

## INTRODUCTION TO THE SYMPOSIUM

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My own interest for data management started many years ago, when I realized how much of my time I spend managing data, while I was doing research in physical geodesy. I also realized, that this time could be substantially decreased, if I used (or modified slightly) data management tools provided by the computer manufacturer.

In geodetic production (of coordinates or of gravity field information) we also know, that data management is a major activity: collecting data in the field or from other organizations, validating and adjusting the data, archiving and putting the results to the disposal of our customers. Here much progress has taken place in the past decade, due to the effective utilization of computer technology and the development of data bases.

Further progress can be made, but this requires research and development. However, this research should not only be done by specialists in computer science. We are in fact in the same situation as many times before in geodesy, when a new tool is presented to us. Our task is to find out (1) how to use the tools (correctly), (2) which tools to use, (3) in which situations, (4) whether we can improve the tools, (5) which modifications are necessary, to adapt the tools to a geodetic environment?

Our main tool is the geodetic data base and its management system. At session 1, we listened to reports on how this tool is used, how it is modified, and how far manufacturer supplied systems can be used. However, the two following sessions also contained papers dealing with these subjects.

Today much new data is produced in computer readable form. But data must be validated and corrected before it enters the geodetic data base. These topics were treated in session 2.

The geodetic data base is an important tool in our operations. However, data bases with a short Life-time, may be used to support a

network adjustment computation. The solution of very large systems of equations seems more and more to be a data management problem, because of all the (partly) reduced submatrices, which one has to keep track of. This is the reason why a subject like "Helmert blocking" was included in session 3.

The geodetic data base (supposed here to hold mainly control survey data) may suit other than just geodetic needs. It may be seen as only one part of a fully integrated (national) mapping, charting, geodetic, geodynamic, surveying and cadastral information system. Session 3 includes papers, which discuss this aspect.

Data management in geodesy not only involves data produced in-house. We need data from other data bases and from these data bases one may need access to our data. Data must be exchanged internationally and a national agency may want to include data observed by a local agency or by a private firm in its data base. And the private firm may want to have access to the best set of coordinates available for its specific geographical area of operation.

Exchange of data is facilitated if data is put on a standard form or at least a form, which can be accepted by other systems. Session 4 deals with the problem of standardisation and with the important problem of having the users trained in understanding all this.

However, efficient data communication is a necessity for the sharing of data and for the establishment of information systems, which combines data from several data bases located at different places. We were therefore happy, that one of the persons, who has personally taken part in the development of new data communication techniques were able to introduce us to the recent developments in this field in the opening session.

International cooperation has always been important in geodesy, in the practical field as well as in the technical and scientific fields. We were therefore happy, that so many geodesists from other countries were able to attend the symposium.

The possibility for an international cooperation in the data management area, was discussed at the IAG general assembly in Grenoble, 1975, in between myself and the persons, who by chance acted as chairmen at this

symposium, K. Poder, J. Gergen, C. Boucher and C.R. Schwarz. We convinced Peter Meissl, at that time president of IAG Special Study Group (SSG) 4.38. ("The use of computers in geodesy"), to establish a working group within the SSG. The working group was called "The use of computers for the handling of Geodetic data". At the general assembly in Canberra, 1979, a new SSG, 4.66, "Management of Geodetic Data", was established, and I am happy to see, that the majority of its members have been able to participate. In fact, the symposium was the first major activity of the SSG, and the SSG did meet the day after the symposium. Two reports were delivered there, by the members from Poland and from Belgium.

