

ACADEMICIAN VLADIMÍR ZOUBEK — EIGHTY YEARS OLD



Jubilee of eighty years is an opportunity to think over the contribution of the scientist, who has for almost half a century influenced development of geological thinking not only in the Bohemian massif but also in the Carpathians. It is a distinguished opportunity also because he is the last one of the heroic group of Czech geologists whose task was to form the first and more modern nappe conception of the West Carpathians' structure. In addition, position of V. Zoubek in this group is, in many aspects, peculiar.

As early as in an early period of geological activity, working in the Carpathian crystalline complex, in the little known formations with an unclear relation to the Mesozoic masses, became his especially hard task.

Articles of young V. Zoubek (1931 a, b) in, nowadays, classical volume "Guide des excursions dans les Carpathes occidentales" edited by A. Matějka and D. Andrusov on the occasion of the 3th Congress of the Carpathian-Balkan Association of CSSR prove his uncommon talent, his many-sided scientific preparation, but also a suitable orientation aimed at (by the great "director" prof. dr. Radim Kettner) difficult key fields. Works on exotic rolled pebbles from conglomerates of the Senonian and Palaeogene of the Klippen belt, but mainly the work on geology of Vepor and environs of Podbrezová with reference to expressive application of Alpine diaphoresis in the zones of the Northern Veporides and with demonstration of root zones of the lower Subatric nappe are of this sort.

After ten-year systematic work in the Carpathian crystalline complex V. Zoubek (1936) presented the first modern synthesis resulting from detailed geological maps of the Vepor, Nízke Tatry Mts. and Malé Karpaty Mts. compiled by him, but also from knowledge of other core mountains, thus he equalized lagging of the Czechoslovak geology in an important part of the Carpathians. This one and further works of him from the thirties became the starting works for solving a whole range of serious problems, such as range of Alpine re-working of the crystalline complex, differences in the character of metamorphism of individual zones, differences in the type and range of granitization, extension of root zones of near-surface nappes and their relation to individual zones of the crystalline complex.

With a special vividness he recorded the zonal character of the Carpathian crystalline complex in Vepor by distinguishing four basic zones — units with different type of magmatites and metamorphites. V. Zoubek's basic con-

clusions on unit division (Lubietová, Krakľová, Kráľova hoľa and Kohút with a number of subzones) are accepted up to now.

He worked through the substance of Veporide as well as Tatride crystalline complex, therefore he could take a view to a whole range of problems, living till the present day:

- range of differentiation of granitoid magma including gabbros and diorites in Bratislava and Dumbier massifs;

- position of porphyric granites and granodiorites of the Prašivá type — he ascribed genetic relation with peculiar intrusion to them;

- importance of orthogneisses in the structure of the metamorphic mantle of the Dumbier massif;

- in determination of age of substantial part of the crystalline complex he was seemingly influenced by the temporal trends with placing to the early Palaeozoic, later to the Proterozoic. But time, also in this case, proves the progress of approach, need for changes in an insight into the basic problems. In order to crystallize new quality, new views not only of the age of rock complexes, but also of the age of manifestations of geological processes.

V. Zoubek paid a special attention to the classification of granitoid complexes according to their composition but also position. His name is connected with classical types, such as Vepor, Sihľa, Hrončok, synkinematic type of Kráľička granitoids, Muráň gneissose granites, microgranites, granite-porphyrries and granodiorit porphyrites of the Krakľová zone, but Bratislava and Modra type too. Through the knowledge of differences of these and other types there is a way leading to comprehension of complexness not only of structure but also of crust formation with its distinctions in individual zones. A direction of such way was laid out by V. Zoubek in the Carpathian crystalline complex.

V. Zoubek as one of the small group of specialists comprehended the Carpathian crystalline complex as inseparable part, older, but renewed basis of Alpine structure of the Carpathians. He got to it through the knowledge of the tectonic style of the crystalline complex with peculiarities, but also relations to the Mesozoic. Distinguishing of several digitations in the front part of the Krakľová zone (V. Zoubek in M. Máška — V. Zoubek, 1960) and knowing the fold Markuška (V. Zoubek — L. Snopko, 1953) he made an important step from autochthonous comprehension of the Veporide crystalline complex to a newer conception with nappes.

The greatness of V. Zoubek's genius lies not only in the fact, that he crossed the frame of his generation and he noticed some of its arrested and narrow-minded principles. Therefore, he later ranged with a front line of followers of the revision of an older conception (M. Máška — V. Zoubek, 1960) by searching for new types of structural phenomena, such as anticlinoria and synclinoria the Hron synclinorium is connected with his name.

The majority of V. Zoubek's works about the Carpathians caused whirling of level and it signified something new and momentous.

Several works showed their real value only after some time. Determination of glaucophane rock in the set of exotic conglomerates and varied granites in the Klippen belt acquires its real importance even after half a century thanks to a new global tectonics.

Picking out the importance of epimetamorphic series in the crystalline core of the Malé Karpaty Mts. and epimetamorphic type of the crystalline complex in the base of the Klippen belt (determined from rolled pebble material of the Upper Cretaceous conglomerates) in a zonal structure of the crystalline complex he prepared a way to recognition of differentiation in forming of structurally facial dissection of the Mesozoic geosyncline.

V. Zoubek signed himself in the history of the Carpathian geology as a founding personality by his work which presents problems and which will provoke for a long time to answer a number of, at all times, topical questions. This rare quality rises from:

a) intimate, precise knowledge of geological structure in the selected "key" sites up to the border of "fusion" with secrets of nature. It is reflected in his almost incomparable detailed, accurate geological maps containing only hardly apprehensible, but yet important distinctions, maps full of stimulations. Territories of complex structure attracted him, he had a good nose for their selection for detailed elaboration;

b) combination of field and regional research with laboratory one. His application of petrography and petrology, later on also structural geology is exemplary when solving the relevant geological problems;

c) constant confrontation of the acquired information with the latest theoretical trends in correlation of regional and thematic research. Owing to this fact he obtained superiority in our Carpathian geology in:

- application of initial and subsequent volcanites as important indicators, direction indicators of development and markers of geosyncline dissection;

- division of magmatites in high-orogenic and postorogenic;

- distinguishing of several types of metamorphites when a special attention is paid to the metamorphic Mesozoic;

- picking out the importance of tectonic styles and distinguishing of sub-surface and surface styles;

- attracting an attention to relation of structural phenomena and ore mineralization;

- distinguishing and underlying an importance of a whole range of strike faults of regional importance (Čertovica, Pohorelá, Muráň, Lubeník lines).

The significance of V. Zoubek as a leading personality of the Czechoslovak geology is supported with a special expressiveness by geological maps of the C.S.R. 1 : 200 000, he was their chief organizer, chief editor and author of the crystalline complex key papers. This magnificent work of the Czechoslovak geology is inscribed by golden letters in the history of our and European geology mainly thanks to the methodologic progress.

The general maps represent, according to the uniform key, the results of more detailed maps from the whole territory of our state compiled in a short section of time. Their peculiarity and priority lies in generalization, but with picking out the importance of knowledge from the "key" regions in full correlation of analysis and synthesis.

In this almost historical stage V. Zoubek presented himself as shrewd and keen analyst, but also as conducting personality with a talent especially for fine synthesis. Owing to such approach and uncommon creative atmosphere so necessary for a scientific development, the period of compiling of general

maps does not unfortunately represent a long episode of a real scientific progress in the history of our geology.

Even after the "general maps" period V. Zoubek has influenced expressively development of views on the Carpathian geology and especially the crystalline complex, mainly by his studies on the Proterozoic and other international actions up to the present day.

With acquisition of broader European and world-wide dimensions of the Zoubek's personality his influence is presented in incorporation of our geology to a broader frame through international geological and tectonic maps and programmes. From the view of the West Carpathian Mts. we must mark out especially the Problem Commission IX of the academies of the socialist countries, whose founder, first chairman and one of the main organizers of its objectives and programme is V. Zoubek. In this way he made his contribution to the possibility of broader presentation of the results of our geology, but also to its confrontation with the world geology.

On this occasion I appreciate with gratitude his great help in realization of the work Tectonic map of the Carpathian-Balkan system and adjacent areas, especially in its wider international relations (through UNESCO).

Academician V. Zoubek is not only a founder of modern crystalline geology, its best expert up to now, but a number of Slovak geologists regard him as their teacher, regulator of methodic procedure, author of research themes, but also organizer of science, who has been for a long time almost at the helm (or near) of our geology. We cannot pass even this sphere of V. Zoubek's activity (it takes no less effort than a scientific work), though in some aspects it appears as contradictory. Time will certainly verify the significance of the "bends" often so useful in the science and sometimes fatal in the social life, on, indisputably, sheer way to goal of prosperity of the Czechoslovak geology.

We thank V. Zoubek very much for his extensive work he has done for a development of our geology and we are looking forward to his further scientific works and new stimulations. We wish him with all our hearts good health and creative power, in order that his characteristic optimism will last for a long time yet.

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