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Unsolved problems of the global tectonics and a possibility of their solution

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The deep geological and geophysical studies of the continents and oceans have revealed a number of well-defined new regularities in the structure of the crust and upper mantle that do not find a clear explanation in the modern geodynamic concepts.
- The Earth is divided into two hemispheres with different structure of the lithosphere: the Pacific hemisphere with the predominance of the thin crust ("oceanic hemisphere") and the opposite Indo-Atlantic hemisphere, where all the continents are situated ("continental hemisphere").
- The system of the mid-ocean ridges with approximately equal distances between them, 90°, is symmetrical relatively to the South Pole.
- The deepwater drilling showed that the crust in the oceans is different in age and composition, it was identified from the remnants of an ancient (Archaean) crust and large areas of subcontinental crust. There are also some fragments of the ancient continental lithosphere.
- The continents are characterized by the large thickness of the lithosphere (more than 200 km), composed of the lower density depleted matter.
- Experimental data on petro-physical properties of the lithosphere matter at high pressure and temperature show a large role of deep energy-intensive fluids in the formation of the lithosphere, its composition and physical properties. The laboratory data show an important role of the deep fluids in the formation of the sialic crust and depleted mantle rocks.
A new model of the global tectonics explaining these data is proposed. The irregular advection of the deep fluids was the main factor of the different crustal type formation: the continental crust was formed in the regions with intensive deep fluids flows, whereas in the areas of weak flows (mainly, in the Pacific hemisphere) the subcontinental and oceanic crusts were developed. The oceanic crust of another origin was formed in the mid-oceanic ridge arias. This crust is characterized by the magnetic field with the linear anomalies.
The deep fluids provided also the depletion of the mantle matter and formation of the thick lithosphere with the lower density. Growth of the lower density lithosphere led to its emergence in respect to the oceanic lithosphere and to the formation of the continents.
Two hemispheres with different lithosphere structure were formed due to the elliptical form of the planet orbit, causing periodic changes of the planet accelerations. The planetary formation of the hemispheres explains the correct form of the tectonically active Pacific ring.
The structural symmetry of the global rift system relative to the planet poles may be explained by the expansion of the planet that resulted in the spreading of the continental lithosphere and formation of the mid-oceanic ridges. The regular form of the Pacific ring and the mid-oceanic ridges means that during the geological history there were no large lithosphere plates shifting, there was only spreading that was a result of the Earth expansion.
Thus the main energy sources of the global tectonics were the deep fluids advection and the planet expansion.