

On the Role of Konstantin G. Gofman in Establishing "Economics of Nature Management" in Russia

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Konstantin G. Gofman (1934-1994) should be considered the founder of ‘the economics of nature management’, the new scientific approach to analysing economic-ecological systems in Russia. His first publication on this was already in 1968 (Petraikov, Gofman 1968).

Gofman and colleagues’ paper presented here in an English translation offers a first general description of the then so novel area of economics – the economics of nature management. Today, thirty years after publication, it is interesting to analyse how far science in Russia has progressed in this direction since, how well the tasks posed so long ago were solved in the meantime.

The first thing that attracts one’s attention is that this publication captures already then important principles of what emerged much later under the concept of ‘sustainable development’: the combination of scientific-technical progress and environmental protection, and the need to preserve the natural environment for the next generations. For solving these problems, in the 1970s a new science named ‘economics of nature management’ was proposed. This article is devoted to the description of this field.

Gofman, being a professional economist, clearly understood the place of economics in studying ecological-economic systems. Monetary estimates make sense only inside the economic system, and overestimation of their capabilities would lead to economic imperialism – a phenomenon that we often see today both in the analysis of social and environmental processes.

The socialist economy, during the times when this paper was written, was conceived in the same way as the market economy in the West: nothing enters the economic system from the outside. Monetary estimates of natural resources or damages are simply derived from already existing values. So we have to derive the natural rent from the profit of the rent-receiver, and the damage caused by the polluter and not compensated for by him from his profit.

The works of Professor Gofman have always distinguished themselves by the clarity and accuracy of statement. According to his reasoning, the ‘damage’ from environmental offences is caused to the economy, and its extent is to be determined by economic losses. Gofman foresaw the possibility of a confusion since the harm caused to the environment in the Russian language often is also called ‘damage’. Unfortunately, the latter meaning of the term became mainstream: instead of following Gofman in understanding ‘damage’ as additional economic costs and losses as a consequence of previous environmental offences, nowadays ‘damage’ is usually defined as an economic estimate of the changes in the properties of the environment itself.

The article argues that the damage from environmental offences is the sum of the estimated damages along the whole chain of negative consequences of such offences *inside* the economy. This can be seen from the forestry example cited in the paper where all environmental consequences are considered as already transformed into economic

consequences, and not as changed properties of the natural environment. The real economic losses and additional costs are evaluated.

In 1986 the results of research on the valuation of damage from pollution carried out under the guidance of Gofman were published as 'Temporary typical methodology for the evaluation of economic effectiveness of the environmental protection activities and valuation of economic damage, caused to the national economy by environmental pollution'. Afterwards, the colleagues of Konstantin G. Gofman in the Market Economy Institute (Gusev A.A. and Ryumina E.V.) suggested ways to introduce the estimates of damage from environmental offences into macroeconomic indicators, into the system of national accounts, into the estimation of effectiveness of investment projects, etc.

In Russia the hopes of the paper's authors for the re-use and recycling of all the production and consumption wastes have not materialised. The economic effectiveness of systems of secondary use of wastes becomes obvious only when the damage from environmental pollution is adequately accounted for and the respective indicators are introduced into economic practice.

Since the beginning of the 1970s, Gofman worked on the problem of pollution fees as a compensation of the damage caused. And only in 1992 in Russia such fees were introduced, but quantitatively they are many times lower than the size of the damage, and therefore do not perform their main function of stimulating the nature protection activities. Thus, until now, a green light for the fundamental reorganisation of the material balance in the bio-economic system – reorganisation, aimed at protection of the biosphere and an increase in efficiency of production at the national scale still has not been lit. So long is the way from the scientific idea to its implementation in practical life!

A similar destiny awaited the results of the research of Gofman's research on the problem of economic valuation of natural resources, the main area of his work in the economics of nature management, one could say. The basic ideas of the methodology for economic valuation of natural resources were developed under his guidance in 1970. The marginal costs for the production of nature-using industries, defined as dual estimates in optimization models, were considered as the basis for valuation of natural resources. In 1985 the 'Methodology of the Economic Valuation of The Most Important Natural Resources in the COMECON Member States' was published. The last work of K. G. Gofman published when he was still alive was the paper 'The Transition to the Market and Ecologization of the Tax System of Russia' (Gofman 1994). In this paper he developed the ideas of Henry George (1879) on socialisation of rental incomes in application to the Russian economy in transition and showed the practical significance of the economic estimates of natural resources.

In the paper presented here, the authors devoted considerable attention to the circulation of matter in the bio-economic system of Russia and even developed an inter-sectoral balance, measuring the flows of matter in billion tonnes. Several years ago we gave an economic interpretation to this balance, considering the financial flows accompanying the cycle from natural resources to wastes: the use of natural resources is accompanied by a receipt of rental incomes, and the utilization and disposal of wastes – with environmental protection costs and damage. It turned out that the rent received at the nature's expense is quantitatively comparable with the damage from environmental offences and nature protection costs, which inevitably accompany the processes of use of natural resources (Ryumina 2001). Thus the natural rent should be considered as an advance payment for all the consecutive costs, caused by the production and consumption wastes of the goods that were created from the natural resources.

The problem of optimisation of the interrelationships between the economic system and nature is posed in the paper with reference to the economic accounting of environmental constraints. Already at that early time Professor K. G. Gofman suggested to study protected natural territories for the evaluation of the rigidity of such constraints. This was what today has become a research tradition in studying economic aspects of the threats to biodiversity.

The relevance of an article published more than 30 years ago is underlined by the growing demand for economics of nature management in economic science and especially in practical economics. Unfortunately, in those 30 years economists have largely ignored the need to solve the problems outlined in this article proposing a new economics of nature management. The urgency of practical solutions has grown many times since, so let us hope for an additional push towards the necessary scientific research, in Russia and elsewhere in the world.

References

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