"APPLICATIONS OF CYBERNETICS AND INFORMATICS TO PRODUCTION AND ECONOMIC MANAGEMENT"

The proceedings of the symposium "Applicatins of Cybernetics and Informatics to Production and Economic Management" were held on October 13—14th, 1988, a traditional symposium organized on the ocasion of the lapse of 25 years since the setting up of the Laboratories of the Economic Cybernetics Department. The symposium was organized by the Chair and Laboratories of the Economic Cybernetics Department of the Academy of Economic Studies in cooperation with the Systems and Cybernetics Commission of the Academy of the Socialist Republic of Romania.

123 scientific papers were presented in the symposium work sessions classified according to the following broad categories of subjects:

1) *The theoretical fundamentals of economic cybernetics*, 17 papers. Studies were presented on the present and future preoccupations in the field of socio-economic processes and phenomena based on the systems theory and cabernetic-economic models. Also underlined were the main trends in the development and modernization of planning, statistical and economic cybernetics education.

The reports and debates have tackled problems on the role of the reflexive-behaviour analogy in turning the cybernetic-economic systems efficient, incertitude modelling, the study of complex dynamic systems starting from the analysis of the equilibrium-disequilibrium didactic relation and their stability property, problems on environment quantification, a.s.o. The papers also referrerd to aspects concerning the improvement of the information system of territorial planning, applications of information hierarchization to teritorial development analysis, too, optimal dynamic adjustment in the planning system, the study of the structure of economic growth trajectories, the modelling of economic growth based on the strategies theory, etc.

Through a complex approach to the present stage and the prospects of udies in the field of economic cybernetics, the section reports pointed to the ain trends of their practical use in optimizing the functioning of the eco- omic mechanism, in increasing the efficieny of economic activities, the ebates having also pointed to the need of elaborating an economic axioma- cs with immediate practical values in a most exact quantification of the ructure, behaviour and functionality of the economic-cybernetic systems.

2) *The industrial group and factory — an economic — cybernetic system, pplications of production optimization to the functioning of the economic- inancial mechanism, to plan elaboration:* 32 papers.

The papers presented have tackled theoretical and practical aspects n various fields such as: classical and modern (informational) statistics, the raph theory, the stock theory, modern mathematical methods for cutting imulation and optimization of production processes.

Thus, in the field of traditional and informational statistics two papers ere presented, three others having approached the problem of generating ccording to some allocations random variables and random vectors on the asis of original results using conditioning properties on known algorithms r using iterative algorithms for a smooth estimation of random variables.

Most papers had an applicative character concerning applications of he graph theory to foreign trade plannning, to achieving complex products s well as to serial production control in machine-building enterprises.

Other papers with an applicative character pursued the use of dual egression in convex optimization, unconstrained optimization with the aid f a new penalty function, the digital simultaion of rubber products manu- acturing, stock modelling, the the field of multicriterial analysis of products uality as well as of information diagnosis in the field of assemblage techno- ogical equipment in professional electronics.

As an emphasis of the festive moment occasioned by the lapse of 25 ears since the setting up of the Laboratories of the Economic Cybernetics epartment an interesting report was presented on the history of the journal Economic Computation and Economic Cybernetic Studies and Research„ nd on how it has reflected and stimulated economic research in the fields of ybernetics and informatics.

3) *Cybernetic methods and models in the organization, management and lanning of economic activity*, 35 papers.

The papers in that section have tackled both specific subjects in detail nd problems with a synthesis character of specific fields.

A large number of papers were presented in the section having approa- hed applications of cybernetic modelling in agriculture, on the optimal imensioning of reproduction sheep farms, the mathematical modelling of olar radiation reception by the vineyard foliage, the optimizing of chemical rtilizer dosage in agricultural farms, the optimizing of the distribution hroughout the territory of the plan targets for the socialist farming units, he estimation of the evolution in time of the farming crop on eroded grounds, ccording to the slope and distance between the anti-erosional terraces, the laboration of economic decisions on the development of the cereal output, etc.

Also presened were papers on the cybernetic modelling of industrial rocesses concerning the use of computers in overseeing industrrial processes

in the manufacturing of ball-bearings, of glass and chinaware, of production efficient control as well as cybernetic methods and models for improving the information system in retail trade.

4) *Informational and informatic systems in economics*, 21 papers.

Papers were presentd on the design of informatic systems for factories on the design of data base for industrial unit management, relational base systems, informatic systems for planning, for overhaul control, the recording of the equipment and use of the available time stock of installations, the efficient control of lift deterioration, systems of programmes for the computer aided-control of technological processes in the building materials industry. Stress was also laid on the need to improve the methods of informatic system analysis and design such as by prototype analysis, the structured and modular programming, graphic processings, etc.

5) *Programming techniques*, 18 papers.

The extremely topical and interesting subject-matter that had been tackled referred to the industrial implementation of informatic programmes with the possibility of estimating the costs and value of the software products to systems of graphic editing with various shapes of characters, to utility and programmes for information transfer among big, mini and micro computation systems, to systems of data collection and interactive validation with protection means for avoiding the unauthorized access to high level languages and large portability used either for the achievement of software products or for the interface with data base systems and the facilities provided by various types of systems, to fulfilments and prospects as regards interactive graphic in monochromous or coloured 2D and 3D.

The symposium was attended by 224 authors, specialists in production and synthesis bodies, researchers, designers, teaching staff from 46 socio-economic units representing 12 factories and industrial as well as building fitting centrals, from agriculture, goods circulation and services to the population, three ministries and synthesis bodies, nine research, designing, and technological engineering institutes, nine territorial and department computation centres, 13 counties (Prahova, Timiș, Dolj, Cluj, Iași, Brașov, Sibiu, Olt, Gorj, Maramureș, Buzău, Galati, Teleorman) and the Bucharest municipality.

The symposium has underlined the modern trend of studies in the field of economic cybernetics and economic informatics, the intense preoccupation for solving the problems of economic practice and of production activity.

The community of studies in various work teams and the mutual knowing of the investigated trends and of some results constitute a good basis for cooperation in future committing us as sponsors to an active, militating stand.

Dr. R. Stroe
Dr. R. Șerban