TECTONOMAGMATIC EVIDENCES OF EARTH'S PULSATING CONTRACTIONS. Part II

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Abstract. Part II of the article "Tectonomagmatic evidences of Earth' pulsating contraction" concentrated at tectonomagmatic episodes since Riphean till present days, ie during the Neogaean period. It is shown that the main content of this period were the processes of formation and accumulation of the Earth' sedimentary shell. At present 94% of all Earth's surface are occupied by rocks of sedimentary shell and ocean water; rest 6% occupied by oldest rocks of consolidated blocks. In the Neogaean metamorphic and magmatic processes of formation of continental crust are manifested locally, mainly in the mobile belts (MB), associating with recycling and transformation of the sedimentary shell. Continuing formation of basaltic shell makes no significant contribution to the formation of granitic crust, which demonstrates, on the contrary, its destruction and oceanization. Changes in the World Ocean are expressed mainly in the increase of its volume due to deepening. Formation of platforms and MB in the Late Proterozoic reflects manifestation of heat insufficiency and redistribution of the most intense mantle heat flow to MB and MOR. Evolution of the Earth can be divided into three major periods of: magma tectonics (in Hadean) plume tectonics (in the Archean-Paleoproterozoic), and block or plate tectonics (in the Neogaean). The nature of thermal processes varies with time: in period I it is predominantly convective heat loss, in period II – convective and conductive heat loss in period III – conductive heat transfer is dominated. Geological evidences of pulsating contraction and lowering of the geoid surface are presented; the criterion of reducing of the Earth' radius is the thickness of the crust.

Keywords: evolution of the Earth, Neogaean, sedimentary shell, ocean's transgression and regression, decrease of granitic crust, deepening of the ocean, pulsating contraction.