in KY. Subsequent uplift leads to crystallization of melts and the release of a H_2O rich fluid, allowing a thorough chemical equilibration of mineral assemblages and entrapment of this aqueous fluid during the M2 stage (Fig. 1).

$^{207/206}Pb$ evaporation dating of single zircons of orthogneiss-migmatites shows two distinct age groups of about 470 m.y. and 365 m.y.. The Caledonian ages are suggested to date the magmatic intrusion and crystallization. The Variscan zircon ages as well as the garnet Sm-Nd age of 345 ± 1 m.y. and the white mica Rb-Sr ages of about 300 m.y. determine the Variscan metamorphic overprint.

Mineral abbreviations after KRETZ (1983)

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PHYSICAL PROPERTIES OF ALTERATED SECTIONS IN SOUTH BOHEMIAN GRANITES

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Interpreting the magnetic anomalies in the Central Southern Bohemian Plutonic Massif the main problem is to classify their sources, genetic conditions and alterations. It is obvious that magnetic structures are clustered close to the marginal parts of the granitic bodies. Very frequently they coincide with highly altered and mineralized sections (e.g. Hirschenschlag, Nebelstein, Liebenau). Generally, all of these phenomena are due to a quite complicated multiface sequence of intrusive processes with a late Hercynian crustal level of the area: intrusive bodies younger than the three well-known standard types of granites especially biotite rich granites (known solely from drilling evidence) are involved into the alteration events.

The magnetic anomalies are due to secondary magnetites which have been proved by very frequent inclusions of rock forming mineral phases within accumulated magnetite grains. However, large areas of homogenous-looking granites (e.g. Karlstift type) are characterized by random distributions of magnetites. The Karlstift granite intrusively cuts the Weinsberg mass near the village of Liebenau; the contact zones are emphasized by magnetic anomalies with (relatively) high amplitypes. Whereas the magnetic susceptibilities are generally low within the Weinsberg granite, the Karlstift type values are definitely higher (0.05 - 0.08 * 10^{-3} SI vs. 0.23 - 7.00 * 10^{-3} SI). These magnetic structures are due to marginal parts of the Karlstift granites which have been tectonically dislocated (HÜBL, 1993). The very intensive alterations in these areas are undefined additionally by the results from gamma-ray spectrometric measurements, especially from the ^{40}K-channel; the potassium distribution traces the horse-shoe-shaped margin of the Karlstift body. The central parts of the intrusion contrast its marginal areas in a way, that depletion in the inner part and enrichment in the outer part (due to the selective good mobility of potassium) becomes obvious.

Comparable behavior of the radiating mineral phases in the Nebelstein area could be observed. In the western part of the large magnetic structure near St. Martin - St. Wolfgang the U-Th ratios are very high (2.6). This is due to enrichment of U whereas the contents of Th remains stable. All these results are in good coincidence with the increasing depth of the top-bottom of modelled sources and the results from isotopic and FI-studies (HÜBL, 1993; SLAPANSKY et al., 1994).

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METAMORPHIC EVOLUTION OF THE MORAVIAN ZONE IN AUSTRIA (THAYA DOME)

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The Thaya dome has been affected by several phases of metamorphism termed the older Moravian, the middle Moravian and the younger Moravian phase (FRASL 1970).

The first one is possibly of Cadomian age and caused by the intrusion of the granitoids of the Thaya batholith into the Therasburg formation. Apart from some migmatic textures, mainly preserved in the northern part, mineral relicts of this phase are rare. Possible pseudomorphs after cordierite and almandine-rich cores of distinct two-phase garnets from the Therasburg formation are interpreted as mineralogical evidence of the older Moravian phase.

The Hercynian middle Moravian phase formed an inverse metamorphism with a mineral zonation from the greenschist to the amphibolite facies oblique to the