near Karlovy Vary in association with two-phase granites whose origin can be also explained by the early origin of the groundmass in relation to coarse- or medium-grained primary textured granite.

Thus the two-phase granites apparently have a complex history of crystallization with the periods of

- primary crystallization of phenocrysts in the melt,
- rapid growth of the groundmass, and
- blastesis in the postsolidus stage.

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PERMO-CARBONIFEROUS VOLCANISM IN THE NORTH-WEST SAXONY AND HALLE (GERMANY)

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1. In the seventies-eighties of the current century the Geological Enterprise of the Soviet-Germany joint-stock Company "Bismuth" carried out geological survey and exploration for uranium in the areas of Permo-Carboniferous volcanogenic rocks in the Saxony and Thuringia. Due to these work that was performed with significant volume of drilling, new data on geologic structure of the volcanic rock series, their stratigraphy, age, petrographic and geochemical peculiarities.have been obtained by a group of German and Soviet geologists.

2. It has been found that for the most part the volcanic rocks in the North-West Saxony, the largest Permo-Carboniferous volcanic area in Central Europe, belonged not to the "rot liegende "(Early Permian), but to "Stephan" (Late Carboniferous). This was confirmed by new geological data, obtained through drilling, as well as, by numerous isotope age determinations.

3. An important role of the ignimbrite type eruptions has been revealed. The overwhelming bulk of the volcanic rocks of the area involves variously sintered ignimbrites of the liparite, trachyliparite and trachydacite composition.

4. The new data have been obtained through the more detailed mapping based on the facies analysis method with differentiation of the effusive, extrusive, crater, subvolcanic and other volcanic facies, detailed petrographical studies, determination of the location and the shape of paleovolcanic centers, restoration of the history of the volcanic processes in the investigated regions.

5. The complex of volcanic rocks in the North-West Saxony is subdivided into 3 rock series, that differ from each other both by age and composition (from the bottom to the top):
1) early volcanic series of the intermediate to acidic composition;
2) volcanic-plutonic series of ignimbrites and intrusive rocks of primarily acidic composition;
3) late volcanogenic-sedimentary series of acidic composition.
All volcanic formations in the region are characterized by increased alkalinity both of acidic and intermediate rocks (the sum of $K_2O + Na_2O$ is in the range 7-11%), with the domination of K over Na (K_2O = 4-9%; Na_2O = 1-3%).

6. Based on the core data from the numerous boreholes, it has been found out that in the Halle-Delitch region there is no pronounced stratigraphic boundary between Carboniferous and Permian formations. There is no stratigraphic discordance, nor any considerable change in the rock facies. The boundary between the systems is fixed only by floral data. Some authors take the boundary to be between Wettin and Halle strata, the others take it to be in the upper part of the Wettin strata section. These is no doubt, that in the region considered it is reasonable to distinguish a single Per-

mian–Carbomiferious molasse which includes the Stephan and the Oten series. These data can throw certain doubt on the validity of distinguishing of Carboniferous and Permian systems in Central Europe within their now assumed stratigraphic and paleontological boundaries.

7. Acidic volcanic formations in the Halle region are traditionally divided into what is known as the "Upper Halle" and the "Lower Halle" porphyries, the age relations of which are the subjects of discussion either. The authors hold to the idea that the "Upper Halle quartz porphyries" represent extrusive and effusive liparites, which form in the Halle–Delitch region several dome-type volcanic centers, and the "Lower Halle quartz porphyries" are subvolcanic intrusive bodies of the granite-porphyries which formed after the "Upper Halle" liparites.

The discovery through drilling of the "Lower Halle granite–porphyries" dikes among the "Upper Halle quartz porphyries" confirm this interpretation.

8. Paleovolcanic regions in the North–West Saxony and Halle, as well as, other regions with the orogenic subsequent volcanism in Saxony and Thuringia (Thuringia Forest, Tarandtov Forest, etc.) represent volcano–tectonic depressions, which developed on magmatic, metamorphic and sedimentary Paleozoic geosyncline rocks and on the Precambrian basement. Geological structure and the development history of all depressions have much in common, however each having individual features depending on geotectonic position of the depression and the structure of its basement.

THE EVOLUTION OF THE ALTAIDS OR WHY ARE THERE NO HERCYNIDES IN ASIA?

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Asia grew by about 5.3 km^2 during the evolution of the Altaid tectonic collage which includes mainly the Palaeozoic orogenic belts around the Angaran craton. In the Vendian, the Angaran and the E. European cratons were united along their present N margins and were in the S hemisphere. In the late Vendian to the late Cambrian a long ensialic island arc (the Kipchak Arc) rifted from the eastern margin of this megacraton as the two also parted, and Angara began rotating in a clockwise sense with respect to E. Europe. Subduction along the present Uralian margin of E. Europe formed the Mugodzhar arc. In the early Devonian, the S.end of the Kipchak arc collided with the Mugodzar arc and was sliced by subparallel strike slip faults forming the present W flank of the Kazakhstan orogene. Ongoing subduction to the N of the Kipchak arc formed the subduction–accretion complexes now found in N. Kazakhstan.In the late Carboniferous Angara and the European cratons had acquired roughly their present E–W distance apart but were shearing right – laterally.This tore apart the earliest West Siberian Basins.In the late Permian, the sense of the shear changed and the two cratons acquired roughly their present positions. The Altaid accretionary complexes grew mainly in front of the Kipchak arc but in Mongolia their development continued uniterruptedly into the Jurassic.In Kazakhstan some Altaid tectonics also continued into the Triassic. The Altaids resemble neither in their tectonic style nor in their temporal evolution to the European Hercynides with which they have no genetic connection either.

ICE DELIVERED DETRITUS IN THE CIRCUMPOLAR OCEAN NEAR THE TIP OF THE ANTARCTIC PENINSULA

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In the sediments off shore the Antarctic coast especially the coarse grain detritus has been delivered by swimming icebergs, which loose their endosed rubble freight by melting. Within 83 sediment sam–