



## Geological myths and reality

Lubor Ostrihansky

Prague 5, Czech Republic (ostrih@tiscali.cz)

Myths are the result of man's attempts to explain noteworthy features of his environment stemming from unfounded imagination. It is unbelievable that in 21st century the explanation of evident lithospheric plates movements and origin of forces causing this movement is still bound to myths. They are the myth about mantle convection, myth about Earth's expansion, myth about mantle heterogeneities causing the movement of plates and myth about mantle plumes. From 1971 to 1978 I performed extensive study (Ostříhanský 1980) about the terrestrial heat flow and radioactive heat production of batholiths in the Bohemian Massive (Czech Republic). The result, gained by extrapolation of the heat flow and heat production relationship, revealed the very low heat flow from the mantle  $17.7 \text{ mW m}^{-2}$  close to the site of the Quarterly volcano active only 115,000 – 15,000 years ago and its last outbreak happened during Holocene that is less than 10,000 years ago. This volcano Komorní Hůrka (Kammerbühls) was known by J. W. Goethe investigation and the digging of 300 m long gallery in the first half of XIX century to reach the basaltic plug and to confirm the Stromboli type volcano. In this way the 19th century myth of neptunists that basalt was a sedimentary deposit was disproved in spite that famous poet and scientist J.W. Goethe inclined to neptunists. For me the result of very low heat flow and the vicinity of almost recent volcanoes in the Bohemian Massive meant that I refused the hypothesis of mantle convection and I focused my investigation to external forces of tides and solar heat, which evoke volcanic effects, earthquakes and the plate movement. To disclose reality it is necessary to present calculation of acting forces using correct mechanism of their action taking into account tectonic characteristics of geologic unites as the wrench tectonics and the tectonic of planets and satellites of the solar system, realizing an exceptional behavior of the Earth as quickly rotating body exposed to strong tidal action of Moon and Sun.

Ostrihansky, L.: The structure of the earth's crust and the heat-flow–heat-generation relationship in the Bohemian Massif. *Tectonophysics*, 68(3-4), 325-337, doi:10.1016/0040-1951(80)90182-1 1980.