

STRUCTURAL-MATERIAL MANIFESTATION OF WILSON CYCLES IN THE HISTORY OF CONTINENTS

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The Wilson cycles reflect time and spatial regularities of plate movement in the Earth's history and are identical to the conception of cycles from Pangea to Pangea. Such cycle is worldwide and is expressed in the structural-material complexes which correspond to: (1) the existence of a stage of the supercontinent and its breakup into the continents (cratons); (2) autonomous existence of continents; (3) collisions and amalgamation of continents into a new supercontinent with closing of oceans separating them. Deformation processes also obey to this scheme: the first and second stages represent a preferential extension and the lack of diastrophisms and orogenies, the third stage - diastrophisms and orogenies. In the history of continents the five world Wilson cycles manifest themselves, conventionally called Protogaeen (to 3.8 Ga), Deuterogaeen (3.8-2.7 Ga), Mesogaeen (2.7-1.7 Ga), Neogaeen (1.7-0.3 Ga) and Epineogaeen (from 0.3 Ga). As a structural-material expression, the cycles correspond to the global tectonic stages and the regularities formulated above. Every of complete stages begins with weakly deformed platform-molasse sedimentary-volcanogenic complex corresponding to the stage of destruction of supercontinent (Pangea), is continued upwards as undeformed volcanogenic and marine, particularly turbidite strata adequate to the stage of autonomous floating of continents and ends with a molasse, strongly deformed sedimentary-magmatic complex corresponding to a collisional (orogenic) stage of coalescence of individual cratons into a new supercontinent. Formally, the structural-material complexes of the stage are called destructive (rift), spreading and collisional (orogenic). These complexes compose a homologous (evolutional) series in the stage, and the stages make up a homologous series of the lithosphere of continents.