Geological development of Eastern-European platform in Neoproterozoic

Aksenov E.M. Central Scientific Research Institute of Geology of Industrial Minerals, Kazan, Russia

Analysis of major sedimentary and volcanogenic - sedimentary Neoproterozoic on the basis of chronostratigraphic approach to dismemberment and correlation of supracrustal formations allows to distinguish three stage of Riphean aulakogene megastage and Vendian stage of its development. During Early Riphean stage the platform western segment found itself under conditious of collision and beginning of Baltica rifting from Laurentia and as a result in the limits of active continental margin there were formed volcanic-plutonic belts with intermontane grabens and arched lift with rifts of arched-volcanic type. To the East two major structures developed as underdeveloped rifts of triple jointing of passive continental margin.

Active geodynamic regime preserved in Middle Riphean stage in western segment and in arched lift hinge there formed Botnic - Baltic paleorift system and series of radial "shuttle" grabens of Jotnian. Middle-Ural-Timan-Barents Sea pericontinental passive margin began to the North-East. Central Russian rift zone was founded.

After short-ferm collision of continents (Grenville to the West and Avzian to the East) the platform was surrounded by gigantic semiriny of passive continental margins into which a net of radially spreading fluvial paleorift valleys opened. At the end of the Late Riphean stage to the West in the zone of paleoocean Yapetus influence there was forming a marginal suture.

Vendian changes of tectonic and paleogeographic platform image are connected with active geodynamic events. After glodal cover glaciation and formation of trap depression into Early Vendian stage, in Late Vendian the platform was overlapped by molasse cover and teleorogene formations of the first major sea transgression.