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16 December 1977

TRANSLATIONS ON EASTERN EUROPE  
SCIENTIFIC AFFAIRS  
No. 567

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## INTERNATIONAL AFFAIRS

### GDR-USSR COOPERATION IN WEATHER RESEARCH DISCUSSED

East Berlin BAUERN-ECHO in German 12/13 Nov 77 P 6

[Unattributed article: "Cooperation in Weather Research--Prof Dr Wolfgang Boehme on Joint Meteorological Research Programs"]

[Text] "The participation of the GDR Meteorological Service in joint research and development operations of the socialist countries makes possible the streamlining and specialization of its own capabilities," emphasized Prof Dr Wolfgang Boehme, director of the GDR Meteorological Service, in a conversation with the ADN. In this connection, the scientist was referring to the expanded opportunities of GDR meteorologists through systematic cooperation. In this context, read the following article:

The most recent example of this successful cooperation is the GDR's participation in the international experiment "Monsoon 77" aboard a Soviet research vessel in the Indian Ocean. Specialists from other socialist countries and India also took part in the Soviet scientists' research program. Our contribution consisted primarily of measurement of the vertical ozone distribution through the use of electrochemical ozone probes developed in our republic, as well as measurement of radiation. Cooperation was based upon the agreement for direct cooperation with the USSR's hydrometeorological service.

There is also close cooperation in the field of meteorological instrumentation. The hydrometeorological service of the USSR and the GDR meteorological service, for example, accomplished for the first time in the world, a comparison of automated weather stations transcending national boundaries. The experience thus obtained serves the improvement of established installations which are of great importance for future formation of meteorological measurement networks. The findings benefit the development of new generations of such automated stations. The specialists of both countries also reported on the August 1977 meeting of the technical commission of the WMO (World Meteorological Organization) for observation instruments.

Only through cooperation with the USSR have GDR scientists been able to develop the field of intercosmic research. In this connection, the Fourier spectrometer, developed by the GDR Academy of Sciences and installed in the Soviet satellites "Meteor 25" and "Meteor 28" can be mentioned as an example. It records the spectral distribution of radiation, the purpose of which includes finding evidence regarding the vertical temperature distribution. The GDR's contribution consists primarily of the preparation of the experiments and the methodology for the utilization of data ascertained by the spectrometer.

There has been multilateral cooperation among the meteorological and hydro-meteorological services of socialist countries since 1951. An agreement for bilateral GDR-USSR cooperation was concluded in 1976. Both partners had already been successfully cooperating in certain aspects of the meteorological field for a long time. The results of this cooperation are noticeable for every GDR citizen. The specific data of the travel weather report, for example, has been possible by virtue of an agreement for exchange of additional data, e.g., on water temperatures of lakes and ocean regions, snow depths and condition.

Close cooperation with the USSR also had special significance in the preparation of electronic data processing and its introduction into the GDR's meteorological service. Potsdam meteorologists today have at their disposal an efficient computer system which is used especially for complicated problems of mathematical weather prediction and for complex research problems.

CSO: 2300

## BULGARIA

### SUGGESTOPEDIC SYSTEM DESCRIBED

Sofia NARODNA MLADZHZH in Bulgarian 14 Nov 77 p 4

[Article by Ivan Popov: "Happiness Which Creates Knowledge"]

[Text] Do you recall your first school hour? No? You must still remember something--some image, melody . . .

Here is a boy going to school for the first time in his life. He is holding a brand new satchel, unused yet to the shape of its handle. Inside all sorts of school aids are klinking. In a moment the boy will cross the threshold of the school. What is he thinking about? Perhaps a while ago a certain introduction was given, something like, "No more childishness! You are now becoming a serious person. You will study well and you will listen, otherwise . . ."

Does that remind you of something? No? Well, then, let me describe to you a class I recently attended. This may trigger some memories.

The classroom could be described as quite ordinary without those posters on the walls. What could there be below the white cardboard? All we could read were the words "lion," "train," and "be." The class has begun. It is something we're not accustomed to. The teacher is speaking calmly, one could even say tenderly, and her eyes are smiling. No other behavior would be possible, for her audience consists of seven year old children. Hands are raised. A slightly blushing and tousled headed boy rises, answers, and sits down victoriously, with a shade of triumph--pleased with himself.

"Who will read the word?" asks the teacher gaily, inviting the children to join an interesting game. There is a chorus of answers--over 20 voices. Then, Mitko is inexpertly handling the pointer and is trying to peak under the white cardboard which covers the blackboard. Let him see, for without even noticing it, he is taking his first step in science. One could daringly say that it is a major step . . .

So far it might appear that everything we have described is entirely consistent with the ordinary view of an hour in grammar school. Nevertheless, one could feel here something special. This hour is somewhat different . . .

Suggestopedy?      Sounds familiar!

Yes, few people in our country have not heard the word. Some will say immediately: "Dr. Lozanov's system!" This would lead to skeptical attitudes or fantastic claims. Actually, there is nothing fantastic here. Some six years ago the first international symposium on problems of suggestology and suggestopedy was held in Varna. The 159 delegates representing 18 countries unanimously acknowledged our priority in this area. Today we have even less reason to use the label "fantastic," for in a number of countries such as the USSR, Hungary, Canada, and the United States, under our scientific and methodical guidance, suggestopedic experimental training centers are at work. It would be difficult to enumerate all countries interested in this new method. Such centers are scheduled to be opened in most of them . . .

Nevertheless, what is suggestopedy and what is its purpose? Many people have heard that the suggestopedic training system shortens the time for the learning of foreign languages with no danger whatever to the health of the students. It may sound paradoxical but in the case of people suffering from a neurosis or other functional disturbances it has even had a favorable psychotherapeutic affect.

How is This?

Remember the classroom we visited. Everything was real: we spent several minutes visiting the first e grade of Yu. Gagarin School No. 138 in Sofia. This is one of the 16 schools in Bulgaria experimenting with suggestopedy (the beginning was laid in 1972/73 in Sofia with 10th grade students). It is entirely natural to be interested in details--what is the teaching method, what type of children there are, and what type of teachers teach. Here is Principal Nenka Andreeva:

"The children attending this school are not selected. They simply happen to live in our school district."

Actually, this is one of the most important prerequisites for school suggestopedy--that it must be applicable to everyone. Where is the new?

"We are not teaching a new curriculum. The method alone is new," the principal said. "In an informal atmosphere, like a game, we involve the rich reserves of the child's mind. We insist that the children go to school with pleasure."

Let me caution you: You would be disappointed should you be expecting something sensational. Other than the fact that the school has a suggestopedic office, it has nothing else unusual.

A Solvable Dilemma

It seems to me unnecessary to explain why the question of the maximal effectiveness of this teaching method far exceeds the framework of pedagogy. Hardly anyone would deny the need for a training system which would offer

faster teaching and a growing volume of information without harming the health while actively contributing to the education of a harmoniously developed individual with a high communist ethic. To what extent could suggestopedy meet such requirements? Here is what we learned from a talk with Senior Scientific Associate Dr. Petur Balevski from the Scientific Research Institute of Suggestology in Sofia:

According to medical and psychological studies, in the case of 15 to 20 percent of the students in the primary and 20 to 30 percent of the students in the upper course overloading phenomena are noted mainly in the case of ambitious and industrious children. Naturally, measures are taken: the size of the textbooks is reduced, obsolete information is eliminated, new training aids are introduced and teaching is programmed. However, the contradiction between health load study norms and the need to master an ever greater and more complex material is difficult to resolve. It is difficult but not insoluble, for as the suggestologists claim, a number of scientific data prove the exceptionally great reserves of the human brain. The truth is that its possibilities are far greater than those used so far.

The practical experience of the Institute of Suggestology has shown, for example, that the same material mastered in the first and second grades of grammar schools could be covered in a single year without any adverse effect on the mental or physical health and development of the children. It is precisely the opposite that happens.

#### The Lion Reads a Book

Here the hours spent in class look more like a game--an intelligent and interesting game which everyone would like to join without realizing, in fact, one is learning full speed ahead. Here the feeling is that one is learning only incidentally, merely to make the game even more interesting. The principle is to make it "as interesting as possible for the children." You will hear sentences such as "The lion is reading a book." The children are laughing . . . and learning. "The boy is performing calisthenics." This is trite. Yet, should a cat begin to do the same . . . but let us not over-simplify. The point is, simply, to develop a special atmosphere with all possible means, an atmosphere of reciprocal trust and respect, without emotions which traumatize the mind of the child. In other words, the purpose is to create an optimal psychological climate for creative work--happiness and intensiveness. As you may guess, this imagines an intensified training of the teachers in the field of suggestology and suggestopedy. Let us not forget that here the school week lasts five days and that there is no homework. Everything must be mastered in school, applying the principle of unity among work, study, and esthetics, and constant exposure to music, theater, ballet, and recitals (all these are inseparable elements of the curriculum).

Can you remember now your first hour in the classroom? Something must have remained, an image, some words, perhaps a melody. No? Have you forgotten absolutely everything? And you do not know why? Indeed, it would be difficult to answer the question. I think that there was not enough joy . . . Yes, looking at the children in first "e" grade I was certain of one thing, that they will remember their first school hour.

CONTROL OF HEART, CIRCULATORY DISEASES DISCUSSED

East Berlin DAS DEUTSCHE GESUNDHEITSWESEN in German Vol 32 No 43, 1977 p 2017

[Article by Prof Dr K. Richter, 1st Medical Clinic and Prof Dr G. Anders, 2nd Medial Clinic, Humboldt University, East Berlin: "Heart-Circulatory Screening With Public X-Ray Examination Series as a Contribution to the Systematic Control of Heart-Circulatory Diseases in the GDR"]

[Text] The systematic control of heart and circulatory diseases is classed among the most ambitious undertakings assigned to GDR public health for the years to come. The objective is to help resolve public health problems which have arisen from the epidemiological situation of heart and circulatory diseases and to achieve measureable results in this field in the foreseeable future. This requires scientifically-founded, systematically and methodically executed measures for the prevention and control of these diseases.

Although the exploration of the causes for contracting diseases of the heart and circulatory system is proceeding internationally with great intensity, our knowledge of the etiological and pathogenic connections is still very fragmentary and has not at all reached the level of facilitating general prevention of cardiovascular disease processes. On the other hand, there is still an abundance of findings which right now can be practically exploited in numerous aspects of cases for effective control of the disease process in its various stages, both early and the advanced. In consideration of these factors, the research team for heart and circulatory diseases has developed a strategy for control of these diseases, which includes tasks of continued research in the same way as measured by medical practice.

Epidemiological statistics demonstrates that in a high percentage of cases, those suffering from heart and circulatory diseases are not aware of their illness. Moreover, where a cardiovascular illness is recognized, it is being adequately treated in only a small portion of such cases. On the other hand, the effectiveness of adequate therapeutic intervention has been scientifically proven in many cases of heart and circulatory diseases. As an example, we refer to the Veterans' Administration Cooperative Study [given in English] for the critical evaluation of hypertension therapy. This

study had to be discontinued after 20 months because the complications rate of hypertension in the treatment group in comparison to a control group was quite significantly reduced, so that the missing therapy in the control group was no longer medically justifiable.

From these findings, the demand arises for timely detection, through precautionary examinations, of heart and circulatory patients and those prone to complications. For this purpose, proper diagnostic techniques must be made available, which are to be used as screening tests systematically and on a large scale. Their general application makes it necessary that measures for the follow-up care of the cases detected be assured beforehand, because we proceed from the premise that screening and prevention, diagnosis and therapy form a unit. In view of these facts, we have now at our disposal the scientific foundations to include public X-ray examination series as effective heart and circulatory screening and which will put the findings into practice. The studies collected in this volume are partly the findings of the research team; partly the results of the dedicated personal efforts of pulmonologists, cardiologists, and internists in the state health establishments of various GDR bezirks; and finally, reports on relevant activities in the People's Republic of Poland. All these give an overview of the present state of affairs in this field.

CSO: 5400

## HUNGARY

### COMMITTEE CREATED TO COORDINATE INSTRUMENT DEVELOPMENT, AUTOMATION OF RESEARCH

Budapest AKADEMIAI KOZLONY in Hungarian 31 Oct 77 pp 129-130

[Decree No 4/1977.(A.K. 12.) MTA-F of the general secretary of the Hungarian Academy of Sciences for the establishment of the Instrument Development and Research Automation Coordinating Committee of the Hungarian Academy of Sciences]

[Text] In order to coordinate the execution of the tasks assigned to the Hungarian Academy of Sciences by the agreement signed on 18 February 1977 at the Moscow Conference of the leaders of the academies of sciences of the socialist countries, to coordinate the domestic activities in the field of scientific instrument development and automation of research, and to promote the unification of research, development, manufacturing, and application in these areas — in compliance with the resolution No 30.001/1977 of the Committee on Science Policy — I have decided to establish a Scientific Instrument Development and Research Automation Coordinating Committee (hereinafter called TMKKB) after consultation with and agreement by the minister of metallurgy and machine manufacture, the minister of agriculture and food, and the chairman of the National Technical Development Committee. The TMKKB will follow the provisions of the national science policy promulgated by the MTA [Hungarian Academy of Sciences] and will utilize the potentialities of international cooperation in giving advice and taking positions in matters related to its task, so as to contribute to the more effective utilization of the intellectual and material resources.

#### Paragraph 1

The following are the tasks of the TMKKB:

(1) To prepare position papers and recommendations, taking the international division of labor and the relevant national-level programs into consideration,

- about the research, development, experimental production, and use of scientific instruments, and
- about the research, development, experimental production, and use of computer-technological and other equipment for the automation of the processing of data resulting from research and research-administration projects

as well as medium-range and long-range plans in these subjects for the Hungarian Academy of Sciences and other organs of national jurisdiction.

(2) To formulate and monitor those research, development, and experimental production activities which require central coordination, specifically coordination with the plans of the various entities, which the Hungarian party desires to include in the international cooperation scheme operating under the jurisdiction of the Coordinating Committee of the academies of sciences of the socialist countries, and which are of outstanding importance in the development of the national research base.

(3) To promote cooperation among institutions of the Hungarian Academy of Sciences and other organs of national jurisdiction for the furtherance of transition from development to manufacture, and for the realization of the research, development, experimental production, and use goals assumed by the MNK [People's Republic of Hungary] in the international cooperation scheme.

(4) To periodically examine the scientific instrument research and development activities related to the national long-range scientific research plan, and to initiate any modifications which are found to be necessary through the applicable organs of national jurisdiction.

(5) To provide mutual information exchange among the organs included in the TMKKB in the applicable fields.

(6) To coordinate the use and procurement of major instruments by the institutions of the Hungarian Academy of Sciences with the instrument development and manufacture activities covered by the cooperation scheme of the academies of sciences of the socialist countries, in cooperation with the Instrument Committee of the MTA and the Instrument and Metrology Service.

(7) To carry out such other activities in the subject field which are assigned to the Committee by the general secretary of the MTA.

## Paragraph 2

(1) The TMKKB consists of the chairman, designated by the general secretary, the deputy chairman, the secretary, representatives of organs of national jurisdiction, and the heads of certain research institutions of the MTA who are appointed by the general secretary. Special regulations will govern the staff of the TMKKB.

(2) The chairman of the TMKKB represents the Hungarian Academy of Sciences in the International Coordinating Committee for Scientific Instrument Development and Research Automation.

(3) Activities between meetings of the TMKKB are carried out by an executive committee consisting of the chairman of the TMKKB, its deputy chairman, its secretary, and two of its members. The executive committee acts in matters falling into its jurisdiction in consultation with the ministries concerned. The executive committee must report its activities to the full TMKKB.

(4) The TMKKB office performs the preparation of the meetings of the TMKKB, the collection of the information required for the formulation of a position paper, the monitoring of the implementation of the resolutions, and all other administrative functions required for the proper operation of the TMKKB. The office is under the jurisdiction of the secretary of the TMKKB.

(5) The activities of the TMKKB, its executive committee, and its office are carried out in accordance with the provisions of the operating rules established by the TMKKB. The operating rules must be, after they are completed, submitted for approval of the International Coordinating Committee and then to the general secretary of the Hungarian Academy of Sciences.

(6) The executive committee and office of the TMKKB may establish working committees and may use the services of appointed consultants.

## Paragraph 3

(1) The office of the TMKKB and the main departments of the Central Office of the MTA mutually inform each other about the execution of the resolutions of the academy affecting the operations of the TMKKB.

(2) The representative of the organ of national jurisdiction concerned will report regularly about the status of opinions and positions promulgated by the committee to the non-academic research and development institutions which are of interest to them.

Paragraph 4

This decree becomes effective on the day of its promulgation.

[signed by] Ferenc Marta  
general secretary

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CSO: 2502

## HUNGARY

### ACADEMY ESTABLISHES COMMITTEE TO SUPERVISE GENETIC EXPERIMENTATION

Budapest AKADEMIAI KOZLONY in Hungarian 31 Oct 77 p 131

[Proposal of the presidium of the Hungarian Academy of Sciences about the use of new genetic experimental methods and the problems associated with them]

[Text] New methods were developed recently which permit the combination of two molecules of desoxyribonucleic acid, from any origin, under laboratory conditions. This method permits the incorporation of new inheritable traits in the living organisms. Over the long range, this technique is of very great importance. It permits the major extension of molecular biology applications in drug manufacture, therapy, agriculture, environmental protection, and other areas.

However, the new technique also creates some hazards. New genotypes may be developed of the kind not encountered in nature. The characteristics of them cannot be forecast.

The prerequisites for such research are available in our country, and some studies in this field are already underway. The hoped-for results of these studies are very desirable; however, we must expect a degree of risk.

The MTA [Hungarian Academy of Sciences] and the EuM [Ministry of Health] established a joint ad hoc committee for examining the state of domestic research in the field of genetic information transmittal and — in view of the potential risks — for preparing proposed guidelines to be followed in such studies, as well as for preparing the measures needed to deal with them.

Resolution 30/1977 of the Presidium

The presidium thanks the committee for its careful work in preparing the report and resolves the following in this matter:

1. The presidium considers that gene-transmittal studies must be continued under controlled conditions, even though they do create some possible risks. It judges that basic studies in this field are desirable because of their great importance in fundamental research, therapy, and agriculture.

2. It is desirable, for both scientific and public-health reasons, to find a procedure for controlling these studies. The presidium appointed the committee listed below for this task (checking the plans, evaluating the results, and on-site inspections). The membership of the committee includes those who prepared the report and additional experts.

Chairman: Zsuzsa Hollan, academician

Members:

Lajos Alföldi, doctor of biological sciences,  
Zoltan Barabas, candidate of agricultural sciences,  
Egon Hidvegi, candidate of biological sciences,  
Hedda Milch, candidate of medical sciences, senior staff scientist  
at OKI [National Institute of Public Health],  
Istvan Ketyi, doctor of medical sciences,  
Istvan Nasz, doctor of medical sciences,  
Dezso Schuler, doctor of medical sciences,  
Gabor Szabo, academician,  
Jozsef Szegi, doctor of agricultural sciences,  
Pal Venetianer, doctor of biological sciences,  
E. Szilveszter Vizi, candidate of medical sciences, deputy chief department head, EuM.

The presidium authorizes the chairman of the committee to add other expert members to the committee and to establish subcommittees, after consultation with the deputy academy president responsible for the scientific discipline concerned.

3. The presidium appoints the president of the academy to propose to the Ministry of Health that his ministry work together with all organs of national jurisdiction concerned in establishing a smoothly working supervision scheme for the studies, specifically in developing laboratory health measures and inspection procedures. In order to ensure that the studies are conducted without undue interference, it is desirable to maintain a close cooperation between the scientific committee and the public-health authorities.

4. The presidium proposes that the gene-transmittal studies carried out under controlled conditions be supported, both morally and financially, by the Hungarian Academy of Sciences, the Ministry of Health, and the other organs of national jurisdiction since they are highly promising and important.

5. On the basis of the debate the presidium concludes that the treatment of in vitro tissue cultures with mutagenic agents also has potential risks, of the same kind as manipulations on the molecular level. It therefore charges the committee defined in Section 2 to review the experiences gained in the development of the guidelines governing the gene-transmittal experiments and then to make appropriate recommendations for the presidium in this matter, so that the situation in this equally important field could be assessed and properly dealt with.

6. The Hungarian Academy of Sciences desires to be a spokesman for the use of this scientific technique for the benefit of mankind and not for the creation of means of mass destruction.

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CSO: 2502

## HUNGARY

### ROSTER OF DOCTORS AND CANDIDATES OF SCIENCES PUBLISHED

Budapest MAGYAR TUDOMANY in Hungarian No 9, 1977 pp 703-705

[News from the Committee of Scientific Qualification: New Doctors and Candidates of Sciences, June 1977]

[Text] I. The Committee of Scientific Qualification declared

Lajos Barcza, doctor of chemical sciences, on the basis of his dissertation entitled "Anion Complexes With Hydrogen Bridge"; the opponents were: Jozsef Csaszar, Janos Nyilasi, and Pal Szarvas, doctors of chemical sciences;

Bela Fazekas, doctor of economic sciences, on the basis of his dissertation entitled "The Agricultural Cooperative Movement in Hungary"; the opponents were: Erno Csizmadia, academician, Peter Simon, candidate of historical sciences, and Ferenc Vagi, doctor of economic sciences;

Imre Gonda, doctor of historical sciences, on the basis of his dissertation entitled "Downfall of the Central-European Empires"; the opponents were: Jozsef Galantai and Janos Jemnitz, doctors of historical sciences, and Karoly Irinyi, candidate of historical sciences;

Domokos Kosary, doctor of historical sciences, on the basis of his dissertation entitled "Education in Hungary During the 18th Century (1711-1970)"; the opponents were: Bela Kopeczi and Istvan Soter, academicians, and Laszlo Makkai, doctor of historical sciences;

Gyula Kristo, candidate of historical sciences, on the basis of his dissertation entitled "Feudal Fragmentation in Hungary"; the opponents were: Antal Bertha and Elemer Malyusz, doctors of historical sciences, and Jenő Szucs, candidate of historical sciences;

Laszlo Lampe, doctor of medical sciences, on the basis of his dissertation entitled "Birth Triggering, Programmed Delivery"; the opponents were: Domokos Boda, Janos Laszlo, and Imre Zoltan, doctors of medical sciences;

Tamas Pocs, doctor of biological sciences, on the basis of his dissertation entitled "Complex Vegetation Studies in East Africa (Tanzania, Uluguru Mountains)"; the opponents were: Gabor Fekete and Tibor Simon, doctors of biological sciences, and Magdolna Komplodi (Mrs Jaray), candidate of biological sciences;

Zoltan Roman, doctor of economic sciences, on the basis of his dissertation entitled "Productivity and Economic Growth"; the opponents were: Katalin Szikra (Mrs Falus), academician, Tibor Erdos, doctor of economic sciences, and Lajos Olle, candidate of economic sciences; and

Ferenc Szanto, doctor of chemical sciences, on the basis of his dissertation entitled "Sedimentation and Rheological Properties of Structured Suspensions With Special Emphasis on Clay Minerals"; the opponents were: Marta Dery, doctor of technical sciences, L. Gyorgy Nagy and Sandor Rohrsetzer, doctors of chemical sciences.

## II. The Committee of Scientific Qualification declared

Jeno Barsony, candidate of educational sciences, on the basis of his dissertation entitled "Complex Education and the Patronage of Student Groups in Higher Learning Institutions";

Zsuzsanna Bekker, candidate of economic sciences, on the basis of her dissertation entitled "Growth of the Dynamic Economy Sectors and Economic Growth";

Istvan Bencsik, candidate of educational sciences, on the basis of his dissertation entitled "Modern Principles and Practices of the Preparation of Trade Curricula";

Imre Bogi, candidate of medical sciences, on the basis of his dissertation entitled "Diagnosis and Therapy Guidelines in the Surgical-Orthodontal Treatment of Dysgnathias";

Ivonne Csanyi, candidate of psychological sciences, on the basis of her dissertation entitled "Non-Verbal Thinking and Verbal Facility in Deaf People";

Mikos Csiky, candidate of medical sciences, on the basis of his dissertation entitled "Experimental Chamber Fibrillation in Hypothermia";

Gyula Csom, candidate of technical sciences, on the basis of his dissertation entitled "Determination of the Calorific Value and Ash Content of Coals With the Aid of Gamma and X-rays";

Ilona Dobos, candidate of literary (folkloristic) sciences, on the basis of her dissertation entitled "The Hungarian History Saga";

Attila Dobozy, candidate of medical sciences, on the basis of his dissertation entitled "Use of the Methods Examining the Lymphocyte Function in Dermatology";

Tamas Farkas, candidate of medical sciences, on the basis of his dissertation entitled "Role of Injuries of the Cartilage in the Joints in the Development of Post-Traumatic Arthrosis";

Istvan Feher, candidate of physical sciences, on the basis of his dissertation entitled "Determination of Internal Radiation Exposure in Animal Experiments and in Humans";

Gabor Fejes Toth, candidate of mathematical sciences, on the basis of his dissertation entitled "Placement and Coverage Problems on Planes";

Attila Ferencz, candidate of economic sciences, on the basis of his dissertation entitled "Some Aspects of the Cooperation Among Enterprises Participating in the Execution of Investment Projects, With Special Emphasis on the Relationships Among Construction-Industry organizations";

Laszlo Foldenyi, candidate of philosophical sciences, on the basis of his dissertation entitled "From Drama to the Stage";

Jozsef Fovenyi, candidate of medical sciences, on the basis of his dissertation entitled "Development of Insulin Secretion and the Plasma Lipid Levels in the Diabetic Syndrome";

Imre Gara, candidate of medical sciences, on the basis of his dissertation entitled "Advance Signs of Heart and Heart-Muscle Infarct in Ischemic Heart Diseases";

Balint Gombos, candidate of agricultural sciences, on the basis of his dissertation entitled "Possibility of Increased Use of Alfalfa Meal in the Feeding of Fattening Pigs";

Frigyes Gorgenyi, candidate of medical sciences, on the basis of his dissertation entitled "The Immunological Background of the Basedow-Graves Disease and Its Relationship to Immunothyreoiditis on the Basis of Clinical Observations and an Experimental Thyreoiditis Model";

Gabor Hrotko, candidate of technical sciences, on the basis of his dissertation entitled "Design Aspects of Modules Used for the Measurement of the Operational Parameters of Computer Systems";

Denes Incze, candidate of medical sciences, on the basis of his dissertation entitled "Experiences Gained in the Trans-Segmental Mechanical Dissection of the Lung";

Ferenc Incze, candidate of medical sciences, on the basis of his dissertation entitled "Experiences and Conclusions About the Significance of Colon Polyps";

Ilona Sz. Jonas, candidate of historical sciences, on the basis of her dissertation entitled "The Tax-Paying Population of Paris During the Turn of the 13rd and 14th Centuries";

Janos Kereszturszky, candidate of agricultural sciences, on the basis of his dissertation entitled "Organization and Economic Assessment of the Operation of Irrigation Systems";

Endre Kiss, candidate of philosophical sciences, on the basis of his dissertation entitled "Toward the Realization of Absoluta (The Effect of Nietzsche on Hungary in 1918-1919)";

Laszlo Klujber, candidate of medical sciences, on the basis of his dissertation entitled "Excretion of Physiological Hydroxyproline and Glucosamine, and the Mucopolysaccharides";

Sandor Kukovics, candidate of agricultural sciences, on the basis of his dissertation entitled "Measurement of Territorial Differentiation in Co-operative Agriculture";

Tamas Lajos, candidate of technical sciences, on the basis of his dissertation entitled "Properties of Flows in Cross-Flow Ventilators";

Istvan Lajtai, candidate of technical sciences, in recognition of his work in the field of numerically controlled machine tools in the Csepel Tool Factory Between 1945 and 1975;

Sandor Majtenyi, candidate of technical sciences, on the basis of his dissertation entitled "Possibility of Mathematical Modeling for the Examination of Gear Pump Performance," defended in the German Democratic Republic;

Miklos Mandel, candidate of economic sciences, on the basis of his dissertation entitled "Central Investment Decisions";

Lajos Matos, candidate of medical sciences, on the basis of his dissertation entitled "Clinical Pharmacology of Cronotropic and Inotropic Pharmaceuticals";

Lajos Meszaros, candidate of medical sciences, on the basis of his dissertation entitled "Pharmacspirometry in the Diagnosis of Chronic, Non-Specific Diseases of the Respiratory Tract";

Mrs Miklos Mojzer, candidate of the art-historical sciences, on the basis of her dissertation entitled "Heyday of the Paris Rondebosser Ceramic Art and the Calvary of Matthew";

Gyula Molnar, candidate of medical sciences, on the basis of his dissertation entitled "Control of the Anti-Epileptic Level in Patients Being Treated for Chronic, Compound Epilepsy";

Ahmed Ali Montaser, candidate of technical sciences, on the basis of his dissertation entitled "Identification of Discrete-Time Linear Systems in a Closed Cycle";

Tamas Nagy, candidate of technical sciences, on the basis of his dissertation entitled "Numeric Study of Paraboloidal Shells With Flat Elliptical Configuration";

Sandor Nagylucskay, candidate of medical sciences, on the basis of his dissertation entitled "Dynamics of the Epidemiology of Viral Hepatitis";

Judit Orley, candidate of medical sciences, on the basis of her dissertation entitled "Vaginal Mycosis of Girls";

Janos Pados, candidate of economic sciences, on the basis of his dissertation entitled "Determination of the Optimum Service Life of Motor Vehicles";

Hosny Hafez Ali Abdel Rahman, candidate of economic sciences, on the basis of his dissertation entitled "Investigation of the Production, Use, and Growing of Egyptian Wheat, Rice, and Cotton";

Andras Recski, candidate of mathematical sciences, on the basis of his dissertation entitled "Matroids and Electric Networks";

Antal Renner, candidate of medical sciences, on the basis of his dissertation entitled "Results of the Treatment of Fresh Joint Fractures, Infections, and Late Complications on the Long Fingers";

Edgardo Felipe Riveron, candidate of technical sciences, on the basis of his dissertation entitled "Designing Colored Grid-Scanning Graphic Displays for Process-Control Purposes";

Imre Sandor, candidate of economic sciences, on the basis of his dissertation entitled "Advertising in the Service of Systematic Meeting of the Needs and Effective Socialist Enterprise Management";

Lajos Simon, candidate of pharmacy sciences, on the basis of his dissertation entitled "Role of the Chemical Structure and Physic-Chemical Properties in the Pharmacological Effects of Isoquinoline Derivatives";

Gyula Soltesz, candidate of medical sciences, on the basis of his dissertation entitled "Changes in the Blood-Sugar and Plasma Aminogram in the Metabolism Adaptation of the Newborn";

Zoltan Szelesi, candidate of the art-historic sciences, on the basis of his dissertation entitled "The Creative Art in Szeged";

Istvan Szerdahelyi, candidate of philosophical sciences, on the basis of his dissertation entitled "History of Hungarian Esthetics Between 1945 and 1956";

Laszlo Sziraki, candidate of technical sciences, on the basis of his dissertation entitled "Method for the Evaluation of Engineering Sketches for the Construction and Reconstruction of Autoroutes";

Ferenc Szokol, candidate of historical sciences, on the basis of his dissertation entitled "The United Front of the Communist Party of Japan and the Democratic Forces; Problems of Its Establishment between 1970 and 1976";

Mai Van Thieu, candidate of economic sciences, on the basis of his dissertation entitled "Some Aspects of the State Support of Agriculture and Their Effect on the Operation of Agricultural Cooperatives";

Laszlo Veszpremi, candidate of educational sciences, on the basis of his dissertation entitled "Modernization Aspects of Student Evaluation and Grading"; and

Sandor Vezendi, candidate of medical sciences, on the basis of his dissertation entitled "Scadding-Type Diffuse Alveolitic Fibrolization and Its Differential Diagnostics."

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POLAND

POLISH ACADEMY OF SCIENCE ACTIVITIES, PERSONNEL

Warsaw NAUKA POLSKA in Polish No 8, Aug 77 pp 75-103

[Excerpts from the column: "The Chronicle"]

[Excerpts] Awards and Jubilees

On 6 June 1977, at the headquarters of the PAN [Polish Academy of Sciences] in Warsaw, the Soviet ambassador to Poland, Stanislaw Pilotowicz, awarded the diploma of foreign member of the USSR Academy of Sciences to Wlodzimierz Trzebiatowski, PAN fellow and president, and to Maciej Naleczow, PAN Fellow and secretary of PAN Section IV, Dr Jarema Maciszewski, director of the Science and Education Department of the PZPR Central Committee, and members of the PAN administration were present at the ceremony.

In March 1977, Jan Kaczmarek, PAN fellow and scientific secretary, was selected as a foreign member of the National Academy of Engineering in Washington.

In December 1976, PAN fellows, Witold Hensel and Jan Mikusinski, were selected as foreign members of the Macedonian Academy of Sciences and Knowledge.

Jan Zurzycki, associate member of PAN, was selected as a foreign member of the Leopold German Academy of Natural Sciences.

On 16 March 1977, the Royal Polytechnic in Stockholm awarded a doctorate honoris causa to Witold Nowacki, PAN fellow and vice president. The award was made in conjunction with the 100th year jubilee of this institution.

PAN fellow, Kazimierz Michalowski, was awarded a honorary doctorate by Uppsala University.

Uppsala University also awarded in January 1977 a doctorate honoris causa to PAN fellow, Mieczyslaw Klimaszewski.

PAN fellow, Marian Danysz, was awarded the title of doctor honoris causa by the University of Warsaw.

PAN fellow, Manfred Lachs, was made an honorary member of the American International Law Association.

PAN fellow, Kazimierz Petruszewicz, was awarded an honorary membership in the British Economic Association.

Antoni Rutkowski, PAN associate member, was selected as an honorary member of the Hungarian Scientific Association of the Food Industry at their 18 March 1977 general meeting.

#### Scientific Cooperation Agreements

At the invitation of the Academy of the Socialist Republic of Romania, a delegation from the PAN visited Bucharest from 22 to 25 February 1977 to discuss and ratify a plan for scientific cooperation for the 1976-1980 period between the PAN and the Academy of the Socialist Republic of Romania and the Romanian Academy of Social and Political Sciences.

During the discussions, a thematic plan for further cooperation was discussed and evaluated. The above document was signed by Tadeusz Orłowski, PAN fellow and first deputy scientific secretary, for Poland, and by Academician Ion Anton, of the Academy of the Socialist Republic of Romania, and Roman Moldovan, associate member and vice president of the Romanian Academy of Social and Political Sciences, for Romania.

The plan encompasses 17 problems for cooperation that concern, among others: history of philosophical and contemporary thought; Polish-Romanian political relations and cultural contacts in the 16th and 17th centuries; principles for protecting specific objects in Romanian and Polish natural parks and reservations; flora of the Carpathian region; equilibrium of organic converter mixtures and physicochemistry of fused salts; regional structure of an economy, especially industrialization and urbanization processes as well as development of rural areas; the mechanics of deformable bodies, liquids and gases; the hydrodynamics of spatular systems, especially cavitation phenomena in hydraulic machines and equipment.

To substantiate cooperation in the specified problem areas, it was agreed that interested institutions from both sides will develop and ratify working plans by 1 September 1977, in which specific tasks, goals and forms of cooperation, mutual obligations and time schedules will be designated. To realize the cooperation plan, the academies agreed to 176 exchange weeks on a yearly basis, including 96 weeks of long-term training and research visits. It was also established that priority will be given to visits concerning mutual research as designated in the problem plan, to visits that improve qualifications of scientific cadres and to attendance in the more important scientific meetings that concern implementation of thematic cooperation.

At the invitation of the PAN, a delegation from the Council of the Academy of Arts and Sciences of the Socialist Federal Republics of Yugoslavia, headed by Academician Edhem Camo, visited Poland from 2 to 9 May 1977.

As a result of the visit, an agreement concerning scientific cooperation between the PAN and the Council of the Academy of Arts and Sciences of the Socialist Federal Republics of Yugoslavia was signed on 5 May 1977. Szczepan Pieniazek, PAN fellow and vice president, signed the agreement for Poland, and Academician Edhem Camo, council chairman, signed for Yugoslavia.

The agreement is the main document regulating the principles of cooperation between the PAN, the council, the academies of arts and sciences of the republics and the Kosow Association of Arts and Sciences and their subsidiary institutions. In the agreement, it was emphasized that cooperation will be implemented on the basis of the agreed to thematic and working plans concluded among specified interested institutions of both sides. It was agreed that visits by scientific personnel will be on a no-foreign-exchange basis, and the extent of the visits will be established in executive protocols or working plans. The agreement also defines conditions for accepting scientific personnel as well as principles for publishing joint research results. Both sides will promote the publication in scientific publications of their respective countries of articles concerning scientific problems. There also will be cooperation among scientific libraries and other scientific institutions regarding the free exchange of books, periodicals and bibliographies and periodic access to publications. Financial terms regarding the no-foreign-exchange visits, the organization of scientific meetings, supplying expertise and the like were also established.

The term of the agreement was not specified.

Our Yugoslav guests visited various PAN scientific organizations and were entertained by the PAN section in Krakow.

#### Research Results: Dendritic Microsegregation of Aluminum Alloys

At the PAN Basic Metallurgy Facility in Krakow, Doc Dr Hab Eng Ryszard Ciach, Dr Eng Andrzej Pawlowski, Dr Eng Barbara Dukiet-Zawadzka and Magister Eng Mieczyslaw Hamankiewicz developed a process concerning the dendritic microsegregation of binary alloys. Dendritic segregation causes uneven distribution of alloy components, and this has a marked negative effect on an alloy's technical and useful characteristics, for example, resistance to corrosion, malleability and so forth.

During the research at the PAN metallurgy facility, the hardening processes of AlZn, AlMg and AlSi alloys were evaluated using the Krupkowski formula. Based on an originally derived alloy segregation index, a computer program was developed that permits maximum dendritic segregation of any binary alloy to be determined.

Experiments were conducted on the dendritic heterogeneity of aluminum alloy castings. The original scientific results obtained from this research are of great practical significance. The first group of alloys, widely used in construction, are "antricirodal" type alloys. The conducted research indicates that it is necessary to conduct melting and casting processes of these alloys in such a way that they are not contaminated with iron, whose harmful effect is then difficult to eliminate, even with the use of appropriate technical cuttings. There are reasons to believe that eliminating iron from these alloys will expand the possibilities of extruding thin-walled sections, improve mechanical properties and improve corrosion resistance.

Determining the effect of AlZn alloy components on the degree of heterogeneity and homogenous annealing should have similar practical results. These alloys, used as material for slide bearings, require homogenous component layers. The proposed homogenizing method will eliminate the mentioned microheterogeneity, and thus improve the alloy's technical properties. Regarding the great practical use of this alloy vis-a-vis its resistance to corrosion, it is used extensively in finishing window frames, external construction components of commercial buildings, lamp posts, road markers and so forth.

The research results, which make it possible to reduce construction weights by 6 to 8 percent and resistance to corrosion by about 15 percent, were forwarded to the Nonferrous Metals Institute.

#### From the Polish Scientific Movement: Meeting of the Soviet-Polish Economic Sciences Commission

A conference of the Soviet-Polish Economic Sciences Commission was held in Warsaw on 10 and 11 May 1977. This commission has been in operation since 1976. The development of socialist ownership relationships and improving management of the national economy were subjects of the meeting.

Soviet economists presented the following papers: "The Development of Socialist Ownership and Improving the Management Process," by E. I. Kapustin, associate member of the USSR Academy of Sciences and director of the Economics Institute of the USSR Academy of Sciences; "Socialist Ownership and Economic Stimulation," by Dr R. I. Szirajewa; "The Development of Associations in the USSR as a Factor in Improving the Mechanism of Management," by Dr W. G. Starodubrowskij; "Integrated Socioeconomic Planning, New Forms of Managing City Expansion," by Prof Dr G. N. Czerkasow; "Socioeconomic Problems in Realizing the Leninist Cooperative Plan in Terms of Developing Socialism," by Prof Dr W. A. Tichonow and "Processes for Managing Economic and Agricultural-Industrial Associations," by Dr A. I. Arcidow.

From the Polish side, the following papers were delivered: "Socioeconomic Development and Improving the System of Planning and Management," by

K. Secomski, PAN fellow and vice premier; "The Economic Mechanism During the Period of Building a Socialist Society," by Prof W. Zastawny; "The Process of Socializing Industry and its Consequences for the Management System," by Doc Dr R. Chelinski; "The Activization Role of Distribution Relationships in the Process of Managing the National Economy," by PAN associate member A. Melich and "The Development of Socialist Ownership Formations in Agriculture in People's Poland," by PAN associate member H. Cholaj.

### Thirty Years of Soviet-Polish Scientific Cooperation

The Main Administration of the Society for Soviet-Polish Friendship, the Ministry of Science, Higher Education and Technology and Gdansk Polytechnic organized a central scientific symposium in honor of the 30th anniversary of Soviet-Polish scientific cooperation. The meeting was dedicated to the role and significance of Soviet scientific thought in influencing Poland's technical and scientific cadres. The symposium was held in Gdansk on 11 March 1977.

The meeting was attended by representatives from all the technical and agricultural schools in Poland as well as Soviet guests. Prof Tomasz Biernacki, rector of Gdansk Polytechnic, opened the symposium. He spoke of the constantly growing scientific contacts between Gdansk Polytechnic and Soviet scientific institutions, especially those in Leningrad. Then the vice minister of science, higher education and technology presented the results of Soviet-Polish scientific cooperation in the area of training scientific cadres, and Dr Oleg Dubrowskij, advisor at the Soviet embassy in Warsaw, presented a paper on scientific and technical cooperation.

Prof Jerzy Rzyzsko, prorector of Gdansk Polytechnic, spoke of cooperation between the higher schools of Poland and the USSR. Doc Dr Hab Marian Cichy, prorector of Gdansk Polytechnic, spoke of joint research and scientific projects, for example, between higher schools in Gdansk and Leningrad. Prof Idzi Rzyzinski of the Agricultural Academy in Szczecin discussed the cooperation among the higher agricultural schools of both countries.

In the discussions, the fact was emphasized that contacts among Polish and Soviet schools are very popular and extensive. Presently, 190 Polish and 245 Soviet schools and other scientific institutions are jointly involved in 460 research projects. In the last 30 years, 3,400 specialists and 400 postgraduate students from Poland were trained in Soviet schools. In the past few years, progress in this area has even accelerated. Presently, 2,000 Polish students, four times more than in 1971, for example, are now studying in the USSR. Twenty-three Polish higher technical and agricultural schools are continually cooperating with over 40 similar Soviet schools. Contacts between the Warsaw Polytechnic and the Bauman Technical Institute in Moscow, between Gdansk Polytechnic and the Leningrad Institute for Shipbuilding, and between the Central School of Farming Agricultural

Academy in Warsaw and Moscow's Agricultural Academy have been especially fruitful.

A great deal of attention was devoted to the further development of this cooperation in the area of training scientific cadres. A need was also indicated for closer cooperation among the higher schools of both countries relative to common problems in Poland and the Soviet Union as well as in all the CEMA countries.

#### Polish-German Seminar on Thermostable Polymers

A Polish-German seminar entitled "Thermostable Polymers" was held in Chorzow from 4 to 6 May 1977. It was organized by the PAN Polymer Facility in Zabrze with the collaboration of the GDR Academy of Sciences Central Institute of Organic Chemistry in Berlin. About 50 people, representing various Polish and GDR scientific institutions, were in attendance.

Prof Dr Eng Zbigniew Jedlinski, director of the PAN Polymer Facility, opened the meeting. Two basic subjects were discussed at the meeting: the synthesis and properties of thermally stable polymers and the destruction and stabilization of polymers.

Problems related to these subjects were discussed in a number of papers and discussions.

The plenary papers were delivered by Prof Dr C. Bischof of the GDR Academy of Sciences Institute of Chemistry of Polymers in Teltow; Dr D. Heina of the GDR Academy of Sciences Central Institute for Organic Chemistry in Berlin; Prof Dr M. Kryszewski of the PAN Center for Molecular and Macromolecular Research in Lodz; Doc Dr J. Zurakowska-Orszagh of the University of Warsaw and Prof Dr Z. Jedlinski of the PAN Polymer Facility in Zabrze.

The most important trends in research being conducted in both countries in the area of thermostable polymers were reviewed at the meeting. The development of Polish-GDR cooperation in polymer research that might prove beneficial was also discussed.

A seminar was held at the PAN Polymer Facility in Zabrze on 10 May 1977 at which Prof J. W. Lorimer of the University of London, Canada, delivered a paper entitled "Light Scattering and Thermodynamics in Binary Liquid Mixtures."

About 40 people from various Polish scientific centers participated in the seminar.

#### Radio and Microwave Spectroscopy

An international conference entitled "Radio and Microwave Spectroscopy--Ramis 77" was held in Poznan from 19 to 22 April 1977. This was the 70th conference of this type held thus far. It is held biannually in Poland and organized by the PAN Molecular Physics Institute in Poznan with the collaboration of the PAN Spectroscopic Commission and the Polish Physics Society.

Approximately 150 physicists participated in the conference, including 25 foreigners from Belgium, Yugoslavia, Canada, the GDR, Romania, Hungary, Great Britain and the USSR, as well as specialists from all the Polish scientific centers.

The conference was dedicated to the problems of radio and molecular spectroscopy. Among other things, results of investigations on the structures and dynamics of crystals and molecular systems by means of magnetic resonance methods were presented.

#### Agricultural Development Program

The Department of Ideoeducational Work, the Institute of Basic Problems of Marxism-Leninism, the Organization Department of the Department of Agriculture and Food Economy, all of the Central Committee of the PZPR, held an all-Polish, party-scientific conference in Opole from 24 to 26 February 1977 on the role of party gmina organizations in realizing the program to develop agriculture and feed the nation. The meeting concentrated on basic problems associated with the proper realization of agricultural policies.

The conference was opened by Prof Wlodzimierz Wesolowski, first deputy director of the Institute of Basic Problems in Marxism-Leninism. Next, Jerzy Wojtecki, director of the Department of Agriculture and Food Economy of the Central Committee of the PZPR, delivered a paper on the program to develop agriculture and feed the nation during the 1976-1980 period. Andrj Ozga, deputy director of the Organization Department of the Central Committee of the PZPR, spoke about the primary efforts being made to improve party work in the gminas. Prof Konrad Bajan discussed problems related to the organizational role of party gmina organizations in agricultural production. Prof Adolf Dobieszewski and Dr Stepan Dziabala discussed factors that enable party organizations to fulfill the directing role of the party in rural area work and life.

Several dozen individuals participated in the discussions. It was emphasized that to properly realize the tasks of the party gmina organizations will require constant improvement of work methods and forms as well as applying them to current needs and conditions of Poland's socioeconomic development. Also, attention was focused on the need to constantly develop initiatives in order to create conditions for a rapid growth of agricultural production and to stimulate and activate the people vis-a-vis the integrated development of agriculture and rural areas.

## 12th International Congress of Surgery

Under the honorary patronage of Piotr Jaroszewicz, president of the Council of Ministers, the 12th Congress of the European Association for Basic Research in Surgery, organized by the Experimental Surgery and Transplantology Group of the PAN Center for Experimental and Clinical Medicine, was held in Warsaw from 25 to 27 April 1977.

The association, founded in 1965, presently consists of about 500 members of not only surgeons but also physicists, physiologists, biochemists and the like. Its main purpose is to propagate research in the immunology, endocrinology, neurobiology and physiology of human organisms, both sick and healthy. Many socialist countries, including Poland, participated in the association's activities from the very beginning.

In attendance at the congress were over 500 representatives of practically every country in Europe and also of India, Japan, Canada, the United States and the South American countries. They were eminent specialists in various medical disciplines: surgeons, biologists, geneticists, oncologists, transplantologists, specialists in engineering medicine and others. Representatives from various Polish institutions and associations also attended.

The initial lecture, on the effect of the basic sciences on clinical surgery, was delivered by Jan Nielubowicz, PAN associate member. Prof Vincent Keaveny of Dublin, president of the association, opened the meeting. Welcoming speeches were given by Wlodzimierz Trzebiatowski, PAN fellow and president; Prof Marian Sliwinski, minister of health and social welfare, and Jerzy Majewski, president of the City of Warsaw.

In addition to a round table conference, problems were discussed in various sections. Some of the problems discussed were: ways of increasing efficiency of scientific research; problems in transplantology and transplanting bodily organs; experimental oncology, including ways of stimulating the natural defense reactions of an organism against tumors; problems of changes resulting in an organism after an injury or infection resulting from metabolic illnesses and clinical procedures for these types of incidents. Bioengineering subjects were discussed extensively. Polish specialists delivered 10 percent of the papers.

During the congress, a general meeting of members of the European Association for Basic Research in Surgery was held. Doc Dr Habil Waldemar Olszewski, specialists in clinical and research surgery and director of the Experimental Surgery and Transplantology Group of the PAN Center for Experimental and Clinical Medicine in Warsaw, was elected president of the association.

An exhibit of the latest medical equipment and medicines, organized with the participation of leading foreign firms, was shown at the congress.

## Management and Organization of Information Systems

The Second International Scientific Conference on Management and Organization of Information Systems, organized by the Wroclaw Polytechnic Center for Prognostic Research with the collaboration of the Wroclaw Section of the Association for Scientific Organization and Management, was held in Karpacz from 16 to 20 March 1977.

A general methodology for managing scientific research, modeling control processes and application examples were discussed in the sections.

The conference was attended by representatives of the most important Polish centers as well as guests from the socialist countries, Egypt, India, Japan, the FRG, Sweden, the United States and Great Britain.

The first conference dedicated to these problems was held in Wroclaw in September 1975.

### Miscellany: PAN University Lectures

During the second semester of the 1976-1977 academic year, that is, during the March through May 1977 period, the University of the PAN organized further lectures divided into four subject groups.

In the first subject group, "Latest Achievements of Science," the following lectures were given:

In the humanities: "Qualify of Life," by PAN fellow, Jan Szczepanski; "Theory of Wages and Distribution," by PAN associate member, Alojzy Melich; "Problems from the Marxist Theory of Alienation," by PAN fellow, Adam Schaff.

In the biological sciences: "Development of the Chemistry of Medicines," by PAN fellow, Boguslaw Bobranski; "Modern Concept and Forms of Combating Tumors" by PAN fellow, Wladyslaw Jasinski; "Selected Biological Productivity Problems," by PAN fellow, Anatol Listowski; "Mechanisms of Protein Biosynthesis," by PAN associate member, Przemyslaw Szafranski.

In the exact and technical sciences: "Grouted Ground Anchorages and Their Anchoring Capacity," by PAN fellow, Stanislaw Hueckel; "Molecular Crystals and Liquid Crystals," by PAN associate member, Jerzy Janik; "Multicriterion Water Management Systems," by PAN associate member, Zdzislaw Kaczmarek; "Current Status of the Mechanics of Silts," by PAN fellow, Igor Kisiel; "Application of Ion Implantations in Science and Technology," by PAN associate member, Witold Rosinski; "Optimizing Traffic Flow in Teleprocessing and Transport Networks," by PAN associate member, Jerzy Seidler; "Dynamic Microcalorimetry," by PAN associate member, Wojciech Zielenkiewicz; "Theory of Systems Perspectives" by PAN fellows, Stefan Ziemba, Prof Wladyslaw Jarominek and Dr Robert Staniszewski.

In the second subject group, "Science and the Scientific and Technological Revolution," the following lectures were given: "The Role and Task of Physical Geography in the Socioeconomic Development of the Polish People's Republic," by PAN associate member, Rajmund Galon; "Individuality, Structure and Changes," by Prof Tadeusz Jaroszewski; "The Administration of a Socialist Nation and the Scientific and Technological Revolution and the Problem of Improving the Law of the Land in Light of the Achievements of the Scientific and Technological Revolution," by PAN associate member, Sylwester Zawadzki.

In the third group, "Man and the Environment," the following lectures were given: "The Parasitological Sciences and Environmental Protection Problems," PAN fellow, Włodzimierz Michajłow; "Acoustics of the Environment," by Prof Stefan Czarnecki; "Circulating Pollutants in the Biosphere," by Prof Bohdan Glowiak; "Environmental Problems--Policies and Legal Aspects," by Doc Dr Leon Lustacz; "Ecological Problems of Environmental Protection," by Doc Dr Ewa Pieczynska; "Noise--Enemy of Man and Environment," by Prof Halina Ryffert; "Development of the Idea of Protecting Nature in Poland," by Prof Kazimierz Zabierowski; "Protecting the Baltic Sea in Light of the Helsinki Convention," by Prof Ludwik Zmudzinski.

In the fourth group, "The Medical Sciences--Selected Problems," the following lectures were given: "Nutrition--Today and Tomorrow," by Prof Stanisław Berger; "Application of Electronic Microscopy in Clinical Diagnoses," by Prof Przemysław Gabryel; "The Structure, Function and Metabolism of Skeletal Muscles and Energy Processes in Skeletal Muscles as an Expression of Adaptation to Physical Exertion," by Prof Halina Karon; "Cytochemical Methods Used in Quantitative Cytochemistry (Cytophotometry) and the Use of Some Cytochemical Methods to Evaluate Functional Changes in Nuclear Chromatins," by Prof Aleksandra Krygier-Stojalowska; "The Physiology of the Heart and Its Practical Application," by Prof Bohdan Lewartowski; "Psychopharmacology--Its Significance for Science and Therapy," by Prof Jerzy Maj; "Problems of the Aging Brain," by PAN associate member, Mirosław Mossakowski; "Sleep and Wakefulness, a Twenty-Four Hour Oscillator of the Function of the Nervous System," by Prof Juliusz Narebski; "On Interference Microscopy and On the Operation of Tissue Banks," by PAN associate member, Kazimierz Ostrowski; "Blood Transfusion and Blood-Substitute Fluids Yesterday, Today and Tomorrow," by PAN associate member, Witold Rudowski; "Physiopathology of Child Growth," by Doc Dr Maria Rybakowa; "Rational Nutrition and Prevention of Metabolic Civilization Illnesses," by Doc Dr Wiktor Szostak.

#### New Publications

"Socioeconomic Policies--An Outline of Theory" is the latest work of PAN fellow, Kazimierz Secomski, (PWE [State Economic Publishing House], Warsaw, 1977, 444 pages).

The author presents the theory of socioeconomic policies in the modern phase of the development of socialist countries. Also covered in the book are definitions of concepts; explanations of elements of socioeconomic policy as instruments to realize development strategies and considerations of the sought after model; prognosticating, programming and planning such socioeconomic policy elements as management of labor, material and capital goods; regional, demographic, foreign trade, wage and price policies and so forth. In his conclusion, the author discusses and analysis the problem of limits of growth with emphasis on three reports of the Club of Rome; he also supplies a critical commentary.

From Scientific Publications

PAN fellow, Roman Kulikowski, has authored a book entitled "System Analyses and Its Applications: Modeling the Environment, Managing and Planning the Development of Poland," (State Publishing House for Scholarly Works, Warsaw, 1977, 356 pages).

This book contains two parts. Part one is an introduction to the theoretical fundamentals of system analysis. Here the author discusses the basic mathematical methods of system analysis as well as optimization and control methods. In part two, the author gives examples of system analysis applications for modeling socioeconomic processes.

"The Size of a Farm and Enterprise," (People's Publishing House, Warsaw, 1976, 263 pages), is a book by PAN fellow, Ryszard Manteuffl.

The author throws light on the complex problem of socialized and private farms, establishing that the physical size of a farm effects, in a different way, the organization and output of a farm depending on which sector it belongs to: the socialized or private sector. For this reason, the author reviews independently the problem of size of production units in the private and socialized sectors.

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