The paper analyses the morphostructural features of the superimposed graben valley complex on the territory of Bulgaria. It centers on its asymmetry, previous development and the role of the listric tectonics in the formation of active morphodynamic localities remarkable for considerable tectonic deformations that took place during the Quaternary. The greater stress and strain, accumulated in their earth crust during the Quaternary and the present-day stage of evolution, is demonstrated by the nature and the mechanism of the sudden tectonic processes - the earthquakes. On this basis a Quaternary geodynamic model of Bulgaria's territory is suggested.