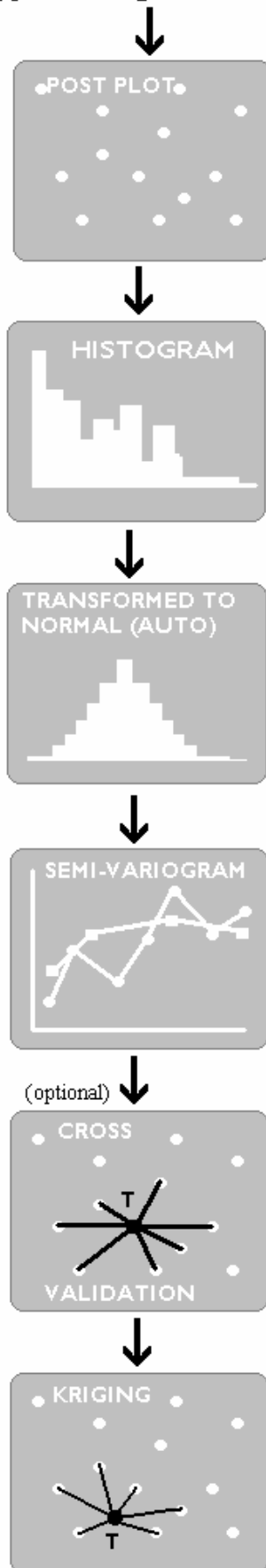


Figure 1: the automated approach to geostatistics



Applying geostatistics in the real world: an iterative decision process

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Abstract

With the increasing emphasis on rules and regulations in the declaration of resources and reserves, there has been increasing pressure to include detailed instructions on how each type of deposit should be evaluated. In particular, many participants in committees are keen to include legal *requirements* to use such techniques as geostatistics to evaluate mineral deposits and to specify quantitative confidence levels to satisfy the definitions of measured and indicated resources.

After 30 years in mineral evaluation, using predominantly geostatistical methods, our cumulative experience suggests that pre-specifying the evaluation method is still the surest way to lead to technical and economic disaster. As an obvious example, no amount of regulation on the evaluation method will avoid cases where the "errors" are introduced in the basic field data.

This paper discusses some cases where the "automated" approach to a geostatistical evaluation would lead to misleading results. The case studies take real sets of data and show how the competent practitioner needs to make professional judgements at all stages of the estimation process in order to obtain results which are geologically realistic and economically accurate.

The aim of this presentation is to illustrate that the best evaluations are a co-operative effort between a *team* which includes geologists, technical and financial evaluators and mining engineers -- not necessarily mutually exclusive categories. It is our opinion that there is no such thing as a "competent person" when it comes to the evaluation of a mineral resource. A synthesis of skills including geology, computer literacy, numeracy and an appreciation of what is actually practical will produce a far more realistic mine plan than any amount of automated computer software.

Resource evaluation is an iterative process, in which the interpretation and characterisation of the deposit should be bounced back and forth between the members of the team until answers emerge which make sense to everyone.

Figure 2: still better than the real thing

