

MICHAL MAHEL

editor of KBGA tectonic map 1 : 1 000 000 teacher and important regional geologist of Slovakia is celebrating his 75th anniversary

In these days, we are remembering the three-quarter-century anniversary of an uncommonly active and scientifically fruitful life of Professor Michal Mahel'. He belongs to the foremost representatives of the first important generation of Slovak geologists, the first steps in geology of which were determined by Nestor of Slovak geological school, Dimitri Andrusov. Professor Mahel' was among the first graduates of this school and its influence had a great effect on his whole scientific work. This influence is reflected above all in the complex approach to regional geological problems. The life-long activity of Professor Mahel' lies in compilation of geological maps and connection of scientific investigations with the application of geology in practice, and, on the other hand, continuous widening of the theoretical geological knowledge.



The result of his more than half-a-century long scientific, research and teaching activities is a considerable number of scientific publications, maps, projects or expertises (over 40), published geological maps and explanations, over 200 contributions and papers in Slovak as well as foreign scientific journals, 20 important projects and realised concepts and proposals, over 50 specialised scientific-technical expertises and proposals.

Michal Mahel' was born on August 19, 1920 in Trhovište, district of Michalovce. He graduated from secondary school in Michalovce in 1939. He studied in the years 1939-1944 at the Faculty of Natural Sciences of the Comenius University in Bratislava and he graduated with a second State Exam (sciences, geography) and doctorate from geology (RNDr.) in 1944.

In the years 1945-1947 he worked at the Slovak Geological Institute (present Dionýz Štúr Institute of Geology), which determined to a considerable extent his activities to concentrate on regional geology and solving regional hydrogeological problems. An important contribution, especially for extending the horizon as well as aims of hydrogeological investigations, was his scientific stay in Grenoble (France).

The years 1949-1952 were a period of intensive teaching activities at the Faculty of Natural Sciences of Comenius University in Bratislava, where, in the year 1949, after submitting the work "Tectonics of the territory between mid-flow of the Váh river and upper Nitra region", he was habilitated for Senior Lecturer.

Since 1952 he worked again at the Dionýz Štúr Institute of Geology, since 1954 as Senior Scientist and in the years 1958-1963 he held the post of Director of the Institute. In the year 1960 he acquired the doctorate in geological sciences (DrSc) after defending his thesis at the Charles University in Prague. He was elected Corresponding Member of the Czechoslovak Academy of Sciences in the year 1962 and a year later also Corresponding Member of the Slovak Academy of Sciences. He was appointed University Professor in the year 1964 and since 1975 he has been a member of the Slovak as well as Czechoslovak Academy of Sciences. He attained these scientific

honours on the basis of his tireless scientific and teaching work, mostly immediately after solving serious geological problems and finishing important scientific works.

As a regional geologist he carried out geological survey in various parts of Slovakia, which resulted in compilation of geological maps on various scales and scientific papers on the geological structure of the territories studied. We must particularly point out detailed geological evaluation of the Strážovské vrchy Mts., Malé Karpaty Mts., Slovenský raj region, northern parts of the Spišsko-gemerské rudohorie Mts., Humenské vrchy Hills and partly Považský Inovec Mts. He participated with an important contribution in a Government Project - the compilation of Geological Map of Czecho-Slovakia 1: 200 000, especially as the Editor in Chief of key sheets Banská Bystrica, Žilina and Bratislava, with the book of Explanations. Besides this, he solved a number of hydrogeological problems, aimed at utilisation of mineral water, drinking and technical water sources protection as well as exploration of non-ore raw materials. His work has always been closely connected with solving topical problems of basic geological research. He was the co-ordinator and project manager of several big projects, aimed at solving basic geological and especially tectonic problems of the Western Carpathians.

Professor Maheľ became known in the European as well as world geological community as a leading expert on the Western Carpathians, especially due to the Tectonic Map of the Carpathian-Balkan Region and Adjoining Territories 1:1 000 000, which was the culmination of many years' work of the KGBA Tectonic Commission and of a wide editorial group under the leadership of Professor Maheľ. His anniversary is coinciding with the - to a certain extent also anniversary - XV Congress of the KGBA in Athens, which, after a period of stagnation, should renew its geological activities, aimed maybe at similar goals, but in different, more economic and effective manner.

Professor Maheľ entered the activities of KGBA in a period of its revival, at the end of the fifties. He was appointed Secretary of KGBA for Czechoslovakia and given the task to prepare Czechoslovak participation at the 4th Congress of renewed KGBA in Kiev. By the decision of this KGBA Congress, Czechoslovakia was granted the leadership of the Tectonic Commission of KGBA, one of the 7 newly formed commissions, and M.Maheľ was appointed its chairman. Under his leadership the Tectonic Commission was rapidly activated and already in the year 1961, at the 5th KGBA Congress in Bucharest, it presented a program of elaboration of basic problems connected with graphic presentation of tectonic structure of the Carpathian-Balkan countries. In this way the Commission also followed the program of the International Commission for World Tectonic Maps. The Congress welcomed this program, since it was necessary to form a common platform - the basis for the work of whole KGBA. It was necessary to compile a tectonic map on a more detailed scale (1:1 000 000), elaborated on principles which would better express the complex structure of the Carpathians, Balkan and Dinarides, on the level of progressing geological knowledge.

The map was finished in the year 1973 and it was published in English and Russian version in 4500 copies. Its publication was sponsored by UNESCO. Explanations were published in the year 1974 (Maheľ, M. (Ed.): Tectonics of the Carpathian-Balkan Regions), and in the year 1983 also a shorter version in Russian.

The publication of the KGBA Tectonic Map 1 : 1 000 000 and the Explanations was the result of a more than 10 years' work of the KGBA Tectonic Commission and of a more than 50-member editorial team from various KGBA countries.

Theoretical basis of the Tectonic Map project was the new understanding of geosynclinal type in the Alpides, which was considerably more varied and dynamic than the classic couple eugeosyncline - miogeosyncline, as well as new understanding of tectonic processes in the Phanerozoic as a three- to four-stage tectonic system, which was an important step forward in comparison with the two-stage system used in the Tectonic Map of Eurasia 1:2 500 000 (internides, externides). The view on manifestations of folding processes changed as well, stressing especially the importance of the age of formation of tectonic units and thus also the importance of tectonic processes connected with the main folding phase.

Another principle, a basically new one for tectonic maps, was the expression of the relationship between the content, genesis and to a considerable extent also the form of architecture of tectonic units, so-called tectonogroup principle, expressing a set of such tectofacies which reflect most

substantially the conditions of formation, i.e. the paleotectonic type of a unit. In this way, the KBGA Tectonic Map became one of first attempts in the world to express differences in crust type.

The compilation of the Tectonic Map 1:1 000 000 of a region with one of the most complex geological structures in the world, as represented by the Carpathians, Alps, Dinarides and the Balkan, and, what more, with differences in particular segments and based on a uniform legend, was possible only at active participation of a wide group of geologist from various countries. A number of scientific conferences was held to meet this goal.

The complete KBGA Tectonic Map was presented to the public in the year 1973 on the 10th KBGA Congress in Bratislava. The reception was spontaneous, pointing out its importance as the basis of thematic paleogeographic, hydrogeological and raw material maps, but also for solving a number of topical problems. It became thus a fundamental work, contributing to the definition of aims of several KBGA commissions in next years.

The KBGA Tectonic Map 1: 1 000 000 became the starting point for further activities of the KBGA Tectonic Commission after the 10th KBGA Congress, leading to the project of Tectonic Map 1: 500 000, aimed at two goals:

- compilation of national tectonic maps 1: 500 000 based on uniform legend
- possible compilation of an atlas of tectonic maps of KBGA countries

Czechoslovakia, and especially Dionýz Štúr Institute of Geology Bratislava and Central Institute of Geology in Prague, took upon them the task of compiling the legend and as well the maquette of first national tectonic map. The spirit and driving force of its preparation was again Professor Maheľ, at active participation of several co-workers. The legend of the KBGA Tectonic Map 1:500 000 was completed and modified every year during sessions of the KBGA Tectonic Commission, consistently with rapid progress of tectonic theories and new geological knowledge.

Tectonic Map of Czechoslovakia (ČSSR) 1: 500 000 in Slovak and English version (editors: M. Maheľ - O. Kodym - M. Malkovský), with brief explanations (M. Maheľ - M. Malkovský) was printed in the year 1984. This map was based on well-tested principles of the KBGA Tectonic Map 1: 1 000 000, however, it was characterised by a more detailed elaboration of magmatic and volcanic rocks, by expressing detailed internal structure of basins, indicating the structure of their basement, as well as by distinguishing paleotectonically different molasse types, expressing the underlie of a considerable part of the Flysch Belt, by a greater stress on internal structure, including nappes in crystalline complexes, by stressing the importance of early Palealpine (Kimmerian) folding, by more detailed elaboration of tectonogroups as well as structural elements aimed at expressing lateral changes in the structure of tectonic units as well as the possibility of distinguishing particular tectonic units. However, the following period did not allow to fulfil completely the program of compilation of the KBGA Tectonic Map 1: 500 000 and thus the map of Czechoslovakia was the first, but, hopefully, not the last one in the program created by Professor Maheľ.

We would like to wish Professor Maheľ good health in the next years. We would be glad if the effort he invested during his leadership of the KBGA Tectonic Commission into the preparation of the new 1: 500 000 tectonic map of the KBGA region were not in vain and if it would in future contribute to the knowledge of its tectonic history as well as a more detailed reconstruction of its structure.

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