

The tenth INHIGEO symposium has covered a broad-spectrum of topics in the realm of geological mapping. It deals not only with the history of geological cartography but also the theoretical thought behind it. It has focussed the attention of geoscientists on the importance of geological map compilation on a variety of themes. Publication of geological maps promotes dissemination of scientific information. The symposium volume has served the purpose of conveying this message. The Hungarian Academy of Science are to be congratulated for bringing out this volume and we trust it will promote similar efforts at the national level.

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**PROSPECTS FOR MINERAL RESOURCE ASSESSMENTS ON PUBLIC LANDS: PROCEEDINGS OF THE LEESBURG WORKSHOP.** By Simon M. Cargil and Steven B. Green (Eds.) U. S. Geological Survey Circular 980 (1986) pp. 330.

The United States Geological Survey (USGS) and the Geological Survey of Canada (GSC) have a Memorandum of understanding to undertake cooperative research and enter into collaborative ventures. The two agencies discussed at a workshop at Leesburg (September, 1985), the state-of-art in mineral resource assessment (especially the metallic minerals) and the probable paths of future development. The present circular is an aftermath to the Leesburg workshop. The discussions centred round three core themes: (i) The user's perspective, (ii) the technical perspective, and (iii) conclusions and critiques.

The value of Canadian mineral production (including fuels) is about \$ 43 billion (Canadian). Minerals and fuels account for nearly 10% of Canada's Gross National Product and over 20% of Canada's export earnings. There are about 300 underground and open-pit mines in Canada and about 175 communities that are primarily dependent on mining. About 50% of domestic rail traffic is minerals or mineral products. This concept that geoscientists must be in a position to translate the results of assessment into nontechnical terms that can be understood and used by policy makers and economic analysts is what many of the participants advocate. A praiseworthy interaction exists between the United States Forest Service (USFS) and US Department of Interior for regulating and managing mineral activities in the National Forest System. They work together to ensure that mining development and surface resources use are harmonious, encouraging orderly exploration and development of mineral resources and at the same time protecting surface resource uses. It is in this direction that the Stanford Research International, funded by the U.S. Geological Survey, developed the PROSPECTOR system—the first successful application of artificial intelligence in resource assessment. These are just few examples of the aspects dealt with in the user's perspective.

Mineral deposit models (empirical and genetic) represent the digestion of a great mass of geological information. To develop an atlas of 'areas of analogous Geology' for mineral deposit models, to undertake retrospective statistical evaluation of the effectiveness of individual measurement techniques and observation currently in use in environments hosting differing mineral deposit types, and to develop the means to ensure continuous interaction among the practitioners of all

disciplines in resource probability modeling at all stages of assessment, constitutes the scenario under the theme of technical perspective.

The utility of mineral deposit (tonnage and grade) models in regional assessment are necessary and relevant to increase communication with the policy community as they provide a measure of the magnitude and quality of undiscovered deposits. Exploration models fulfilled the scientist's needs for rigor in his work and confidence in his location of areas of mineral potential. The economics of mineral supply comprising the costs (C) risks (p) and returns (R) is a three phase process. The expected value (EV) of the mineral supply process per economic discovery is expressed as :

$$EV = R - E = R - (C/p)$$

where E (Exploration Expenditure). The theme on 'Conclusions and Critiques' incorporates such discussion parameters.

Several related matters right from appraisal to management of mineral resources with specific case studies chosen from different geological milieu are cogently presented in this monograph. It will be a useful addition to institutional and individual libraries. The data is worth perusing by every practising earth scientist, to know what is happening elsewhere and to adapt such an approach if placed under similar circumstances and environment. It is a purposeful contribution by the U.S. Geological Survey which every academic and practical earth scientist must read to get educated.

Hyderabad

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## Notes

### AN APPROACH TO STYLE

The use of language begins with imitation. . . . Never imitate consciously, but do not worry about being an imitator ; take pains instead to admire what is good. . . .

Before beginning to compose something, gauge the nature and extent of the enterprise and work from a suitable design. Design informs even the simplest structure, whether of brick and steel or of prose. . . .

Revising is part of writing. Few writers are so expert that they can produce what they are after on the first try. Quite often the writer will discover, on examining the completed work, that there are serious flaws in the arrangement of the material calling for transpositions. . . . Remember that it is no sign of weakness or defeat that your manuscript ends up in need of major surgery. This is a common occurrence in all writing, and among the best writers. . . .

Overstatement is one of the common faults. A single overstatement wherever or however it occurs, diminishes the whole, and a single carefree superlative has the power to destroy, for the reader, the object of the writer's enthusiasm. . . .

Rather, very, little, pretty—these are the leeches that infest the pond of prose, sucking the blood of words. . . .

Writing good standard English is no cinch, and before you have managed it, you will have encountered enough rough country to satisfy even the most adventurous spirit.