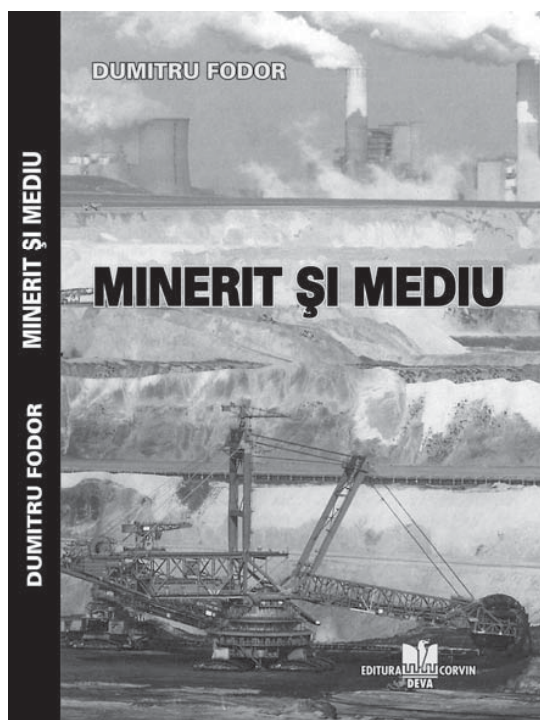


MINING AND ENVIRONMENT

In the beginning of the year 2015, the technical-scientific domain was enriched by a new book, welcomed and well appreciated both by the mining engineers and by the environmental engineering. It is the paper called *Mining and environment* written by the well known mining engineering specialist, **prof.eng. Ph.D d.h.c. member of the Technical Sciences Academy – DUMITRU FODOR.**



Nowadays, the magic word *environment* is used daily both by specialists and by others, with the purpose of its protection from the damaging human actions. Most of the time we are to blame for the damage, without even recognizing our guilt.

The World Mining Congress in Las Vegas (U.S.A.) in 2000 had as motto *everything begins with mining*, a slogan which expresses the economic purposes of an important world group – the miners -, but many times contradicts with another doctrinaire group – the ecologists. In the first group there are two bands – the band of the „ignorant technician” and the band of the „avaricious economist”. If the two bands do not harmonize the result will be the *environmental pollution*. On the other hand, the opposing group should have an attitude which, starting from the data regarding the interference between human and environment, will accept an coherent set of ideas in order to promote the desire to ensure the humanity the need of mineral resources. Professor Dumitru Fodor’s book aims and succeeds to reconcile the above

mentioned groups.

An unofficial ranking states that mining is the third most important industrial pollutant, after transports and chemical industry, but it contributes to the pollution of all environmental components.

In the book, *the miner* states openly what he does to give the humanity the underground riches need for living and admits that he is forced to disturb the environment, while *the ecologist* (merely *the environmental engineer*) comes up with solutions for this environment to be human friendly.

Such a cohabitation was presented by professor Dumitru Fodor, specialist in the extraction and capitalization of useful minerals, Ph.D professor in the domain Mining, Oil and Gas, full member of the Technical Sciences Academy of Romania, author of more than 30 specialized books and manuals and more than 200 scientific papers, published in international magazines or presented in international symposiums and congresses and also author of more than 120 papers from contracts in the mining industry. An outstanding merit of professor Dumitru Fodor is the founding of the specialization *Mining exploitations* from the Mining Institute of Petroșani (currently the University of Petroșani) and the contribution in the training of more than 50 promotions of mining engineers. The readers of the *Engineering Universe Magazine* know and appreciate him for the well documented subjects of his published papers.

Mining and environment aims to be, mainly, a guide without too much theory, useful for those who want to know the mining activity and to get involved in the protection of the environment affected by mining and in finding solutions for its recovery.

The book is structured into four parts, originally expressed in 10 chapters. We notice the clarity in the presentation of each chapter, which follows a logical structure, approachable to everyone who accesses this domain for the first time.

The first part is aimed to present the Romanian mining, shortly describing the underground romanian riches, the exploitation methods and work technologies used to its capitalization. The author synthesises the romanian mineral and useful rocks deposits in tables, graphics and maps, so the reader is given data on the romanian underground riches just from a few pages. The underground, surface or mixed exploitation of these riches is presented depending on the deposit type (coal, minerals, salt, useful rocks) through drafts and short explanations, although the book didn't specifically aimed it. There is also mentioned a series of strategic concepts regarding the Romanian mining reorganization, starting with 1990.

The second part underlines the pollution sources of the environmental components specific to the mining industry, generated by underground and surface mining, coal and ore preparation, coal combustion in thermal plants and hydro-metallurgic preparation. It is also done a theoretic presentation of some parameters which characterize the environmental components, with indirect impact. The author, after a detailed presentation of the main environmental components (soil, water, air, flora and fauna) leans towards the book object pollutant – namely *the mining* with its activity branches, analyzing in detail the elements of the mining industry which influence negatively the environmental components, namely: solid, liquid and gas waste, noise, vibrations and radiations. This part ends with some considerations on mining and sustainable development.

The third part is dedicated to the impact of the mining industry on the environment, from the visible impact to the one on air, water, large area influence and soil degradation, subsidence etc. Obviously we cannot evaluate the human influence without considering the legislation. The book presents the international and romanian environmental legislation where the author makes a gloomy, but unfortunately true, remark: *the weak point of the Romanian environmental legislation is its application and the conditions of its applications conditions, which do not raise up to the demanded exigence*. In order to explain the presence of some pollutants in the areas affected by the mining activities, the author analyzes in detail the mining technologic processes and their influence on the environmental components. We underline the multitude of examples on the environmental pollution by mining in various areas from Romania.

In the *fourth part* there are suggested solutions for restoring the degraded environment caused by mining waste, the reorganization of the waste deposits, the ambient recovery by giving the wasteland to the economic circuit with a permanent monitoring of the environmental components in the mining areas. We remark the synthetic, tabular, presentation of the possible restorations of the areas affected by mining exploitations.

It is also remarkable the book ending with *Conclusions* where the author, who lived more than half of a century in the middle of miners, shares with us a series of own beliefs and solutions for the recovery of this mileage occupation in Romania – mining.

Reading this paper you cannot overlook the huge university didactic experience of the author, through the clarity and conciseness of his ideas and of the terms specific to the described domain.

The book is useful to a large spectrum of readers from the domains of engineering, environmental engineering, researchers, projectants, mining students, but also to those who are the main environmental pollutants: mining engineers, mining constructors or adjacent specializations.

In the end, I insert a **belief** of professor Dumitru Fodor, from the end of his book: *together with the increase of the standard of living in Romania, the problems of pollution and their effects on the environment will gradually disappear because **the lack of resources and poverty are the worst pollutants***.

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