

Postcollisional magmatism and peculiarities of formation of the Earth's crust, lithosphere and Epihercynian peneplain of the Central Asia

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The closing of the Turkestanian paleocean and collision of the Alay-Tadjik and Kazakhstanian microcontinents accompanied by acid magmatism were finished in the Middle Asselian. By this time there was completed formation of the Tien-Shan's heterogeneous continental crust.

Postcollisional evolution of the Tien-Shan was connected with a new generation of magmatic chambers and was correlated with processes in other parts of Asia. During Asselian-Sakmarian there were formed the midland rift zones, trachybasaltic and gabbroic complexes. Beginning from Late Permian, in conditions of intraplate regime, there were formed dikes of alkaline basalts, carbonatites and intrusions of gabbroids and syenites. In the Jurassic, Early Cretaceous and Paleocene-Eocene alkaline basaltoids were manifested too. Petrological data bear witness to consecutive deepening of magmatic chambers down to Mantle's undepleted level and one can assume that to beginning of the Triassic there had been formed both continental crust as lithosphere. Subcrustal part of the Upper Mantle furthered to isostatical balance between heterogeneous blocks of consolidated crust and its surface, where Epihercynian peneplain, crusts of weathering and bauxites were formed. Activation of Mantle was a motive of development of Mesozoic structures of Central Asia.