WHERE IS MINERALOGY EXPECTED TO GO IN THE NEXT DECADES ?

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Scientific prognoses are based either (a) on the detailed knowledge of the present situation and predictions on the basis of general laws of Nature, or (b) on trials to give a probable future scenario derived from the known present situation combined with a series of known situations in the past. In our problem we will have to use method (b), or even more vague ones.

Let us begin with a very simple partial problem: the number of new minerals described per year. We can learn this number for 1997 and for a number of preceding years by a search of the literature, and it is clear that we can extrapolate it to the future. We can do this either by a simple linear extrapolation or by a more complicated one, and mathematical tools for the probability limits of the prediction are available. Although at first sight such a procedure seems to be quite satisfactory, it bears in practice serious pitfalls. In our case one of them is the coming of new experimental methods. This was quite evidently the case with the invention of the electron microprobe analysis in the second half of our century which has brought an enormous progress in the analysis of tiny minerals, as well as with new developments in X-ray crystallography which allow now to investigate much smaller crystals than half a century ago. Such events cause (quasi) discontinuous developments: in our case to a rapid increase in the number of new minerals described per year. Such phenomena hold for some period of time, and then the development flattens again to a more "normal" trend.

Of considerably greater interest are, of course, more general questions on the future of mineralogy, - and those are much more difficult to answer. As minerals are homogenous grains found in Nature, it is clear that mineralogy *sensu stricto* will continue have its place with the earth sciences. But within this frame it will continue to have its identity, quite apart from questions of organization. Mineralogy was always more allied with physics and chemistry than e.g. tectonics and stratigraphy. When we look where there are the great progresses in mineralogy at present, we have to expect that in addition to field work and the ever more sophisticated investigation of the natural minerals (including extra-terrestrial ones) in the laboratory, synthetic experimental work up to very high temperatures and pressures will play an important role in our science. Here mineralogy (with petrology) has brought important impetus to the earth sciences and to science in general. Other probably important working fields in future mineralogy will be theoretical work in connection of the application of thermodynamics and lattice energies, and the investigation of the history of single mineral grains. - As to the applied side, in addition to the old bonds to the mining of ores and industrial minerals, ore dressing etc., new bonds to several fields of material science, e.g. ceramics and zeolite research, are becoming increasingly important and will help to let find mineralogists jobs not only in science, but also in industry.