stress, strain, the Hookean and Newtonian versions of their relationships, and the implications for structural processes. In 27 brief chapters, he proceeds by small, simple steps. For example, it takes nine chapters to go from a definition of strain, via Mohr circle analysis of strain to tensor components of strain and their transformation to new co-ordinate systems. There is a similarly careful progress through stress. Though one needs to concentrate if ones' mathematics is rusty, none of it is particularly difficult. The book has been written with self-instruction in mind, so the manageable mathematics are particularly welcome.

The best pieces of explaining are for stress-fields and trajectories (ch. 12), strain fields and strain history (ch. 23, 24) and chapters 1 to 4 which set a standard of clarity not everywhere maintained, unfortunately. The development of tensor transformation formulae is one section difficult to follow, for instance. There, and elsewhere, symbol or sign changes, though explained, still can confuse the reader somewhat. A typical case is in chapter 15, where λ is used in the same sentence to refer to a principal axis of the strain ellipsoid, and to quadratic elongation, which is independent of a principal axis. There are sundry minor clerical errors, too.

Two things do stand out. First is Means' general insistence on precise definitions of terms. Any consistent and precise use of language is to be applauded these days! Many terms are taken from materials or engineering literature; they will make the geologist's use of that literature slightly easier. Then there are the numerous examples, and problems (with answers). Though these are not obviously useful in field studies, they have already encouraged clearer thought in students who are tempted to discuss processes, knowing only the final structure, and presuming its initial state.

We will wait a long time for continuum mechanics to become a routine part of the geologist's undergraduate training. Meantime, here is a useful stopgap, a convenient summary of several larger, more abstruse books. Parts of the book are at home in a first course in structural geology. A senior student, or a practicing geologist wanting to brush up on new developments will find it a useful companion and introduction to current literature in structural geology. There is a snag, however - $14.80! A bit much - but then, aren't most prices these days?

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Applications of Probability Graphs in Mineral Exploration

By Alastair J. Sinclair
Association of Exploration Geochemists Special Vol. No. 4. 95 p., 1976.
Price (soft cover only) $8
($6 to AEG Members)
Available from the Association of Exploration Geochemists
P.O. Box 523
Rexdale, Ontario M9W 5L4

Reviewed by Robert G. Garrett
Geological Survey of Canada
601 Booth Street
Ottawa, Ontario K1A 0E8

Firstly, I should state that I am not entirely a disinterested party in the welfare of this book due to my connections with the association that is marketing it as a special volume. However, I believe as a practicing geochemist who is interested in the application of statistics to the science I can attempt an objective review.

Sinclair's book is, as he himself states, more accurately described as a manual. The author has purposely avoided the theoretical background to probability plots and concentrated on demonstrating their application to mineral exploration problems, particularly in geophysics and geochemistry. Thus the book is well endowed with worked problems through which the author leads his reader from simple unimodal distributions to truncated and polymodal distributions.

Natural scientists, not only geologists, will find this book useful. In both experiments and surveys a population or area often has to be sampled; it is critical to be able to determine the underlying distribution of the data and determine if in fact the sample contains components from more than one distribution. Sinclair's book will assist scientists in the investigation of such problems in a simple and practical fashion which does not necessitate the use of a computer. Thus the manual will find special application in exploration offices remote from computer facilities.

To a geochemist the last two chapters are particularly interesting as they address everyday problems of exploration geochemistry. The estimation of thresholds is discussed in a full chapter and it is demonstrated, with examples, how the methods described can be used to improve the selection of threshold levels. In the final chapter the author discusses particular problems, such as where small data sets are encountered, or where data sets contain a high proportion of zero, or below detection level, data. This last chapter also contains several simple tips aimed at assisting the worker who is in the field.

My only criticism is the manner in which the cumulative probability plots are drawn, with the probability scale on the x-axis rather than the y-axis. However, even if one is used to seeing plots the other way around one can soon adjust to Sinclair's presentation.

To sum up, this book has much to recommend it as a practical manual which will assist many workers and students in gaining a better understanding of their data. The price is particularly gratifying and this puts the book within the reach of any geologist.

MS received February 2, 1977