

НАЙМАРК, ЗАХАРОВ
**RATIOS OF DIRECTION, CYCLICITY
AND NONLINEARITY IN GEOLOGICAL PROCESSES**

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Geology is a historical science. But linear direction and cyclicity (periodicity) are unhistorical: this is a simple self-reproducing process. Such geologic evolution would not give birth to anything new; there would be no qualitative leaps - reorganizations, geocataclysms, unpredictable choice of diverging ways of evolution. Everything is predetermined on infinity in the future, and reversible to the initial point where the choice could only be made. After that, all subsequent things are predictable and reconstructable - precisely or statistically, without strong dependence on initial conditions and current fluctuations. Recognition of instability and mono-directionally-irreversible, self-similarly-discrete, self-organized-and-cyclic, bifurcational character as main features of geologic evolution with obvious inevitability implies nonlinearity - not as the insignificant tendency which only "shades and complicates" a linear trend and cyclicity, but as the global law, the inherent attribute of evolution of the Earth at all stages and scale levels.

Keywords: geologic evolution, determined chaos, nonlinearity, irreversibility, nonequilibrium, instability, cyclicity.