Electron microprobe analysis was applied for determination of authigenic and detrital minerals. Authigenic chlorites can be used for the reconstruction of burial temperatures (CATHELINEAU 1988). Detrital muscovites show partly phengite character, which can be explained with authigenic growth, vertical to the crystallographic c-axis. They provide the possibility of direct measurement of burial/tectonic pressure by application of phengite barometry (MASSONNE & SCHREYER 1987).

Clay cements investigated by SEM analysis complete the informations on dissolution and authigenic growth of the coarse detritus delivered to the Rhenish Basin.

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AN ATTEMPT OF PALAEOGEOGRAPHICAL RECONSTRUCTIONS OF ROTLIEGEND (LOWER PERMIAN) BASINS IN CENTRAL EUROPE ON THE BASIS OF NEW PALAEOCONTINENTAL MAPS

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In the present paper, a new attempt of palaeogeographical reconstructions of Lower Permian Rotliegend basins in Central Europe on the basis of new palaeocontinental maps has been made.

The region studied was situated approximately between 12 and 15° northern latitude during the Lower Permian. The climate was at this time tropical semi-humi to semi-arid. These changes were caused by the northward drift of Pangaea. Some sedimentary basins in Africa, the Chad Lake north of the equator for example or the Lake Tanganyika resp. the Lake Malawi south of the equator may seen as some actualistic examples.

The climatic changes during the Lower Permian carn be postulated through the differences within the sedimentological and fossil record. In the Lower Permian there were some lakes with partly coal seams, black shales and bituminous limestones. These lakes prove the importance of long existing and in some regions very extended water bodies. The coal seams indicate a rich vegetation which lasted for quiet a long time. The bitumen content within the black shales and the limestones is derived from a lot of algae and/or cyariobacteria. In the most cases, the lacustrine facies is situated above fluvial red beds. Both types of facies characterize fluvial to lacustrine cycles. In the course of the Rotliegend gentle changes in some regions to alluvial fan deposits and playa sediments can be observed. In other regions were rapid changes in this development. The alluvial fan deposits and the playa sediments bear no fossils with the exception of some tetrapod foot prints. This fact may be used as an additional proof for semi-arid conditions in the Upper Rotliegend.

THE INNER STRUCTURE OF THE BOHEMIAN MASSIF

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The inner structure of the Bohemian Massif is defined on the basis of systematic geological, aeromagnetic and gravity investigations performed during last 30 years. An update tectonic concept was created.

The structure of the basement of the Bohemian Massif is a product of Danubian (Hudsonian), Cadomian and Variscan orogenies. Three geotectonic cycles are separated by panregional unconformities.

The Danubian orogeny produced segments trending NW–SE. In Central Europe they are designated as the Bohemian NW and the Bavarian. They build up an ancient Svecofennian basement of Central Europe and crop on the surface e. g. in the Moldanubicum, Erzgebirge and Góry Sowie. The segments display inner arcuate arrangement. In the Šumava Mts. the segments are straight, in Central Bohemia wavy and around the Moldanubicum are disrupted and thrusted due to younger orogenies.

The Cadomian orogeny produced segments trending NE–SW and their arcs encompasse the Moldanubicum or penetrate it. The Cadomian tectonics is documented in Upper Proterozoic rocks e. g. in the Teplá–Barrandian area. The structures are mostly linear.

The Variscan folding with many thrusts dipping generally south was very intense in outer parts of the Bohemian Massif. The deformation connected older disrupted units but did not alter ancient Danubian and Cadomian structures.

The inner structure of the Bohemian Massif is complicated but oriented. The resulting picture clearly demonstrates superimposed tectonic history. It is illustrated by the author on the Structural map of the Bohemian Massif in the scale 1:500000. It is a good basis for many studies as to the tectonic evolution of Europe.

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MAGNETIC FABRIC RELATIONSHIP BETWEEN PALAEOZOIC VOLCANIC AND SEDIMENTARY ROCKS IN MORAVIA

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Anisotropy of magnetic susceptibility (AMS) was used to investigate the fabric of magnetic minerals in Palaeozoic volcanic rocks of the Šternberk – Horní Benešov Belt in the Nízký Jeseník Mts. (NE Bohemian Massif) and in surrounding Lower Carboniferous sedimentary rocks. The purpose of this study was to investigate the origin of the magnetic fabric in the volcanic rocks and the fabric relationship between the volcanic and surrounding sedimentary rocks.

The degree of AMS in the investigated volcanic rocks is relatively high in most specimens, much higher than that in undeformed volcanic rocks. The orientations of the magnetic foliation and magnetic lineation are near those of the magnetic fabric and deformational mesoscopic fabric elements in surrounding sedimentary rocks whose magnetic fabric is no doubt deformational in origin. Consequently, the magnetic fabric in the investigated volcanic rocks is deformational in origin and had at least a part of its deformational history the same as the magnetic fabric of surrounding sedimentary rocks. This conclusion is in agreement with the results of geological research of the studied area.

THE PRE-VARISCAN EVOLUTION OF THE SOUTHERN MONTAGNE NOIRE (FRANCE)

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Large parts of the Montagne Noire, which is the southernmost tip of the French Massif Central, are formed by magmatic and metamorphic rocks. Its southern zone, however, is composed of unmetamorphosed sediments, forming napes emplaced during the Variscan orogeny. The paleoenvironmental analysis of these sediments provides unequivocal evidence as to the plate tectonic history of the area.

The sedimentation of Ordovician sandstones and shales was followed by a long time of nondeposition. The Lower Devonian saw the recurrence of marine sedimentation, mainly in form of thick shallow water carbonates. The remainder of the Devonian and the Lower Carboniferous is characterized by deeper water sediments. The shallow water carbonates are overlain by cephalopod limestones, stromatactis limestones, crinoid limestones, a great variety of nodular limestones, black lydites, allodapic limestones and finally flysch sediments. Analysis of sediments and faunas indicate increasing depth of deposition, interrupted by a few major regressions.