

Studies on the Geology of Schlossberg Area

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Between the 8th and the 25th of October, 1968, studies were made on the Geology of the Schloßberg area, about 4 kilometers South of Spitz, as practice in routine geologic mapping (involving field observations, measurements and plotting), laboratory petrographic and petrofabric studies and documentation. The area covered is about 3 km² and mapping was done on a scale of 1 : 10,000.

The rock types found in the area: pegmatite, biotite amphibolite, aplitic gneiss, and Spitz gneiss, paragneiss, calcsilicate gneiss and Spitz marble. The Spitz gneiss forms the lowest member of the series. The aplitic gneiss is found as huge blocks and small discontinuous beds in the marble and calcsilicate gneiss while the biotite amphibolite is found cutting the other rock types except the Spitz gneiss and the pegmatite. It occurs also as boudins in the marble and calcsilicate gneiss. The pegmatite is found as dikes of various sizes cutting into the rest of the formations at various parts of the area.

The interesting mineralogical feature of the rocks is that the abundant occurrence of sillimanite and garnet in the paragneiss and the occurrence of graphite in the calcsilicate gneiss and marble indicate that these 3 rock types have sedimentary origin. The silicate marble and calcsilicate gneiss have close relationship in that they both contain the same range of minerals but the percentage of the carbonate and silicate minerals differs in both rock types.

From the east of the area to the west, the series of rock types are: Spitz marble, calcsilicate gneiss, paragneiss, Spitz gneiss, para gneiss, calcsilicate gneiss, Spitz marble. The strike throughout is generally NNE—SSW to N—S and the dip is always towards the east. It is considered that Schloßberg is part of the area of complex folding involving the entire Spitz area but Schloßberg alone is too small as area to give a clear-cut picture of the folding system. Local folding, warping and contortions are, however, a common-place feature of the formations except the pegmatite. No faulting is observed in the Schloßberg area, but one set of major jointing system with NE—SW to E—W trend is noted for all the formations.

Though orientation diagrams of quartz grains and biotite cleavage plains were drawn from oriented sections, there were not enough data (due to lack of time) to allow for interpretation of definite tectonite fabric pattern in the rocks of Schloßberg.

While it is certain that the pegmatite is the youngest member of the formations at Schloßberg, it is not certain with regard to the rest because as the area has undergone active tectonic deformations, the structural relationships found in the rest of the formations is not necessarily a reflection on the relative ages of them. The rocks, however, all belong to the metamorphic crystalline series of the Moldanubian Zone of the Bohemian Massif.