

## **Vernadsky, Evolution and Sustainable Development**

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**Abstract:** This study analyzes the problem of sustainable development that has arisen at the present stage of the biosphere evolution. Vernadsky's biogeochemical principles presented in the cybernetic version were used as the basis for the analysis. The actions of "living matter" in the biosphere were identified with the behavior of purposeful systems. A number of features peculiar to biological species were described in the language of mathematical programming. A number of conclusions on the implementation of the strategy of sustainable development were made.