

Rock formations and metamorphism in the Eastern Part of the
Austrian Central Alps (Geotraverse East)
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In the Eastern Part of the Austrian Alps deeper elements of the Central zone are exposed forming the Semmering-Wechselfenster. The deeper elements consist of the "grobgneiss formation", its Permo-Triassic cover and of the "Wechsel formation" whereas the "Rechnitz formation" belongs according to petrographic and paleontologic (SCHÖNLAUB) data to the Penninic zone. The praealpidic metasediments of the grobgneiss formation consist of metasediments rich on Fe and Al, kyanite-quartzites, arkose gneisses and phyllitic micaschists of considerable thickness with rare intercalations of amphibolites. The first proved metamorphism and a migmatitisation is restricted to the Fe- und Al-rich metasediments with staurolith andalusite and sillimanite. A second cycle of metamorphism includes the whole sequence. The next event is the "intrusion" of a coarse grained granite. Small lenses of spinel and corundum bearing metagabbros are in local and genetic connection with the granite. The "Wechselschiefer" are supposed to be of postgranitic age, the "Wechselgneisses" in contrary are derived mainly from phyllitic mica-schists which have undergone a para- till postkinematic albitisation. After a phase of deep erosion the sedimentation of the Permian-Triassic sequence began. The alpidic revolution led to a progressive low grade metamorphism in the granite and in the postgranitic rocks whereas the country rocks of the granite have suffered a more or less complete diaph-thoreses. The alpidic metamorphism took place in two phases, which is easily to be demonstrated on the fact that the first phase led to the "gneissification" of the granite, and the second to the development of "leucophyllites" on stress-zones. The most reasonable explanation for the young metamorphism in the considered area seems to be the rising of temperature and pressure during the alpine revolution. From radiometric dating by SCHARBERT (Rb/Sr) on granite gneisses (grobgneis) a total rock age of 350 m. y. is probable. To confirm this data additional dating will be done this year. According to K/Ar dating on micas "altalpidische" metamorphism (approximately 70 m. y., t 380 °C) has been proved. Older rocks have not been tested up till now because of the lack of unweathered samples.

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