased. Librarians seem to be getting used to handling microfiche and readers are increasingly willing to use it. Will authors change their minds and will Jean be swamped with manuscripts? For the answers to these and other exciting questions, tune in next year at the AESE conference in Halifax.

New Developments in Graphics

New image processing and display capabilities have been developed which will be of great benefit to those putting together geophysical and remote-sensing displays. Brian Fine (Seiscom Delta Inc.) explained that until recently it has been necessary to have an original colour print for halftone colour processing. This technique requires extreme care to avoid interference patterns which would reduce the clarity and effectiveness of the reproduction. Thus, halftone processing is not readily adaptable for conversion of black-and-white images or digital signals into colour. Also prior art colour techniques did not allow for precise repetitive colour reproduction.

A new technique, using dots to generate colour, has therefore been devised. The area of an image is allocated into a matrix of cells and the image is scanned. According to the optical density of the image, a colour code is assigned which defines the number of dots in dot arrays within the cells of the matrix. The computer determines the locations of constituent colours and the resulting colour of the cell is determined by the superposition of dots of the component colours.

James Pinkerton (USGS) outlined a method of cutting down on costs and time for the preparation of multi-colour maps. Instead of using conventional colour separation methods, photographic colour separation of the author's hand-coloured original map is used. A mylar is made of the linework, symbols, etc., and a colour overlay is made for the geological units and explanation. Colour media include adhesive-backed film, coloured pencils and felt pens. A negative of the base map and a negative of the line work are combined to produce the black plate. The colour negatives are produced by photographing a colour overlay with filters.

This method can cut preparation time by up to 75 per cent and no errors are introduced through redrafting. However, if the original is poorly prepared, the finished product will be equally poor. This method may not be suitable for extremely detailed or complex maps and the exact colour of the original may not be reproduced in the printed copy. However, as Pinkerton explained, for most maps, the advantages of timely publication and greatly reduced cost far outweigh any disadvantages this method might have.

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