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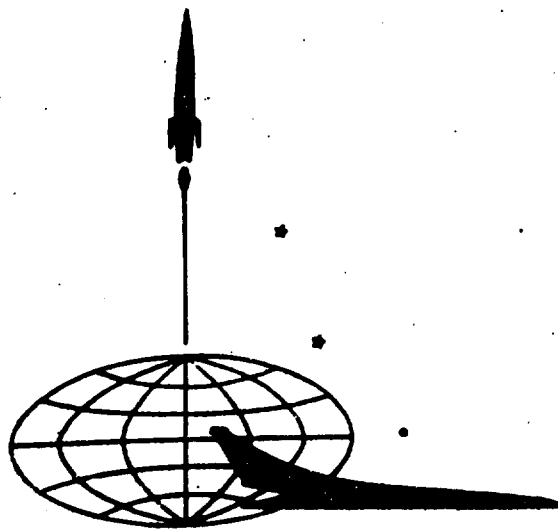
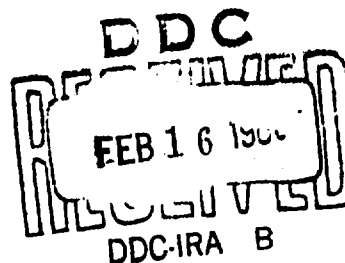
Surveys of Communist World Scientific and Technical Literature

ORGANIZATION OF SCIENTIFIC AND TECHNICAL INFORMATION IN THE COMMUNIST WORLD

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Translation

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FOREWORD

This report is a complete translation of the first two sections (pp. 494-544) of Chapter Seven of the following work:

Mikhaylov, A. I., A. I. Chernyy, and R. S. Gilyarevskiy. Osnovy nauchnoy informatsii (Foundations of scientific information). Moskva, Izd-vo "Nauka," 1963. 656 p.

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INTRODUCTION

The All-Union Institute of Scientific and Technical Information (VINITI) was established on 19 July 1952 in accordance with a decree promulgated by the Council of Ministers. The Institute was charged with the following tasks: "systematic and exhaustive abstracting of all world literature in the fields of natural sciences and technology (astronomy, geodetics, mathematics, mechanics, cybernetics, physics, chemistry, biochemistry, biology, geophysics, geography, geology, mining engineering, machine building, transportation, automation, radioelectronics, electrical engineering, power engineering, and industrial economics); on the basis of the above, to prepare and publish abstract journals (*Referativnyy zhurnal*), to issue review-bibliographic and reference literature and spot reports on the most timely topics, and also to organize and develop scientific research directed toward the improvement of the methods and techniques currently used in scientific information services." The Academy of Sciences USSR assigned to VINITI a large number of well-known scientists and specialists in various branches of science and technology.

VINITI's director, A.I. Mikhaylov, (with his associates A.I. Chernyy and R.S. Gilyarevskiy) recently published the first comprehensive description of the organization, activities, and achievements of the Institute. The sections translated here describe the Communist-World national information services and also indicate Mikhaylov's thinking on the transition of science librarianship from passive custodianship to active participation in research.

The first section, "Organization of Scientific and Technical Information in the USSR," describes the components of the information network organized by the 11 May 1962 decree of the Council of Ministers: the VINITI itself and the analogous information services, either planned or already in existence, for medicine, agriculture, architecture and construction, and patents. This section also discusses in more general terms the information services of the various republics, specialized fields, economic regional councils (Sovnarkhozy), industrial plants, and design and research institutes. The few pages describing the dissemination upward of unpublished production experience are of particular interest.

In the second section, "Organization of Scientific and Technical Information in Countries of the Council for Economic Mutual Assistance," the national information and documentation services of Bulgaria, Poland, Czechoslovakia, Hungary, East Germany, and Rumania are described in detail.

Recent events have enhanced the interest in the study of Russian documentation services. When Mikhaylov's work was published, VINITI was administered by K.N. Rudnev's State Committee for the Coordination of Scientific Research Work. Administrative changes promulgated by the Plenum of the Central Committee of the Communist Party in September and October 1965 created a new State Committee for Science and Technology. The new Chief, V. Kirillin, formerly a Vice-President of the Academy of Sciences and a Communist Party specialist on university education, has already expressed himself (Pravda, 4 Jan 1966) on the future expansion and

transformation of VINITI. Kirillin identified the basic problem as the technological lag, the delay in incorporating industrially useful research and development efforts into practice. Solutions are to be sought through the participation of scientists and technicians in the recognition and dissemination of materials relevant to a problem area or a scientific mission and the institutionalization of the necessary techniques in a new type of library, the information service center. The Russian experience should be of interest to those Americans working along the lines laid down by the 1963 report of the President's Science Advisory Committee on "Science, Government, and Information."

Chapter 7

ORGANIZATION OF INFORMATION SERVICES

Organization of Scientific and Technical Information in the USSR

The Great October Socialist Revolution drastically changed the social status and role of science in our country. From the very first days of the establishment of Soviet power V.I. Lenin and the Communist Party paid the greatest attention to every measure which would assure the development of Soviet science and the utilization of the newest scientific and technological achievements in the interest of building socialism.

V.I. Lenin showed that success in fulfilling the plan for the development of science, the economy, and education, indicated in the projected Program of the Party, would depend to a considerable degree on a creative study and utilization of everything of value to be found in the scientific and technological achievements and industrial experience of advanced capitalist countries. He taught that the results of theoretical and experimental research of Soviet scientific establishments and institutions should be evaluated in relation to the level of world-wide achievements in science and technology. V.I. Lenin emphasized that in order to do this we must "take over everything of real value which European and American science has to offer;" - this is our first and most important mission.¹

From the sum total of measures directed toward assuring the fulfillment of programmed tasks for the development of Soviet science and the

1. V. I. Lenin, Complete Collected Works, 5th ed., v. 45, p. 206

creation on its foundation of a socialist economy, V.I. Lenin especially singled out the mission of thoroughly studying all aspects of world literature with the aim of disseminating information on the newest achievements of science and technology and introducing this knowledge into socialist production.

On June 14, 1921, on V.I. Lenin's initiative, the decree of the Soviet of Peoples' Commissars "On the Order of Purchasing and Distributing Foreign Literature" was adopted. This decree established the Central Interdepartmental Commission for Purchasing and Distributing Foreign Literature (KOMINOLIT).

In the decree it was pointed out that the task of KOMINOLIT was to be the acquisition from abroad of all types of literature necessary to the RSFSR in all branches of knowledge, first of all that literature which was published since the second half of 1914; the concentration of all foreign literature in appropriate scientific institutions and libraries; and also the distribution and organization of an efficient exploitation of foreign literature by all institutions and individuals.

The decree stated that "KOMINOLIT shall publish systematic indices of the more important political, scientific, and scientific-technical publications, including the exact designations of the libraries and repositories where these publications are located."²

2. Collection of Statutes and Decrees of the Worker's and Peasant's Administration, 1921, no. 51, p. 235.

In this way Lenin, by the decree of 14 June 1921, authorized the beginning of the organization of the Soviet state system of scientific information. KOMINOLIT was the first scientific information agency of the Soviet state.

V.I. Lenin kept an intent and close eye on the work of KOMINOLIT and directed its activity.

"The most important task which KOMINOLIT should assign to itself," he wrote, "is to see to it that in Moscow, Petrograd, and the large cities of the Republic special libraries shall contain at least one copy of the newest foreign technical and scientific (chemistry, physics, electrotechnics, medicine, statistics, economics, etc.) journals and books published between 1914 and 1921, and an arrangement shall be established whereby every periodical publication is received regularly. All activities of KOMINOLIT will be evaluated by me first of all from the point of view of the actual fulfillment of this task."³

V.I. Lenin attached so much importance to scientific information that he considered the supervision of the translation and publication of world scientific literature to be one of the main functions of the deputy chairman of the Soviet of Peoples' Commissars and the Soviet of Labor and Defense.

Therefore, in the resolution on the work of deputies (April 1922), prepared by V.I. Lenin, it is pointed out that "...all the best and newest literature, especially American and German, on the organization of labor and management, must be translated and published under the supervision of deputies."⁴

3. V.I. Lenin, Complete Collected Works, 5th ed., v. 53, pp. 228-229.

4. V.I. Lenin, Complete Collected Works, 5th ed., v. 45, pp. 154-155

Thus, V.I. Lenin considered scientific information on the newest achievements in world science and technology to be of paramount importance to the State.

Therefore, it is not by chance that in the article, "On the Significance of Militant Materialism," published in March 1922 in the monthly Marxist journal Under the Banner of Marxism, V.I. Lenin again turned his attention to the importance of the implementation of such tasks of scientific information as the translation and abstracting of all worthwhile scientific publication.

V.I. Lenin also talked about the necessity and importance of publishing scientific reviews.

V.I. Lenin's article, "On the Significance of Militant Materialism," is an outstanding example of appreciation of the problems of scientific information.

While paying so much attention to scientific information in all branches of knowledge, V.I. Lenin, as head of the Government, was especially thorough in seeking out information about the latest technological achievements and the demand that these achievements be introduced into production. Subjecting the work of the Scientific and Technical Department of VSNKh to sharp criticism, V.I. Lenin wrote a memorandum to N.P. Gorbunov on the 3rd of September, 1921, in which he stressed the necessity of adjusting "our familiarization with European and American technology sensibly, timely, and avoiding red tape."⁵

5. V.I. Lenin, Complete Collected Works, 5th ed., v. 53, 164

The most intensive development in scientific information activity occurred during the post-war years 1945-1950.

The increased tempo of scientific and technological progress forces us to seek new ways of organizing the search of necessary sources, because the usual method of going through a network of technical libraries with a continuously expanding volume of sources could not meet the growing need. This led to a ramification of scientific information agencies in particular during the last 10 or 15 years. Information agencies appeared in separate branches of industry, at scientific institutes, at individual industrial enterprises.

Experience showed that a ramified network of independent information cells could not meet efficiently the demands placed upon information activity — first of all they could not cope with the task of completely exhausting the foreign sources of information. Individual information agencies in striving to assure their users a large volume of information allowed much completely unjustified duplication. Strictly speaking, there was no centralization of information throughout the country, and thus no clear-cut delination of the objectives, problems, and functions of individual information agencies. All this demanded a radical reorganization of the scientific and technical information service in the country, first of all strict government coordination.

The resolution of the Council of Ministers of the USSR, dated 11 May 1962, contained a progressive and comprehensive program for the creation

in the country of a Government information service, answering the current demands evolving from the all-union problems, as determined by the XXII Congress, CPSU Program, and defined by the new system for organizing the management of the national economy.

For the first time the overall operation of the entire network of scientific and technical information and propaganda agencies was considered as a unified system operating under a strictly coordinated plan. The dissociation of the activities of all-union, central, sectional, republic institutes of information, central bureaus of technical information of sovnarkhozes, departments and bureaus of information at enterprises, scientific research, design and construction organizations and clubs for disseminating scientific and technical information under their jurisdiction, scientific and technical libraries, and technical committees was eliminated. The functional responsibilities of every agency of scientific and technical information and propaganda were clearly delineated. An interdependence was established between the operation of information agencies and the scientific and technical libraries for the creation of reference-information collections, the introduction of classification systems for scientific and technical literature and information material, the acquisition of domestic and foreign literature collections, a methodical management of library networks, and a complex mechanization and automation of the processing and retrieval of information. At the same time, the personnel of the information service and the libraries were to participate in the implementation of certain stages of scientific research, and experimental design and planning operations.

The procedure for the processing and delivery to various enterprises and agencies of scientific and technical, industrial and economic information through centralized specialized information agencies which were to deliver the information material to the interested organization upon the latter's request was established according to the specific field and the organization of the information service. The types and subjects of the publications to be issued by the scientific and technical information agencies were established and duplication of effort was eliminated to a considerable degree. The role of the clubs of propaganda for the dissemination of scientific and technical information and for technical services was determined within the overall information and propaganda service system for the advance of industry and technology.

The realization of the Resolution of the Council of Ministers of the USSR, dated 11 May 1962, resulted in the following organization for directing the information service in the USSR:

The general management of the activities of the information service in the country is presently carried out by the State Committee for the Coordination of Scientific Research, USSR. State branch committees, ministries and departments organize and direct the activities of their auxiliary information agencies - central as well as outlying.

The network of information agencies includes:

1. All-union information institutes, among which are the All-Union Institute of Scientific and Technical Information (VINITI) of the State Committee for Coordination of Scientific Research, USSR, and the Academy of Sciences, USSR;

The All-Union Scientific Research Institute of Medical and Medicotechnological Information (VNIIMI), of the Academy of Medical Sciences, USSR;

The All-Union Institute of Scientific and Technical Information for Agriculture (VINTI), of the Ministry of Agriculture, USSR;

The Central Institute of Scientific Information on Construction and Architecture (TsINIS), of the State Committee on Construction, USSR;

The Central Scientific Research Institute for Patent Information and Technical and Economic Research (TsNIIFI), of the State Committee on Specifications, Measures and Measuring Equipment, USSR.

2. Institutes of scientific and technical information (multi-industrial) in individual republics.

3. Institutes of scientific and technical information and economic research in each specialized field.

4. Central bureaus of technical information under the Councils of the National Economy (in separate economic regions of the country).

5. Departments of scientific and technical information (or bureaus of technical information) at enterprises and at various types of scientific and technical establishments.

Scientific and technical libraries, technical clubs, and technical committees at separate enterprises must also be included among information agencies.

The division of functions among scientific and technical information agencies is based on the consideration of the following principle:

All scientific information sources, i.e., periodicals and monographs (journals, books, reports on scientific conferences and scientific research, patents) and all studies (technological, technical, and such) on procedures in industry, agriculture, transportation, etc., can be divided into two independent currents of information flow.

One current, descending and embracing all printed information sources, is processed centrally and flows from above downward, serving all channels of the country's information service (see fig. 136).

The second current, reflecting the most diverse technological experience, locally developed in industry, agriculture, and transportation, is only lightly covered in periodical and other literature. Information of this type is registered usually in official reports, and ascends from lower levels to the specialized central information agency, where it is synthesized and receives proper coverage in the publications of a specific field.

The information network in the Soviet Union is based on this principle of a division in the flow of information.

Among specialists in different countries who work in the field of scientific and technical information there is no unified point of view on the principle of how to process sources of information. Among them we find strong supporters of centralization as well as persons with a diametrically opposed point of view.

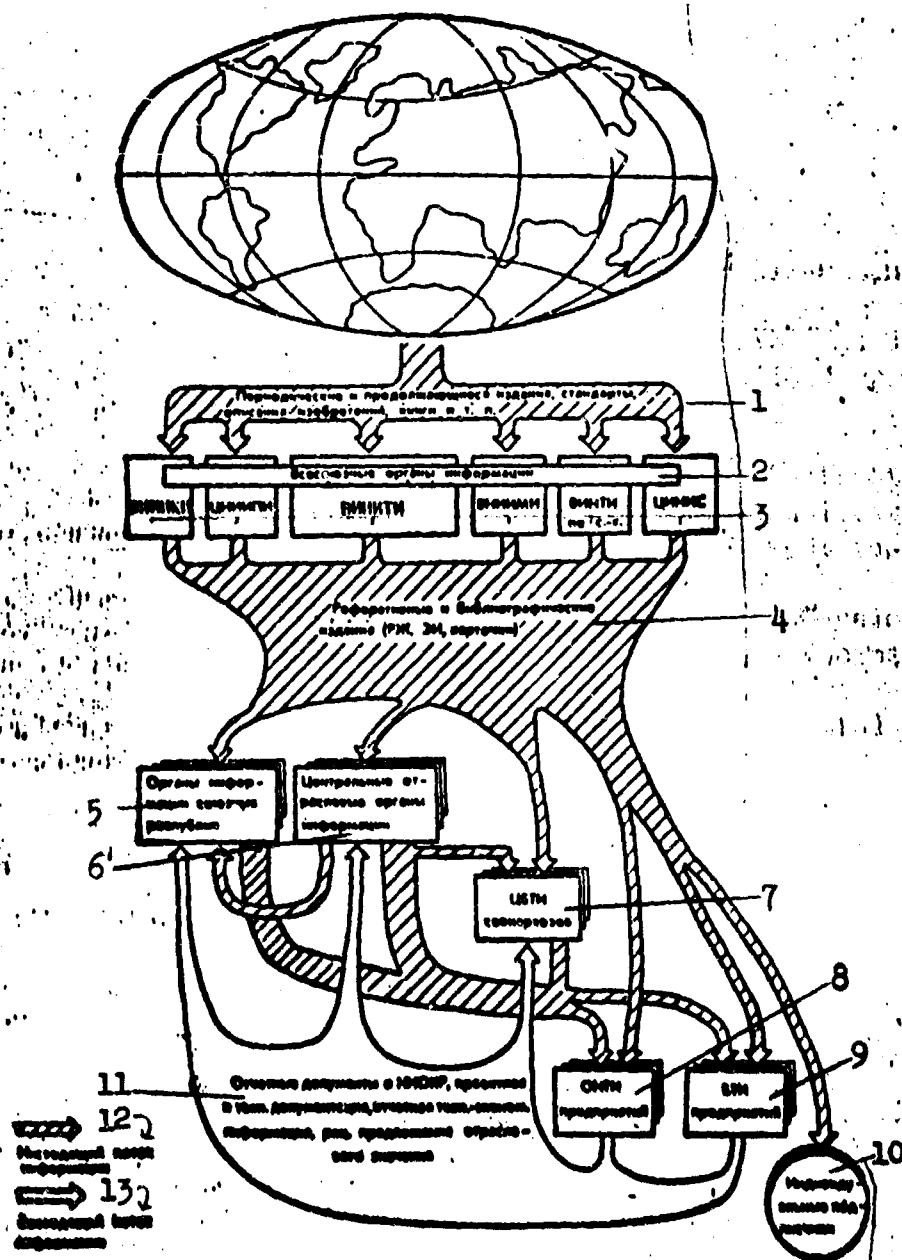


Fig. 136. Diagram of descending and ascending flows of scientific and technical information in the USSR.

- 1 - Periodical and serial publications, specifications, individual reports, books, etc.
- 2 - All-union information agencies
- 3 - VINITI, TsNIIPI, VINITI, VNIDAI, VINITI agr., TsINIS
- 4 - Abstract and bibliographical publications (Abstract journals, spot reports, cards)
- 5 - Union republic information agencies
- 6 - Central industrial information agencies
- 7 - Central Bureau of Technical Information (TsBTI), sovnaikhozes
- 8 - Department of Scientific and Technical Information (ONTI), industrial
- 9 - Bureau of Technical Information, (BTI), industrial
- 10 - Individual subscribers
- 11 - Documented reports on NIOMR (Scientific Research and Experimental Design Work), planning and technical documentation, technical economics information, efficiency reports of importance to various branches of industry
- 12 - Descending flow of information
- 13 - Ascending flow of information

The policy of the Soviet Union, based on the principle of a centralized processing of information, is determined not only by planned socialist economics but also by the inherent logic of scientific development.

Let us now look at the functions and tasks of the separate information agencies indicated in the diagram showing the descending current of information sources.

All-Union Institute of Scientific and Technical Information (VINITI)

The development of scientific and technological progress in our country, especially during the last 10 to 15 years, has required the organization of an information service capable of serving our scientific and technical community in conformity with the size of the country and the development of scientific planning research and construction.

On 19 July 1952, the Council of Ministers, USSR, adopted a resolution to organize the Institute of Scientific Information within the framework of the USSR Academy of Sciences.

The Institute was charged with the following tasks: systematic^{ally} and exhaustive^{ly} to abstract^{ing} all world literature in the fields of natural sciences and technology (astronomy, geodetics, mathematics, mechanics, cybernetics, physics, chemistry, biochemistry, biology, geophysics, geography, geology, mining engineering, machine^{building}, transportation, automation, radioelectronics, electrical engineering, power engineering and industrial

economics; on the basis of the above to prepare and publish abstract journals (Referativnyy Zhurnal); to issue review-bibliographic and reference literature, spot reports on the most timely topics, and also to organize and develop scientific research directed toward the improvement of the methods and techniques currently used in scientific information services.

On establishing the Institute of Scientific Information, the USSR Academy of Sciences assigned to it a large number of well-known scientists and specialists from various branches of science and technology.

Keeping in mind the great importance which the Institute of Information had attained for the most extensive circle of scientific and industrial engineering personnel, as well as its role in the development of the scientific and technological progress in the country, the Council of Ministers of the USSR, in December 1955, reorganized the Institute of Scientific Information into the All-Union Institute of Scientific and Technical Information (VINITI), and simultaneously subordinated it to the USSR State Committee for Coordination of Scientific Research and the USSR Academy of Sciences.

The lack (of not only) national, but also of international experience, in abstracting scientific and technical literature in such an unprecedented volume led quite naturally to a study of the experience of such highly qualified abstract journals as "Chemical Abstracts" and "Biological Abstracts" and to the finding of new methods of processing the varied flow from information sources.

Since then the Institute of Information has achieved much in the way of organization. It has traveled a path involving great difficulties in accumulating experience and, most of all, in developing a skilled body of specialists who now number almost 2,500 qualified staff members (not counting the personnel of the publishing, printing, and polygraphic sections). In addition there are more than 22,000 various specialists who are not listed as regular staff members.

At the present time all activity of VINITI is concentrated in three main fields: scientific information, scientific research, and scientific organization.

VINITI, in fulfilling the task assigned to it of assuring the specialists comprehensive scientific and technical information, issues abstract journals, spot reports, Itogi nauki (Review of Science), printed bibliographic cards, and other information publications.

The abstract journals are the most fundamental information publications and are used as both current information and reference material.

Since 1960, the Institute publishes 16 abstract journals which are series of the single Abstract Journal of the Soviet Union.

The VINITI abstract journal covers the natural sciences and technical sciences, as well as economics, and is issued in the following series:

"Astronomy and Geodetics," "Biology," "Biological Chemistry," "Geography," "Mining Engineering," "Geophysics," "Mathematics," "Mechanical Engineering," "Metallurgy," "Mechanics," "Chemistry," "Industrial Economics," "Electrical Engineering," "Physics," and "Automation and Radioelectronics."

Taking into consideration the growing interest of specialists in the theory, method, and practice of the scientific information service, the Institute began in 1965 the publication of separate issues of the "Scientific and Technical Information" abstract journal covering the following subjects: overall problems of scientific information; problems of information analysis and translations (including machine translations) of scientific and technical texts. The journal also covers systems of information-research and information-logic, documentary information sources, their types, collections, storage and dissemination, methods and means of duplicating reports, operational polygraphy, general techniques to assure efficient operation, use of documented information, and the organization of the scientific information service.

After a short period this issue of the Abstract Journal became very popular in the USSR and abroad.

The value of the abstract journal is determined primarily by the comprehensive scope of literature covered in relevant fields and by the quantity of information sources used in its compilation.

It is known that abstracting and information agencies of every country, including VINITI, use scientific and technical periodicals and non-

periodical literature as source material for their publications. VINITI acquires every periodical and serial publication: journals, collections of works, scientific works, scientific transactions, heralds of institutes of higher learning, scientific research organizations and national academies of sciences, reports on international congresses, conferences, and symposia, patent descriptions, specifications, books, monographs, manuals, dictionaries and encyclopedias, and other publications of scientific value either by subscription, international exchange, or free of charge (e.g., all Soviet publications). The linguistic variety found in the scientific and technical literature arriving at VINITI is quite large. Publications in more than 70 different languages (among them 19 national languages of the USSR) are received at the Institute. If, during the first year of its existence (1952) VINITI received periodical literature from, say, 52 countries of the world and numbering 3,600 titles, by 1974 this number had increased 4 times and included 17,000 titles. VINITI receives primary sources from more than 100 countries of the world.

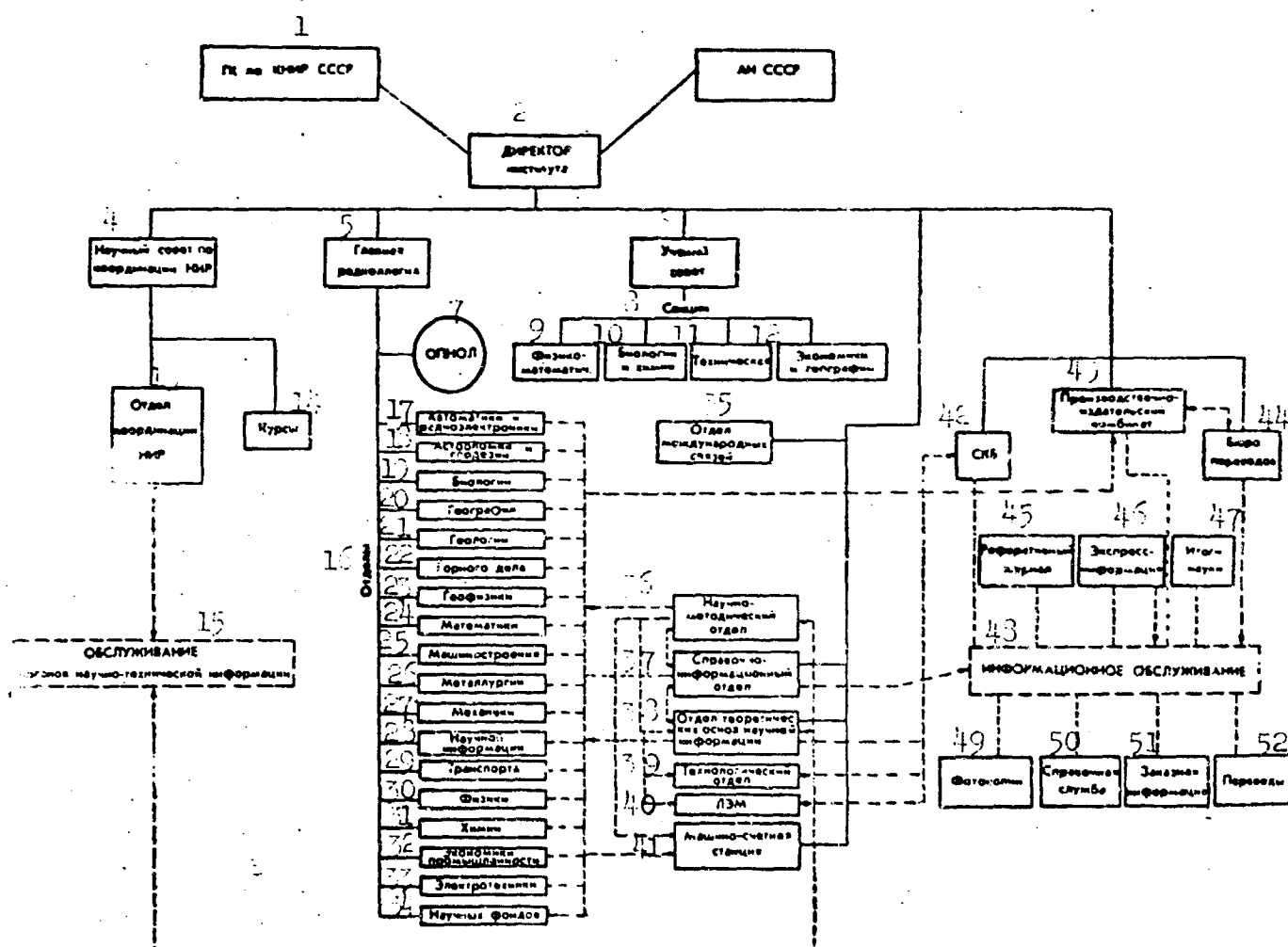


Fig. 137. Organization of VINITI

1. State Committee for Coordination of Scientific Research, USSR
2. Director of the Institute
3. Academy of Sciences, USSR
4. Scientific Council for Coordination of Scientific Research
5. Main Editorial Board
6. Academic Council
7. Preliminary Scientific Literature Processing Section
8. Sections
 9. Physics and Mathematics
 10. Biology and Chemistry
 11. Technology
 12. Economics and Geography
9. Department for Coordination of Scientific Research
10. Courses
11. Service Support for Scientific and Technical Information Agencies
12. Units
 13. Automation and Radioelectronics
 14. Astronomy and Geodetics
 15. Biology
 16. Geography
 17. Geology
 18. Mining Engineering
 19. Geophysics
 20. Mathematics
 21. Mechanical Engineering
 22. Metallurgy
 23. Mechanics
 24. Scientific Information
 25. Transportation
 26. Physics
 27. Chemistry
 28. Industrial Economics
 29. Electric engineering
 30. Scientific funds
 31. Department of International Communications
 32. Scientific Methodology Section
 33. Reference Information Section
 34. Section on Theoretical Foundations of Scientific Information
35. Technological Section
36. Electric Analog Computer Laboratory
37. Computer-Machine Station
38. Special Design Office
39. Production and Publishing
40. Translation Bureau
41. Abstract Journal (Publication)
42. Spot Report (Publication)
43. Review of Science (Publication)
44. Information Service
45. Photocopies
46. Reference Service
47. Requested information
48. Translations

Such a wide coverage of documentary sources is possible thanks to the systematic study of the state and development of domestic and foreign scientific and technical literature. New publications necessary to VINITI are

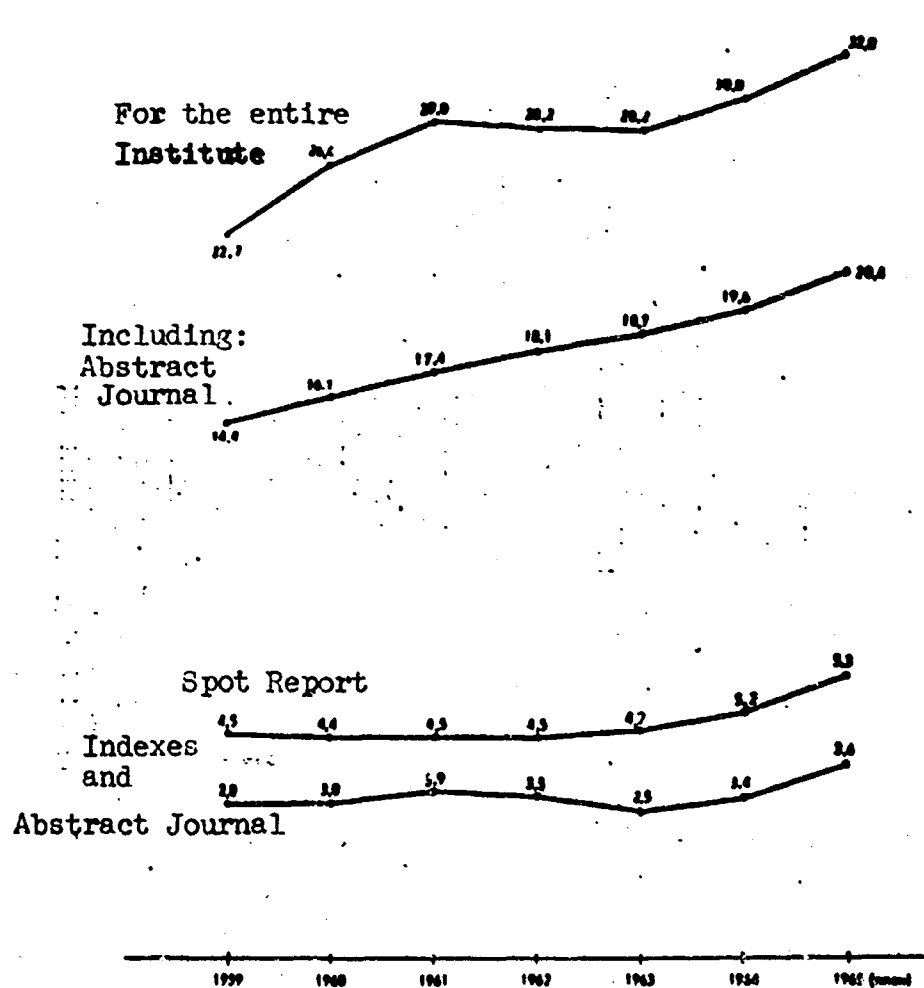


Fig. 133. Increase in the volume of VINITI publications (in thousands of authors sheets)

obtained by a daily and careful study of domestic and foreign abstracts and bibliographic publications, prospectuses, catalogues of publishing houses and

book-selling organizations, and also the offers of various foreign scientific organizations and institutes of higher learning, interested in exchanging scientific publications with VINITI.

As a result of a careful study of all types of publications it is possible to keep track of the yearly appearance of new information sources. Experience of the last few years has shown that from 2,000 to 2,500 entirely different titles appear every year throughout the world. To begin with these new titles are received in VINITI as samples used to determine their scientific value and profile; the selection is carried out very carefully. Thus, in 1965, out of 2,967 designated publications which were processed, only 737 were approved and selected for abstracting. The experience

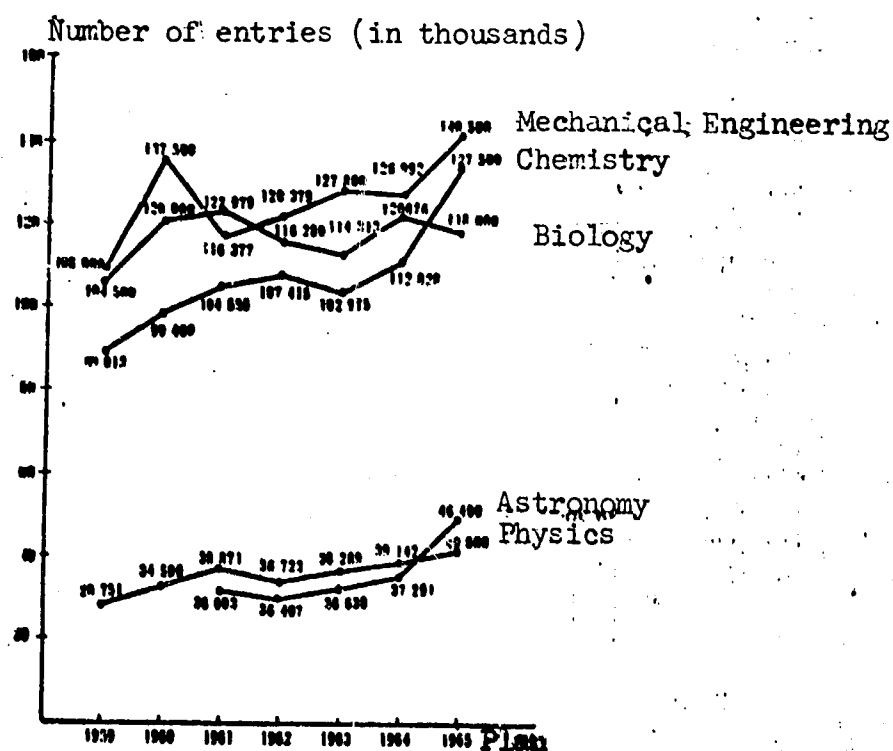


Fig. 159. Increase in the number of entries published in the VINITI Abstract Journal

of VINITI in studying and evaluating the quality of production of world scientific and technical literature is currently centralized in a major publication on the science of reference which is issued under the generalized title: "Annotated Index of World Scientific and Technical Periodical Literature." The first volume, covering periodicals and serial publications in astronomy, mathematics and mechanics, will be issued during the second half of 1965, and the last volume, the seventh, covering general purpose publications, in 1967. Nearly 15,000 titles of the leading foreign periodicals and serial publications will be described in all the series of the Abstract Journal. Several foreign editors-in-chief and publishers participate in this operation and the International Federation for Documentation (IFD) gives appropriate support. It is assumed that as a result of such cooperation the most complete and objective scientific and historico-bibliographic characteristics of each annotated publication will be achieved.

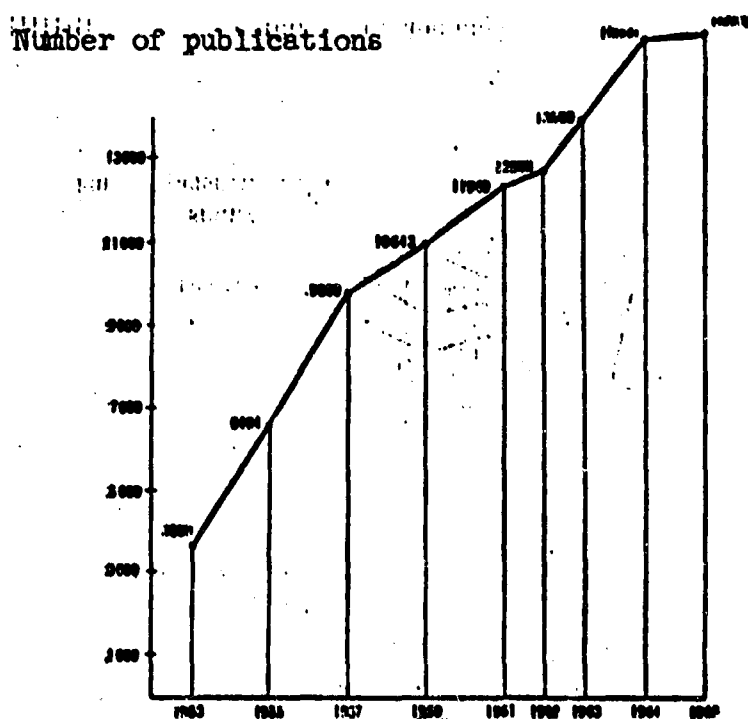


Fig. 140. Increase in periodical publications processed by VINITI

The continuous increase in publications regularly adds to an increase in the number of abstract journals: in 1964 the number of authors' sheets*, in all the series of the Abstract Journal taken together, has already reached 20,513.

For the sake of convenience and better accessibility to the readers, the institute, since 1953, began publishing along with its combined volumes, separate issues of an abstract journal with a more specialized division of science and technology subjects included in the combined volume of the journal's series.

The convenience in using the material found in the Abstract Journal is due to a significant degree to its science reference features. For this purpose, the Abstract Journal has in every issue an annual authors' index and an annual subject index; moreover, the abstract journal "Chemistry" has indexes of systems, formulas, and patents.

The system of references within a specific series of the Abstract Journal is widely used as a science reference. An expansion of references to related series, as proposed for the future, will undoubtedly increase the scientific value of the journal.

*Translator's note: An author's sheet is a manuscript, standard 40,000 ens, which is provided by its author.

The VINITI abstracting operations are so organized that regardless of where an entry first appears, even if it appears in a publication whose profile sharply differs from the relevant abstracting journal, it will nevertheless be extracted and abstracted in the appropriate series of the Abstract Journal. This procedure is helped by centralization of the scientific processing of information sources.

The necessity for a centralized processing of world scientific literature is an outcome of the current overlapping of scientific fields and of the close organic relationship between science and technology which makes the traditional division of science and technology into isolated branches relative and artificial to a significant degree.

This becomes apparent, first of all, in the primary sources of information: the journals with articles of interest to specialists of various professions. Experience at VINITI has shown that only 10% of the journals are marked for cover-to-cover abstracting for only one department. The remaining 90% are, in various degrees, marked for abstracting for two or more departments. Close to 20% of the journals are so complex that it is not possible to determine the predominant orientation of the journal.

In connection with the above, it has been necessary from the very beginning of the Institute's activities to reject the "journalistic principle" of allocating the available material only to designated journals dealing only with specific branches of science and technology.

In the interest of all branches of science and technology, the entire output of world literature was more efficiently presented under a single heading and then reviewed in its entirety by qualified selection personnel and assigned to appropriate journals.

As a result of such a procedure, a wider use of scientific and technical world literature became more effective and economical, as proved by the following data: VINITI receives for abstracting about 20,000 publications of domestic and foreign periodical and serial issues, out of which it allocates to its various sections about 67,000 articles (see table on p.503).

Thus, the "usage coefficient" of the journals abstracted is $67,000/20,000 = 3.4$ which means an achievement of tremendous savings in funds assigned for the publication of this literature.

Centralized processing solves not only the problem of effectively using the available literature, but also eliminates duplication in the processing of the information. The current VINITI system of "single-phase" abstracting makes it possible (upon proper editing) to publish the same abstract in different issues of the Abstract Journal. This system also solves the problem of conflicting approaches to the same source by specialists in various fields of science and technology.

The next important activity of VINITI is the processing and publication of Spot Reports (*Ekspress-informatsiya*).

Unit	Approximate number of publications utilized
Automation and radio-electronics	4,500
Astronomy and geodesics	500
Biology	5,000
Geophysics	1,500
Geography	7,000
Geology	5,000
Mining engineering . . .	2,000
Mathematics	1,200
Mechanics	1,500
Metallurgy	4,000
Mechanical engineering	2,000
Transportation	300
Physics	5,000
Chemistry	17,000
Electrical engineering and power engineering	5,000
Total	67,000

Spot reports are periodically published in order to illuminate the newest problems of science and technology, presented in foreign publications. The SRs are either in the form of expanded abstracts or abridged translations of articles, patents and other records, with appropriate figures, diagrams and drawings. As a rule, the SR eliminates the

necessity of referring to the original article.

The SRs are intended for use by a wide circle of engineering and technical personnel and by highly-qualified workers, as well as by scientists, instructors, graduate students and students at institutes of higher learning.

The SR is issued in 50 series, and is intended for use at the following important branches of industry: "Mining engineering industry," "Railroad transportation," "Petroleum industries," "Chemistry and technology of non-organic substances," "Ferrous metallurgy," etc.; it deals also with the following most recent problems: "Automatization of industrial processes,"

"Corrosion and protection of metals," "Synthetic high-polymer materials," "Computer technique," "Space navigation and rocket dynamics," etc.

Taking into consideration the interest of many information agencies regarding the theories, methods, and procedures for the propagation of scientific information, SRs are also published on this subject.

There are 43 issues of SRs published each year; each issue containing from 5 to 8 articles or reports. Thus each series produces about 300 secondary publications per year.

In order to facilitate utilization of the material contained, all SR series are subdivided according to specific fields permitting a further division into sections according to specified subjects. Thus, for instance, the "Radioengineering and Electronics" series is subdivided into the following sections: "General," "Radioengineering," "Electronics," "Elements and parts of radio equipment," "Radioengineering materials," "Measuring and testing techniques," "Television," etc.

The publication of an SR issue is accomplished 3 to 4 times faster than the publication of an abstract journal.

In 1962, the Institute started preparing the issue of a new information publication: Itogi nauki (Review of Science). The objective of this publication was a scientific generalization and systematization of the achievements in separate scientific fields within a specified period of time, as a rule within the calendar year, and was based on material published in the Abstract Journal.

This generalization is to make it easier for a specialist to acquaint himself with the results and the basic trends in the development of his field of science. At the same time, issues of the Review of Science give a systematized list of the references appearing in the most important publications in a given field. The Institute strives to give systematic reviews on selected problems in such a way that each issue is a continuation of the preceding issue. This series has recently published: "Chemistry and technology of synthetic high-molecular compounds." "Chemistry, metallography and processing of titanium," "Progress made in the studies of oceanic depths," etc.

For the purpose of providing speedy information to organizations and individuals regarding the newest foreign periodical literature, VINITI and the All-Union State Library of Foreign Literature have jointly issued, since 1960, printed reference cards with Russian translation of the titles of articles appearing in foreign journals and collections of works.

The Main Editorial Board of the Abstract Journal determines the scientific trends and methodology regarding the publications of the Institute.

The Main Editorial Board, responsible to the Director, consists of the director, the deputy director, the science secretary, the editors-in-chief of the various series of the Abstract Journal and of individually invited specialists.

The Main Editorial Board outlines the ideological and scientific trends of the Institute, decides on the allocation of publications, plans the annual publications of science information literature, hears reports on the activities of the editors-in-chief, discusses the problems and methods of processing, exchanging and distributing science information material.

Special editorial boards are established within each relevant section for directing the preparation of combined volumes and individual issues of the Abstract Journal and for other information publications. These editorial boards consider the ideological trend and the quality of individual issues of information publications in certain given fields of science and technology, examine the project for annual publications, discuss the methods and technology for the preparation of information publications, and approve for publication monographs of the "Review of Science" type.

The methodology of preparing and publishing VINITI information material was developed over the years, and it has now taken the shape of a fairly complicated and multifarious system.

This process must follow specified instructions and rules as to type of publication and method of preparation. Nevertheless, this process is still far from being perfect. In accordance with established procedure, the flow of information material is as follows: the process begins in the section for preliminary scientific processing of the literature (OPNOL);

from there, following a series of complicated initial operations, the flow of documents is directed to specialized sections connected with non-staff abstracters and editors who are the authors of specialized series of the Abstract Journal. In its final form, the manuscript is sent by the specialized section to the Institute's Production and Editing Department for final processing and publication.

The recently adopted procedure for processing and distributing VINITI's information publications is subdivided into a series of consecutive stages.

The processing and publication of all VINITI material is done by a series of functional and specialized sections.

The VINITI process starts in the Preliminary Scientific Literature Processing Section (OPNOL).

As a rule, the material is selected directly from the original language article, however, in the rare cases when the Institute does not have the original source, use is made of a translation found in a journal published in another country.

The basic criterion in the selection of a publication for abstracting lies in its scientific or technological value and the desire to obtain comprehensive information.

The journals and the books with marked articles are forwarded by OPNOL to a highly qualified bibliographer who prepares descriptions of the marked articles, underlines all necessary bibliographic information and verifies the correctness of the markings. This is followed by a preparation of bibliographic cards for all marked material. These cards are duplicated, entered into appropriate catalogues and accompany the material through every stage of its processing. Because a great number of the articles is published simultaneously in several series of the Abstract Journal, a sufficient number of photostates is made of the marked material.

The photostats of OPNOL information documents, having passed through the bibliographic section, are forwarded to the appropriate specialized section, which in turn forwards them for abstracting by staff or non-staff abstracters, depending on the character of the document, its original language and the specialized training of the abstracter. The abstracter studies the document, writes a Russian-language abstract, and sends the latter to the specialized section, accompanied by all the material received with it. After having been passed by the scientific editor, the abstract, in accordance with the approved markings, is attached to the manuscript of the forthcoming issue of the abstract journal.

After going through all the processes necessary in preparing the manuscript for publication, it is discussed by the editorial board and then forwarded to the Production and Publication Department of VINITI.

A high quality of abstracting and editing may be achieved only when both the abstracter and the editor are specialists in the relevant field of science and are well acquainted with the original language of the publication. As previously mentioned, this principle obliges the Institute to employ more than 22,000 non-staff abstracters, and editors in addition to its permanent staff members. The requirements for abstracting are basically unified and defined in the specified instructions for each series of the Abstract Journal.

The distribution of VINITI publications is expanding both in the USSR and abroad. The Soviet Abstract Journal is read in more than 50 countries. One of the recently developed aspects of VINITI is its reference-information service.

Since its establishment VINITI has accumulated more than a million scientific and technical sources. This is the most complete collection in our country of periodical literature and serial publications, transactions, reports on scientific conferences, congresses and symposia. The scientific institutions of the entire Soviet Union make wide use of this collection.

On the basis of the abstract journals and the collection available at VINITI, references and bibliographies are prepared on the most varied scientific and technical subjects. At the present time, experiments are being conducted on establishing unified catalogues and automated reference-

information methods which eventually would allow establishment in the Institute of a highly efficient reference and information service.

Photostating and microfilming have been greatly developed in recent years, and the number of translations into Russian of information material requested by readers of the Abstract Journal has greatly increased.

More than a decade of VINITI's work has definitely proved the efficiency of a centralized method for the processing of information documents. The Institute's publications, and above all the Abstract Journal, will be of primary importance for a long time. Therefore it is necessary to keep improving the methods of abstracting and processing all information material. In accordance with a decision of the Council of Ministers of the USSR, dated 10 September 1964, the time limits for publishing the Abstract Journal is set at 3 to 4 months, and for Spot Reports - one month from the moment the original source is received.

The implementation of this decision requires further improvement in the processing and distribution of information publications, leading to a wider application of the newest technical methods.

The ever growing demands on information service, made under conditions of steadily increasing information data, clearly attest to the necessity of searching for new methods of information propagation, and establishing new automated ways of processing, storing and retrieving the information.

Moreover, the solution of these problems must be based on a strictly theoretical approach.

This decision determines the planning and implementation of scientific research at VINITI.

The scientific activities of VINITI are administered by its Academic Council and its related sections.

The Academic Council at VINITI is a consultative body subordinated to the Director of the Institute. This Council consists of the Director, Deputy Director of the Science Section, the Academic Secretary of the Institute, leading scientists and representatives of the party and trade unions of the Institute's organizations.

Four sections under the Academic Council at VINITI are:

1. Physics and Mathematics Section
2. Technology Section
3. Chemistry and Biology Section
4. Economics and Geography Section

The personnel of the Academic Council and its sections are approved by the Presidium of the USSR Academy of Sciences.

The Academic Council considers the basic trends of science and scientific information activities at the Institute, and hears reports on the Institute's basic scientific problems. Among these problems are studies of the theories of scientific information, and the mechanization and automation of information activities.

Moreover, the Academic Council examines the projects for and reports on the scientific activities of the Institute and on the scientific work of its sections and individual scientists. At the meetings of the Academic Council, problems are discussed pertaining to training and increasing the qualifications of scientific personnel, candidates' dissertations are examined and approved, and results of competitions for and elections to vacant scientific positions are discussed.

The sections of the Academic Council examine the science and scientific information activities of the respective sections, acquaint themselves thoroughly with and evaluate the scientific work of its members, examine the problems of electing, on the basis of competition, senior and junior scientific workers for the forthcoming period. When necessary, decisions made by sections of the Academic Council are approved by the VINITI Academic Council.

The wide scope of scientific work and methods applied to problems of scientific and technological information, the general aspect of current problems, and the necessity of scientific exchange between scientific and technological information agencies in the country, resulted in the necessity of coordinating this work throughout the entire USSR. The activities of VINITI in the planned coordination is one of the essential aspects of its organizational work.

VINITI is the Country's main scientific research organization working on the problem of "Scientific and Technical Information." It is necessary to have one main agency to deal with this problem because of the number of diverse organizations and the multitude of related subjects being processed simultaneously by several scientific organizations. Many of these organizations are not sufficiently experienced, having come into existence only recently, and therefore the complexity of VINITI's problems in planning the effective management of scientific and technical information service are great. Participating in the solution of this problem are the Institute's scientific sections which were organized earlier, as well as the specially established Section for the Coordination of the Scientific Operations of Information Agencies.

Beginning in 1966, the scientific solution of the basic problems of information has been carried out in accordance with the unified plans for research in the field of scientific and technical information. In the preparation of these plans, the Institute has focused its attention on the consolidation of efforts by the information agencies of various scientific organizations for the solution of the most important and topical scientific problems, such as the development of a principle which would be fundamental to the structure of all funds of reference and information available at various industries, republics and sovnarkhozes, and also the creation of information-research systems of a descriptive type for all basic and other types of industries of the national economy.

For the purpose of examining the most important problems arising in the course of joint scientific work, a Coordination Council was established and functions as part of VINITI; this council is comprised of the heads of all the basic information agencies in the USSR. The Council examines and approves projects for unified plans of collaborative scientific work by information agencies and the reports on the implementation of these plans.

The basic method for coordination and mutual assistance in the realization of separate scientific projects is through a coordinating meeting. Participating in these meetings are scientific workers from different information agencies processing related problems. Usually, on the agenda of such a meeting are individual reports on the progress of the work and an exchange of opinions among the members of the meeting.

VINITI endeavors also to be of assistance to information agencies in the field of information service procedures. It is true that this field is substantially limited by the fact that the procedures of the various information agencies are different. Therefore, the basic information work is done by the central information agencies of industries, republics, and sovnarkhozes. However, some of the procedures are sufficiently similar, and these are the ones on which VINITI concentrates. One of these outstanding problems pertains to the organization of reference and information services, and on this subject the Institute holds all-union science and technology conferences and issues manuals on proper procedures.

With regard to the prospects of scientific coordination in the field of scientific and technical information activity, it is possible to assume that its differentiation will come gradually. It is also possible to assume that with the growth of the scientific community concerned with scientific and technical information at industrial central information agencies, some of them may undertake the functions of a head agency with respect to the specialized problems of other agencies in the same field.

One of the most important aspects of VINITI's organizational activities is in developing international contacts.

VINITI has direct contacts with leading information institutes in other countries and with international scientific information agencies. The exchange of information material and of practical experience is increasing every year.

The international contacts of the Institute proceed along the following lines:

1. Scientific contacts and collaboration with international agencies working on the problems of scientific and technical information;
2. participation of VINITI scientists and specialists in conferences and meetings abroad, visits to foreign information centers for the purpose of learning their information service organization, expanding scientific and business contacts, and for a direct exchange of experience obtained in the field of scientific information;

3. exchange of periodical and other literature with foreign scientific establishments, libraries, publishing houses and firms, and subscription to foreign literature;

4. contacts by the Institute with foreign organizations, scientists, and directors of institutes and centers with regard to the problems and procedures concerning scientific and technical information, in order to apply the experience gained abroad to information activities.

It must be noted that recently VINITI has been visited by a growing number of foreign scientists and publishers; contacts with foreign specialists in the field of scientific information have expanded, and possibilities for studying and acquiring serious foreign scientific and technical literature have increased. VINITI's contacts with the socialist countries have been enlarged and strengthened. Bilateral and multilateral contacts have been established in the exchange of information documents, methods of procedure, and in the exchange of delegations and specialists, as well as in a joint development of scientific research.

Scientific and business contacts have become active between VINITI, the International Federation for Documentation (MFD) and the Abstracts Bureau of the International Council of Scientific Unions (RB MSNS), of which VINITI has been a member since 1953.

Collaboration with UNESCO has been considerably expanded. A meeting of UNESCO's Group 2 dealing with the problems of automating infor-

nation procedures took place at the Institute and has been instrumental in the exchange of opinions on the topical problem of information automation, which will doubtlessly assist the search for the best decisions.

Having presented a short resume on the basic element of VINITI operations, we shall conclude by an examination of the Institute's problems concerning scientific research, which is a new branch of science whose pattern of organization took shape as a result of the increased scientific information activity throughout our Country and in particular at VINITI, its center.

After 12 years of VINITI activities in the abstracting field, it has become clear that current requirements face us with the problem of further improving and developing new methods for the delivery of information to the scientists, engineers and technicians of our Country. These requirements are dictated by the following circumstances: 1) the rapid growth of world scientific literature, the volume of which can no longer be coped with by the old methods; 2) the scientific workers' ever growing need to receive their information by request, rather than having to research it in abstract journals which are steadily growing more and more voluminous, even though they are much shorter than the original sources.

The first circumstance, i.e., the growth of world literature, leads to the necessity of mechanizing (and if possible, automating) the pro-

cessing of information material. In particular, this applies to the mechanization of indexing for the Abstract Journal. The complete program for the mechanization of indexing includes the formulation of theoretical principles for the indexing and classification of material, the use of algorithm and programing in automating these processes, finding the proper technical means for an automatic machine systematization (alphabetically or by some other method) of large quantities of information and for its duplication in print. All this work must be done, and is being done, in close collaboration with specialists in various fields, theoreticians, methodologists, and technicians.

The second circumstance, i.e., the need to obtain information by request, requires the formulation of new principles for information service, such as:

- 1) establishing a system of rapid information on all new scientific and technical publications and distributing copies of the publication;
- 2) establishing rapid delivery of requested bibliographic references;
- 3) establishing a system for rapid delivery of requested subject references.

The establishing of these new types of information service requires thorough theoretical and experimental preparation. In its final form, particularly with reference to the second and third points, the outcome of this preparation should be a mechanized information-research system (IPS).

However, it is necessary to keep in mind that any IPS system must be based on factual data. Therefore the problem of choosing some definite system for the transformation of information documents (in particular the multilingual ones) will not be solved for many years.

The most effective designing and construction of experimental models of IPS, would require the consolidation and coordination of the efforts of the entire body of individual processors of IPS (theoreticians and experimentors) with the entire body of specialists preparing IPS "softwear". Only then can one be sure that the "softwear" and the equipment will be in balance. In neglecting one or the other aspect there is danger that the information being processed will either not be entered into the IPS system, or else will not be retrieved in accordance with requests.

Thus, VINITI is faced with the complex problem of scientifically processing the world's scientific and technical literature, the mechanization and automation of these processes and the development of new forms of information service to the scientific and engineering personnel of the Country.

A satisfactory solution of these problems must be based on theoretical as well as experimental research in the field of scientific information, in methods for processing documented information, in the mechanization and automation of the various stages of this process, and in the design and construction of new technical equipment. All of this program must be solved by a unified effort of personnel specializing in the theory and practice of information service and of personnel working out information techniques.

Such are the basic trends of scientific research at VINITI, which is concentrated in individual sections on scientific methods, theoretical research, a laboratory for electric analog computer research systems, industrial sections, etc.

According to the Decree of the Council of Ministers of the USSR, dated 11 May 1962, the centralized processing of published information documents, the issue of review-bibliographies and of reference literature, the translation of foreign literature, requests for microfilms, and the improvement of scientific information methods are the responsibility of a series of central all-union institutes.

Among these are: the Central Scientific Research Institute on Patent Information and Technical and Economic Research (TsNIIPI), the All-Union Scientific Research Institute of Medical and Medico-technical Information (VNIIMI), the Central Institute of Scientific Information on Construction and Architecture (TsINIS), the All-Union Institute of Scientific and Technical Information on Agriculture (VINITI on Agriculture), and information agencies of the State Committee on Standards, Measures, and Measuring Instruments.

These institutes, as well as VINITI, collect, process, store, publish, and distribute information in their respective fields and do not duplicate the work done by VINITI.

Central Scientific Research Institute on Patent Information and Technical
and Economic Research (TsNIIPI)

TsNIIPI is responsible to the State Committee for Inventions and Discoveries, USSR.

The scientific board of the Institute systematically analyses and classifies the patent literature of the world and organizes the information on technical patents for domestic consumption. Patent information is considered to be a part of general documented information.

Among the basic responsibilities of TsNIIPI are the following:

- 1) delivery of patent information to ministries, sovnarkhozes, departments, enterprises, scientific research institutes and design-and-construction organizations;
- 2) clarification of new tendencies in the development of basic domestic and foreign industrial techniques and economics;
- 3) elaboration of recommendations for implementing various inventions and discoveries;
- 4) study of the technical and economics efficiency of domestic and foreign inventions and discoveries.

The Institute publishes manuals on methods and problems of patenting inventions, educational material and control over the use of patent literature.

The Institute disseminates information on inventions and discoveries and demonstrates these new achievements at VDNKh [Exhibit of the Achievements of the National Economy of the USSR, in Moscow.]

Patents are stored in the All-Union Library for Technical Patents which is not a part of TsNIITI but an independent agency within the organization of the USSR State Committee for Inventions and Discoveries. In addition to this technical patents library, there are other local collections of patents. It is assumed that in the future patents will be concentrated in the main industrial scientific research institutes where the patent material will be reflected in the appropriate reference collections.

The material published by TsNIPI on domestic and foreign inventions represents a most important source of information for scientists, constructors, technicians, inventors, industrial developers and innovators, as well as for patent agency personnel, who determine the patentability and patent "rights" of industrial products.

TsNIPI issues the following types of patent information publications:

1. "Tablegrams of invention descriptions" concerning 53 technical branches.

A "tablegram" is a collection of tables on bibliographic information regarding domestic and foreign inventions in a specific branch of technology, obtained by processing primary patent information on perfora-

tion-computing machines. The bibliographic information included in the "tablegram" contains the number of the author's certificate or patent, its priority date, and in the case of patents, the country of origin as well as the name of the owner firm and the ordinal number of the micro-film frame describing the patented inventions. The descriptions included in the "tablegram" are indexed in detail according to their classification characteristics which facilitates research for the required information.

"Tablegrams" are issued for different branches of technology. They are compiled from patents issued during the last 15 to 20 years.

2. "The Bulletin of Inventions and Trademarks."
3. "Information on Inventions."
4. Descriptions of inventions for author-certificates and patents issued in the USSR.
5. Perforated cards with the translated titles of publications on inventions described in the patents bulletins of the USA, Great Britain and the Federal Republic of Germany.
6. Technical and economic reviews of inventions in the field of domestic industries.
7. Biographical collections of patent material from countries with limited patent potentials.
8. Bibliography of descriptions of domestic inventions (on standard library cards).
9. Tables of corresponding indexes of invention classifications, according to countries.

10. Bibliography of new acquisitions of descriptions of foreign inventions by the All-Union Patents and Technology Library (on standard library cards).

TsNIIFI works on problems concerning the mechanization of patent information processing.

The All-Union Scientific Research Institute of Medical and Medicotechnical Information (VNIIMI)

VNIIMI is a complex scientific and technical information agency in the field of medical and medicotechnical information. The institute organizes and coordinates the activities of scientific and technical information in the republics and in the information sections and groups of scientific institutes; it supervises the work of scientific and technical information within the public health service; it organizes scientific information service using unpublished sources and assures a centralized processing of the published papers in its field. In the preparation of its publications, VNIIMI uses extensive domestic and foreign material — more than 2,000 titles of periodical and serial publications in 40 languages.

In order to acquaint the scientific research and curative-preventive establishments, as well as wide circles of the medical community, with the achievements in domestic and foreign medical science and technology, VNIIMI publishes information journals on problems of medicine and public health.

The Institute publishes a monthly "Medical Abstract Journal," issued in 15 separate series. On the basis of the material published in the abstract journals on different medical problems, a reference card index is issued which can be used in establishing an information reference center at scientific information agencies.

The current abstract information is contained in information letters (24 issues per year). They inform the reader of achievements in medicine abroad, with new medical methods, new drugs, statistical and demographic data, etc. The Institute publishes an annotated catalogue of articles from foreign medical journals translated by members of the scientific organizations in the public health system. It also publishes reports on medical meetings and conferences, international, regional and national congresses, meetings, conferences, symposia and colloquia.

VNIIMI publishes the abstract collections "Medicine Abroad." In 1964 the following publications have appeared: "Problems of oncology," "Diseases of the Cardiovascular System," "Water, Air and Earth Hygiene," "Problems in the Organization of Public Health and History of Medicine," "Medical Techniques," "The Pharmacy and Pharmaceutical Problems," "Radio-Electronics in Medicine."

These collections contain abstracts of monographs and articles on topical problems of medical science and technology, public health organization, etc.

The Institute prepares and publishes scientific reviews. For example, in 1964 the following reviews were published: "Physiology and Pathology of the Cardiovascular System," "Viruses and Virulent Diseases," "Malignant Growths," "Hypertonic Diseases, Artherosclerosis and Coronary Inadequacy," "Problems of Organizing Public Health and the History of Medicine," "Medical Technology."

Moreover, VNIIMI is responsible for the bibliographic information concerning medicine abroad. Bibliographic indexes are published for the various branches of medical science and technology and on completed dissertations.

The Institute organizes the reference and information service, for which purpose a Central Reference and Information Fund is being established. Translations of relevant foreign literature are made at the Institute.

Through its scientific research the Institute endeavors to improve the system of scientific and technical information, to develop the mechanization of processing information sources and to improve the UDK (Universal Digital Classification).

The Central Institute of Scientific Information on Construction and Architecture (TsINIS)

Though the Institute has the status of a central industrial agency, it carries out many functions of an all-union institute. It is responsible for abstracting information documents published in the USSR and abroad. On the basis of this, it issues bibliographic abstracts and review information on the construction industry. It also issues abstracted information on unpublished scientific and design-and-construction subjects of general interest to industry and on the most important economics problems.

Moreover, TsINIS is responsible for:

1. reference information service to construction, building-assembling, designing and scientific research organizations;
2. organization, jointly with other industrial agencies, of subject exhibits and showings of the newest achievements in science, technology, and progressive experience in the construction field;
3. assistance to industrial and republic agencies for technical information and propaganda, and also to information agencies working on a community basis in construction;
4. organization of training to increase the qualification of personnel in technical information;
5. control of scientific and technical films on construction.

TsINIS carries out scientific and research work to improve the scientific and technical information system of the USSR Gosstroy [State construction] agencies and the introduction of UDK [Universal Digital Classification].

Among the TsINIS information publications the most important is the bibliographic index of current domestic and foreign literature, published jointly with the Central Scientific and Technical Library of the USSR Gosstroy. Among the newer publications are: cards on completed unpublished scientific research papers and projects of importance to different industries, as well as the spot reports on construction abroad, in the form of separate issues on the most important abridged translated material, review articles, information on standard material, standards, inventions, etc. Thus, for instance, the spot report series cover: general problems on construction, industrial construction, residential and public construction, rural construction, construction materials and goods.

The All-Union Institute of Scientific and Technical Information on Agriculture (VINTI)

This institute was recently established and is still in an organizational stage. VINTI will be responsible for the following functions:

1. establishing a system of agencies for scientific and technological information in its field and determining the scope and procedures of their work;

2. organizing scientific and technical information on published and unpublished sources;
3. methods of work and their coordination with information agencies in other industrial scientific research organizations;
4. reference information service requested by officials of leading party, soviet and agricultural organizations and specialists.

In relation to the agricultural problems facing VINTI, the following list of publications is planned for the Institute in 1965:

1. Index of completed scientific research works recommended for implementation in agriculture (in accordance with reports of scientific research institutes and experimental stations).
2. Implementation of advanced production experience in agriculture.
3. Agricultural science practices abroad.
4. Publications on agricultural science abroad and in the USSR.
5. Abstract information, published on cards, on domestic and foreign literature.
6. Agriculture abroad (collections of translations and abstracts).
7. Spot reports on domestic agricultural literature.

Bibliographic work will include the following:

- A systematic index of USSR agricultural literature.
- A systematic index of foreign articles on agriculture.
- A manual in book form for agricultural production specialists, and an annotated index of literature.

A catalogue of translations and abstracts.

A subject catalogue of bibliographic lists.

Subject bibliographic lists.

Centralized cataloguing of foreign literature (38 subject series totaling 40,000 printed cards).

Information Agencies of the State Committee on Standards, Measures, and Measuring Instruments, USSR (VNIIMI)

Until recently the information agencies of the State Committee for Standards, Measures and Measuring Instruments, USSR, were: the Department of Scientific and Technical Information of the All-Union Scientific Research Institute on Standardization in Machine Building and the Laboratory of International Cooperation and Scientific and Technical Information of the All-Union Committee on Standards, Measures and Measuring Instruments, USSR.

Because the scientific information and the information-publication activities of these agencies had been limited, they were recently reorganized. An All-Union Scientific Research Institute for Technical Information, Classification and Coding (VNIIMI) of the State Committee on Standards, Measures and Measuring Instruments, USSR, was organized. It may be expected that this gap in the over-all system of scientific and technical information will now be liquidated.

The Ascending Flow of Information Material and the Location of Central Industrial and Regional Information Agencies Within the System of Scientific and Technical Information.

As we have already seen, through the efforts of the all-union agencies for scientific and technical information a centralized processing of published information material was established. A few decades ago this probably would have been sufficient for a complete coverage of the bibliographic and abstract information needed by users in their respective fields of interest. At that time all information of any interest was published, and the rate of the development of science and technology was such that it was not necessary to take into consideration the time lapse between the appearance of new information and its publication.

At the present time, the factories, scientific research and design-and-construction organizations produce a great number of information material, such as reports on scientific research and experimental construction works, design, technical documentation, scientific and technical reports on official trips, etc. A great deal of this information is not published, and the important fact is that the unpublished information is frequently first-class information. At the present time there is no procedure which would guarantee the selection of new information material and the mandatory publication of the most important data in the form of articles or pamphlets. Such a procedure would not be easy to establish and apparently would be very difficult to maintain. Therefore much valuable

information remains where it originated, namely in factories, scientific research institutes, design institutes and construction bureaus. Among the bulk of unpublished information is the majority of so-called "partial solutions," which are a by-product of the scientific research (NIR) and experimental construction (OKR) work, and which frequently have no direct bearing on the main project. Among these partial solutions there may be some that are of great importance to other experimental methods, such as for instance a specially designed equipment being used as secondary device, etc. According to custom the unresolved experiments carried out by NIR and OKR are not published. However, that information could save years of work to researchers working on related problems, by showing them the paths which are to be avoided. Finally, important information very frequently is not published due to the mere fact that the researcher or constructor is too busy meeting deadlines on his main work.

Thus, it may be stated that unpublished information may frequently contain information which is just as valuable as the one published. In addition, the unpublished information has the very important aspect of being extremely timely. Sometimes a scientific project continues for several years, during which time interim reports (annual and stage) are written. That information could be of great importance to researchers working on analogous or similar problems. However, publications on a project appear only upon termination of the experiments or upon reaching decisive results. Moreover, during the usual procedure of preparing books, pamphlets, journals,

etc. for publication, a considerable period of time lapses between the writing of the manuscript and its appearance in printed form. Everything mentioned above is not intended to minimize the importance of information published by various publishing houses, and the use of published material will apparently continue to constitute the basic source of information for years to come. However, we can no longer ignore the unpublished sources, and therefore it is necessary to develop a system which would give the user access to this source of information. This is the problem which is being solved in this country by establishing the so-called ascending flow of information.

The source of this flow is the central and lower industrial information agency.

The ascending flow of information proceeds as follows: the scientific and technical information sections in factories, scientific research institutes and constructors' bureaus deliver to the corresponding central industrial information agencies mandatory reports on completed work, such as reports on NIR and OKR (including reports on partial solutions), design and technical documentation, data on accepted products, etc. This information is processed by central industrial information agencies and results in secondary information such as abstracts and bibliographic cards, abstract collections, and catalogues of items produced at various industrial branches. This secondary material is published by central industrial infor-

mation agencies, usually in the form of subject series and are distributed through subscription to all interested organizations and enterprises in the USSR. This material is also received by regional information agencies - republic institutes of scientific and technical information and sovnarkhoz bureaus of technical information. This procedure in conjunction with the processing of material contained in the descending flow of information guarantees the complete coverage of all the information, published and unpublished. When the bibliographic and abstract information proves to be insufficient, it is possible to obtain through the central industrial information agency the original material or its copy, i.e., reports on NIR or OKR, a set of drawings, etc.

Thus, the role played by the central industrial scientific information agency as a link in the ascending flow of information documents proves to be the focal point where the activities and the technical level of the industry come together.

The basic channels feeding the central industrial scientific information center connect it with the many lower-level (if we may call them so) information agencies, on whose activities we would like to say a few words in order to clarify the whole system which makes up the ascending flow of information.

Because of the great experience accumulated within recent years by many information agencies in industry, NII and KB^{*} and due to a

* Construction Bureau

great variety in the circumstances, practices and approaches to the organization of their work, it is not possible to give a ~~detailed~~ review of individual information agencies. Such a review could be done as a separate and very useful project.

Therefore, having studied the established practices, we believe it possible to offer a certain point of view regarding the organization of the activities of an information cell, on the basis of the positive experience of a series of industrial information agencies.

The decree of the Council of Ministers of the USSR, dated 11 May 1952, defined the tasks and the role of information agencies in the national economy. Thus, for instance, the efforts of the information agencies at industrial enterprises are to be directed towards the utilization of information publications issued by all-union and central industrial information agencies. They are also charged with collecting local data on advanced experiments, new technological principles either implemented or originating in the given enterprise, inventions, etc.

Among the tasks of a factory information center is the systematization of experience and the shaping of it into a form which would become a part of the industrial fund of information and reference, or a basis for industrial information publications.

For this purpose, the central industrial institute of scientific and technical information develops programs which shape the ascending flow of information documentation. A tentative composition and the contents of data records are suggested in these programs. For instance, certain stages are established following which a task is considered to be completed, and upon the preparation of technical reports and information cards it is definitely terminated. In this process, attention is paid to the clarification and the circulation of partial technical solutions obtained during the scientific, construction and technical operations.

With this in view, technical memoranda on original partial solutions and cards with relevant information are included in the technical documentation.

One copy of such a card is forwarded to the industrial information center. The universal digital classification (UDK) is noted on the information card and an abstract with necessary illustrations is included.

Information cards may be prepared not only on completed work, but also on technical NIR and OKR assignments; in the latter cases, however, instead of an abstract there is given a brief description of the technical assignment.

Thus, the industrial information center may receive from all the organizations of a given industry direct information on cards on completed NIR and OKR assignments, on projected and planned work, partial technical solutions, innovations proposals, etc.

On the basis of these information cards, an industrial center may issue collections of NIR and OKR abstracts and other publications of interest to industries. As an outcome of the processing of the original documents in the ascending flow, the industrial information center prepares its publications whose coverage provides information regarding the state and development of science and production in a given industry.

The role of the industrial information agencies within the country's scientific and technical information system is not limited to the processing of the ascending flow of information material. Of great importance to the efficiency of the scientific and technical information service is the organization of the information and reference service system. The main point of this system is the central industrial information and reference fund. The creation and exploitation of such a fund is a complex scientific and technical task. All the information documents which may be

of interest to enterprises and industrial organizations as well as to individual laboratories, guilds and specialists working on related subjects must be collected in the central industrial information and reference fund. Among these documents may be books, journals, patents, authors' certificates, standards, specifications and technical requirements, reports on NIR and OKR projects and technological documentation, descriptions of industrially significant innovation proposals, etc. In the majority of industries, the principal part of this documentation must be kept in the fund for 5 to 10 years. This means that the central information and reference funds of such industries as chemistry, radioelectronics and electrical engineering, machinebuilding, and electrical technology must keep hundreds of thousands and millions of documents, a great part of which is quite bulky (let us remember that the stored documents include, for instance, graphic documentation). All of these documents must be kept in an order which would facilitate quick delivery upon request and an economical duplication. With such a fund, the solution of this problem requires economical and compact facilities for storing the documents, and economical and highly productive equipment for their duplication and distribution.

The central industrial information and reference fund receives requests for information of the most varied character. Experience has shown that only a small number of readers asks to indicate the original source of the needed information. The bulk of the requests is for informa-

tion on specific subjects. The quick retrieval of the requested data from among the mass of stored information is a complex problem with mechanical, semantic and technical aspects.

As we see it, a central industrial information and reference fund should be located at a single geographic point. However, when the central fund has several bases, each of which is a collection of information on a specific aspect of industry, another solution is possible, namely: a section of the central fund may be located at the main science and research institutes of their respective industries, whereas the information material of general interest would be concentrated in the central information agency of the industry.

It is quite obvious that in this manner the central industrial information agency would be able to correlate the operations of all sections of the central fund.

On the basis of the material available in the information and reference fund, the central industrial information agency may carry on extended operations: collecting and distributing information on the state of the art and the anticipated development at home and abroad of science, technology, economics, and production organization within the framework of the specific industry.

Thus, the central industrial agency for scientific and technical information is a complex scientific information agency, which is most important in the life of the country. Establishing an efficient system for central and for specialized industrial information and reference funds is one of the most important tasks facing the information service in our country.

An important place in this system belongs to regional information agencies, i.e., union republic institutes of scientific and technical information and sovnrakhos central bureaus of information. It should be pointed out that their functions are not yet as clearly defined as those of the central industrial information agencies.

In the Soviet Union, the creation of a model information service is considered to an important task of the State. In recent years the network of information services has been considerably expanded and a series of practical organizational measures have been established for improving and building up information services. The main attention is now focused on the development and extensive implementation of means to mechanize and automate information procedures. From our point of view, of particular importance at this time is the establishment of a scientifically oriented basis for a mechanized and automated information research system - a development of the theory on scientific information. The attention which is being given in our country to these problems and the results obtained in recent years allow us to be optimistic with regard to future theories and practices of scientific information.

ORGANIZATION OF SCIENTIFIC AND TECHNICAL INFORMATION IN MEMBER COUNTRIES
OF THE COUNCIL FOR ECONOMIC MUTUAL ASSISTANCE

The organization of scientific and technical information in socialist countries reflects their particular governmental structure and principles of centralized planning and administration of their national economy.

Regardless of the fact that in every socialist country there are definite historically established economic conditions, due to which the requirements for scientific and technical information differ in these various countries, an overall governmental coordination of information service is common to all of them. The administration of scientific information services is carried out by the proper central agencies of the State, through subordinate information centers.

By countries, these centralized information agencies are as follows:

in the People's Republic of Bulgaria: the Central Institute of Scientific and Technical Information;

in the Hungarian People's Republic: the Center for Scientific and Technical Documentation at the National Technical Library;

in the German Democratic Republic: the Central Institute for Information and Documentation;

in the Polish People's Republic: the Central Institute of Scientific, Technical, and Economic Information;

in the Czechoslovak Socialist Republic: the Institute of Technical and Economic Information, the State Technical Library, the Administration for Inventions and Patents, and the Administration for Standardization.

Central scientific and technical information agencies in socialist countries are charged with definite tasks:

- 1) establishment of a centralized information service for scientific research and technology, research in economics and the problems of organizing and administering labor and production;
- 2) development of methods for the implementation of scientific research on information services;
- 3) administration of technical libraries;
- 4) study of problems on the efficient use of scientific information;
- 5) study of recommendations for organizing a network of information agencies in the country and an orderly administration of information centers;
- 6) organization of the training and improvement of the qualifications of personnel engaged in scientific and technical information activities;
- 7) cooperation with scientific, technical, industrial, and national and international organizations abroad.

The next stage of information services in socialist countries is found at industrial centers. The tasks of the latter are as follows:

1) assuring complete coverage of information on a specific subject to all interested organizations and individuals;

2) development of methods for an efficient information service at a given industrial center;

3) assistance in the organization of information sections at given industrial centers.

The compilation and publication of information cards is widely practiced at industrial centers of individual socialist countries. In many socialist countries information cards are the basic forms of information. The cards are circulated by subscription to enterprises, scientific institutes, and individual subscribers.

The lower level of information service in socialist countries is made up of information sections at industrial enterprises and scientific institutes.

At this lower level the responsibilities are:

1) furnishing scientific and technical information to every worker at the enterprise;

2) developing all forms of technical and economic information;

3) supervising the activities of technical libraries.

As a rule, the information sections at enterprises do not process scientific and technical literature, but make use of the cards and other material published by the industrial centers for scientific and technical information.

Generally speaking, such are the basic organizational principles upon which the scientific and technical service is organized in socialist countries. Below is a short outline of the structure and organization of scientific and technical information for individual member countries of the Council of Economic Mutual Assistance.

The People's Republic of Bulgaria

In Bulgaria, the scientific and technical information service was created since the establishment of the People's Republic. Great progress in the organization of the information service in the People's Republic of Bulgaria was achieved due to the persistent labor of Bulgarian scientists and engineers. In 1959 the Government of the PRB created the State Committee on the Progress of Science and Technology. This Committee organized and administered a network of scientific and technical information agencies.

As a result of the activities of the State Committee and on the basis of a resolution of the Central Committee of the Bulgarian Communist Party and the Council of Ministers of the PRB, dated 26 September 1962, a unified State system of scientific and technical information was created. The newly created network of information agencies has a three-level structure consisting of central institutes of scientific and technical information, central industrial agencies of scientific and technical information, and technical information agencies at enterprises.

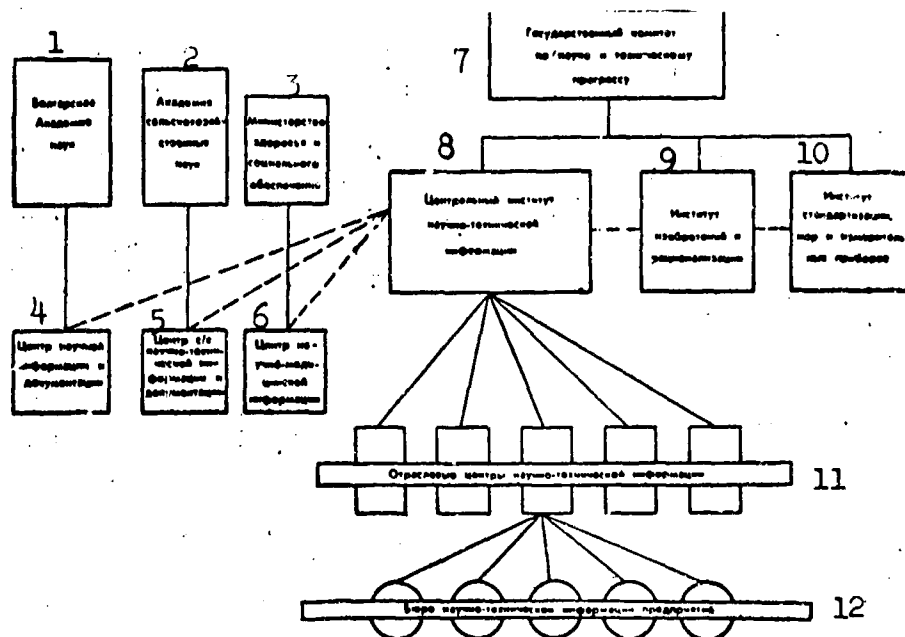


Fig. 142. Diagram of the Structure of the Network of Information Agencies in the People's Republic of Bulgaria

1 - Bulgarian Academy of Sciences; 2 - Academy of Agricultural Sciences; 3 - Ministry of Health and Social Security; 4 - Center for Scientific Information and Documentation; 5 - Center for Scientific and Technical Agricultural Information and Documentation; 6 - Center for Scientific Medical Information; 7 - State Committee on Science and Technological Progress; 8 - Central Institute of Scientific and Technical Information; 9 - Institute of Patents and Innovations; 10 - Institute of Standards, Measures, and Measuring Instruments; 11 - Industrial centers for scientific and technical information; 12 - Scientific and technical information bureaus at enterprises.

The central institutes of specialized scientific and technical information include: the Institute of Invention and Innovations which furnishes information on patents literature, the Institute of Standardizations, Measures and Measuring Instruments, and the Central Institute of Scientific and Technical Information which is the head agency of the industrial network of information. All the above mentioned institutes are under direct subordination to the State Committee on the Progress of Science and Technology.

Based on the policy of the academies, appropriate information centers were created to handle scientific information in their respective fields. Thus, a Center for Scientific Information and Documentation was created at the Bulgarian Academy of Sciences; a Center for Agricultural Scientific and Technical Information and Documentation was created at the Academy of Agricultural Sciences; and a Center for Scientific and Medical Information was established under the Ministry of the People's Health and Social Security.

The current three-level NRB network of the industrial information agencies assures a solution to the following problems in organizing information services:

The State Committee on Science and Technological Progress heads a unified State system of scientific and technical information, which is the administration agency in questions of organization and methods. It carries out international cooperation in the field of information. A Coordination Council, subordinate to the State Committee, is in charge of the overall scientific and methodical guidance of the country's information agencies.

The Central Institute of Scientific and Technical Information (TsINTI) is the main information agency in the Country. The Central Institute has the following tasks:

1) publication of abstract bulletins in various fields of science and industry (mechanical engineering, electric power engineering, construction and architecture, chemical industry, food industry, light industry, mining industry and metallurgy, geology, agriculture and lumber industry, medicine and biology);

2) publication of technical and economic reviews on the state and development of individual branches of science and industry;

3) publication of abstract issues based on sources covering Bulgarian science and technology, as well as works published in Russian and West European languages;

4) coordination of the activity and methods used at industrial scientific and technical information centers;

5) realization of international contacts and representation in international organizations.

TsINTI is a science institute where theoretical problems pertaining to scientific and technical information are worked out.

The Bulgarian People's Republic has established a network of industrial scientific and technical information centers. Most of these centers are located at scientific research institutes and furnish information data to the scientific and technical personnel of a given industry and to independent users. These centers publish abstracts and reviews of foreign industrial literature, and pay great attention to the problem of collectivizing the experiences gained by domestic industrial enterprises.

Industrial centers of the NTI (Scientific and Technical Institute) control and supply material for use by the scientific and technical information bureaus at industrial enterprises.

In recent years, scientific and technical information bureaus have been established at a large number of enterprises in the Bulgarian People's Republic. The industrial enterprises supply scientific and technical information to bureaus in the form of technical periodicals and other types of information publications. These bureaus do not publish any information material and their main activity is in collecting, storing and safekeeping the information publications issued in their respective fields, in compiling reference cards, and disseminating scientific and technical knowledge.

The Hungarian People's Republic

The State scientific and technical information service in the Hungarian People's Republic was organized in 1948, shortly after the war. In its initial stages the information service was carried out mainly by the technical libraries at scientific institutes and enterprises. Subsequently, the fast development of production and scientific research, posed new tasks for information services and required a more extensive network of information agencies. Therefore, in 1962 a governmental decree created the State Committee on Technological Development with full control of technical and scientific information and its dissemination.

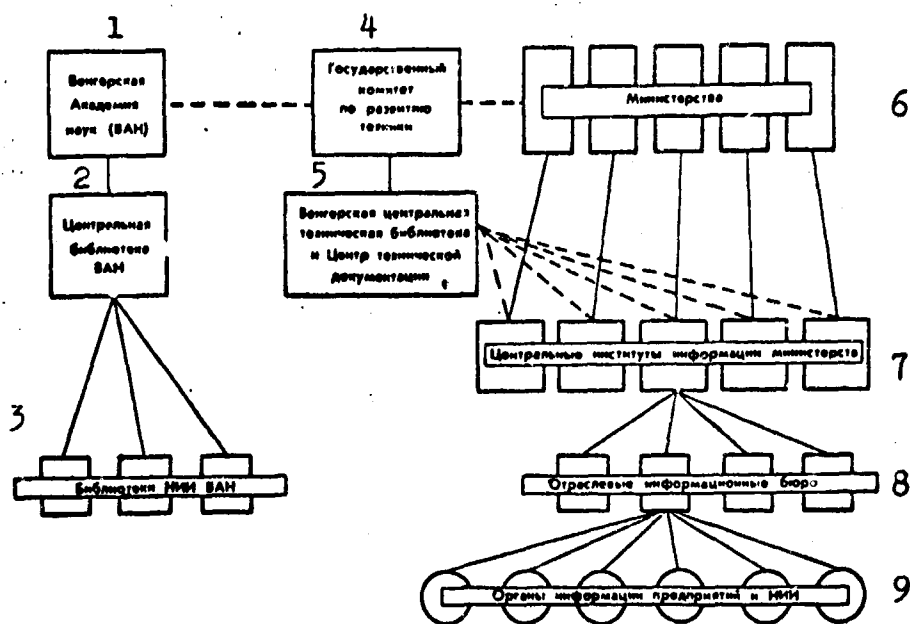


Fig. 143. Diagram of the Structure of the Network of Information Agencies in the Hungarian People's Republic

1 - The Hungarian Academy of Sciences (VAN); 2 - the Central Library of the VAN; 3 - Libraries of the Scientific Research Institutes of the VAN; 4 - State Committee on the Development of Technology; 5 - The Hungarian Central Technical Library and the Center for Technical Documentation; 6 - Ministries; 7 - Central information institutes of the ministries; 8 - Industrial information bureaus; 9 - Information agencies at enterprises and scientific research institutes.

The tasks of the new Committee were defined as follows:

- 1) promotion by all possible means of the development of a scientific and technical information network and the delination of its basic principles;
- 2) coordination of the activities of scientific information institutes;
- 3) participation in the establishment of new information agencies and their standards;
- 4) supervision of training for personnel working in the field of scientific and technical information;
- 5) guidance of international collaboration in information activities.

The Hungarian Central Technical Library (VTsTB) and the Center for Technical Documentation (TsTD) are directly responsible to the State Committee.

The Hungarian Central Technical Library is charged with the following tasks:

- 1) Collecting and processing scientific and technical literature in various fields of science and technology, and based on this, issue of information publications;
- 2) implementation of all types of information service to State and scientific research institutes, industrial enterprises and private individuals;
- 3) digest of domestic and foreign experience gained in organizing information services;
- 4) scientific research in the field of scientific and technical information;
- 5) systematic control of information agencies;
- 6) training of personnel working in scientific and technical institutes;
- 7) control and registration of foreign scientific and technical literature translated into the Hungarian language in all the information agencies of the country;
- 8) international contacts with foreign scientific institutes and with international organizations.

The central agencies of the industrial information network in the Hungarian People's Republic are the information institutes and the ministerial information agencies, created at ministries.

The industrial information agencies follow in their operations the directives of the Hungarian Central Technical Library and the Center for Technical Documentation.

The next stage in the network of industrial information is represented by industrial information bureaus, which have the following tasks:

- 1) Collecting and storing technical literature in their respective fields;
- 2) processing incoming technical periodicals and publishing information documents such as abstract leaflets, reviews of scientific and technical literature and annotated bibliographic lists;
- 3) popularizing the most recent experience gained at enterprises in various branches of industry;
- 4) translations and the organization of a reference and information service;
- 5) control of the activities of information agencies at enterprises and giving assistance in obtaining necessary publications.

The lower echelons of the information service are represented by industrial enterprises, scientific research institutes and State institutes, which are responsible for:

- 1) assistance in the implementation of the project of an enterprise, using all available information material;
- 2) obtaining and disseminating all technical literature pertaining to the activities of an enterprise;
- 3) generalization and dissemination of production experience and relaying relevant information to higher information agencies;
- 4) participation in all publications issued by an enterprise: catalogues, pamphlets and specifications.

The above network of industrial information agencies, headed by the State Committee on Technological Development, closely cooperates with the network of scientific information agencies of the Hungarian Academy of Sciences.

The German Democratic Republic

The GDR network of information agencies consists of central institutes for scientific and technical information, industrial agencies and information sections at industrial enterprises.

The central state agency coordinating the activities of information institutes is the State Planning Commission. The State Secretariat for Science and Technology, subordinated to the Planning commission, has direct control of the information activities.

In accordance with the decree of the GDR Council of Ministers, dated 9 August 1963, a new centralized organization was established for scientific-technical and technical -economic information. The main agency for the coordination and control of the entire information network in the German Democratic Republic is the Central Institute of Information and Documentation (TsIID), created in 1963, and directly responsible to the State Secretariat for Science and Technology, which is subordinate to the State Planning Commission. TsIID is charged with the tasks of establishing a unified and efficient information network for all fields of science, technology, and economics, the administration of this network and the solving of all the theoretical problems connected with establishing centralized scientific and technical information service. TsIID is a scientific institute which is called upon to carry out all international contacts and information service in the fields of science and technology.

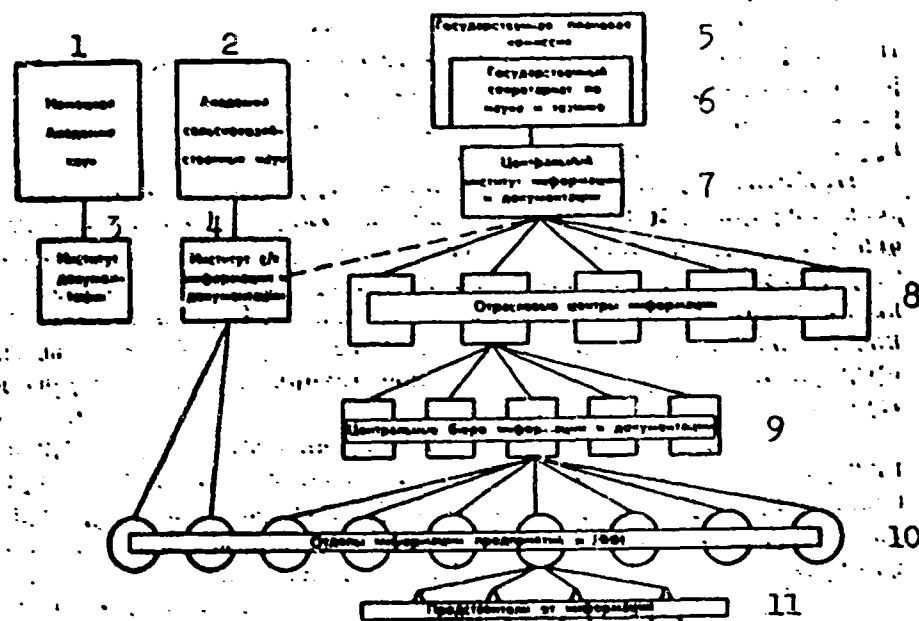


Fig. 144. Diagram of the Network of Information Agencies in the German Democratic Republic.

1 - German Academy of Sciences; 2 - Academy of Agricultural Sciences; 3 - Institute of Documentation; 4 - Institute of Agricultural Information and Documentation; 5 - State Planning Commission; 6 - State Secretariat for Science and Technology; 7 - Central Institute of Information and Documentation; 8 - Industrial information centers; 9 - Central information and documentations bureaus; 10 - Information sections at enterprises and scientific research institutes; 11 - Information representatives.

The next lower level in this organization consists of the central information agencies at ministries, State committee and industrial commissions on state planning. The industrial information centers administer and control the activities of all information agencies in their respective fields; they maintain regular contacts with the industrial information centers of other ministries, thus acquiring a great deal of experience. Moreover, the information centers methodically control the

work of all the industrial information agencies. Among their responsibilities is the planning for processing technical literature in their field and coordination with the information centers of related industries.

The central information and documentation bureaus of unified enterprises and industries are directly subordinated to the central industrial information agency. They coordinate all the activities of the industrial information sections in the various enterprises and scientific research institutes. Central bureaus control the flow of literature to industrial sections, supervise its processing, receive the processed information material, edit, generalize and publish it in the appropriate information publications. They make sure that there are no duplications in the abstracts written by various information sections. The central bureaus are also responsible for organizing courses and training the personnel of the information agencies under their jurisdiction.

The lowest stages in the information setup are the information sections at enterprises and at institutes. The basic function of these sections is to supply to supervisors and all workers at an enterprise the latest information on problems of science, technology and economics in their respective fields. These sections also examine the information material from the workers at their enterprises, process technical literature, and issue abstract publications.

As a rule, to carry out these tasks successfully the information sections have their own technical library, a group of translators, and a photo laboratory. All highly qualified personnel at an enterprise or institute is engaged in abstracting primary sources. Processed abstracts are sent to the higher Central Bureau of Information and Documentation where they are included in abstract bulletins or abstract publications.

Abstracts are still the basic information publications of the industrial network of information agencies. Abstracts are published on 148x150 mm (DIN A6) cards. These abstracts are issued in the form of periodical publications and distributed by subscription to industrial and central agencies for scientific and technical information.

Enterprises which do not have the necessary personnel and financial appropriations for establishing information section, appoint "information representatives." The latter are responsible for obtaining and distributing information literature to the workers at their enterprises.

The GDR network of scientific information institutes is augmented by the network of information agencies at academic institutes and installations, the highest of which is the former Institute of Documentation of the Academy of Sciences, which is now a large abstracts publishing house. The German Academy of Sciences publishes the principal chemical and technological abstract bulletins.

The Institute of Agricultural Information and Documentation, responsible to the Academy of Agricultural Sciences, publishes an agricultural abstract bulletin. This Institute functions also as an industrial information center for all branches of agriculture.

The Polish People's Republic

The first scientific and technical information centers in Poland were established immediately after World War II. The subsequent development of the country's economy necessitated a further increase in the activities of scientific and industrial information services. During the 1950s, a state network of information agencies was initiated in the Polish People's Republic.

The information services in the Polish People's Republic are organized along the following lines:

The country's information activities are administered by the Committee on Science and Technology, a State agency dealing with problems of technological progress.

The information service consists of central, departmental, industrial and production information agencies. To meet its immediate requirements, the Polish Academy of Sciences has its own scientific information center.

The Central Institute for Scientific, Technical and Economic Information was established in 1950 - it now coordinates the entire scientific information network.

The Institute publishes series of abstract collections in various fields of technology, an annotated collection of articles, a

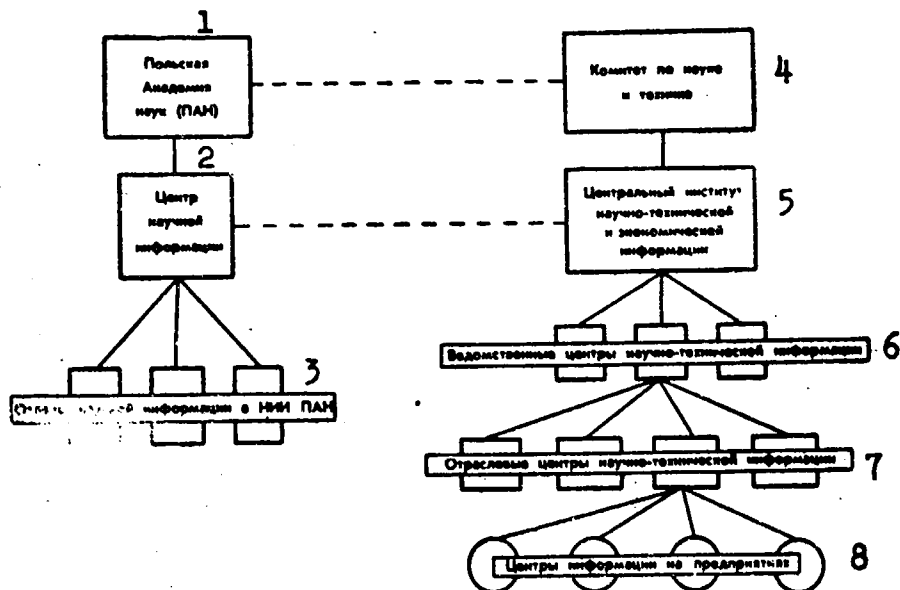


Fig. 145. Diagram of the Network of Information Agencies in the Polish People's Republic

1 - Polish Academy of Sciences (PAN); 2 - Center for Scientific Information; 3 - Scientific information sections at the Institute of Scientific Research of the Polish Academy of Sciences; 4 - Committee on Science and Technology; 5 - Central Institute for Scientific, Technical and Economic Information; 6 - Departmental centers of scientific and technical information; 7 - Scientific and technical industrial information centers; 8 - Information centers at enterprises.

bulletin of completed translations and a number of other information publications. The Institute publishes also the journal: "Topical Problems of Information and Documentation" and "Works of the Central Institute of Scientific, Technical and Economic Information," in which scientific and scientific research work of the Institutes' staff is published.

Industrial scientific and technical information is well covered by a network of industrial centers. Industrial centers supply detailed information to all interested organizations and individuals within their respective fields; they also conduct scientific research on information, process technical literature, and on the basis of that compile information and subject-information reviews and abstract collections. Part of the information documents is prepared in the form of abstract cards. The information cards prepared at the centers are published and distributed by the Central Institute of Scientific, Technical and Economic Information.

The factory centers for technical and economic information constitute the lower level of the network of information agencies. The tasks of a factory center are to collect and distribute information on the achievements of science, technology, economics and the organization of production, and to supply information on standards, patent descriptions and other data.

As a rule, the data provided by a corresponding industrial or departmental center forms the basis of a factory center's work.

The Rumanian People's Republic

The State Planning Committee is responsible for the overall supervision of information activities. This Committee determines the basic principles for the development of the scientific information network and defines the subject material to be prepared for publication by the various central industrial information agencies.

The Institute of Technical Documentation, directly subordinated to the State Committee, publishes the abstract material and is responsible for the methodical management of all information services. It has the following tasks:

- 1) supplying industrial enterprises and scientific research institutes with information on the latest achievements in world science and technology on the basis of data published in domestic and foreign industrial journals, and publishing the "Documentare Tehnica," an abstract journal of interest to numerous branches of industry;
- 2) popularizing advanced methods of work, promoting the implementation of new production techniques, and disseminating industrial and technological information;
- 3) methodical supervision, coordination and control of scientific and technical information activities;
- 4) international contacts.

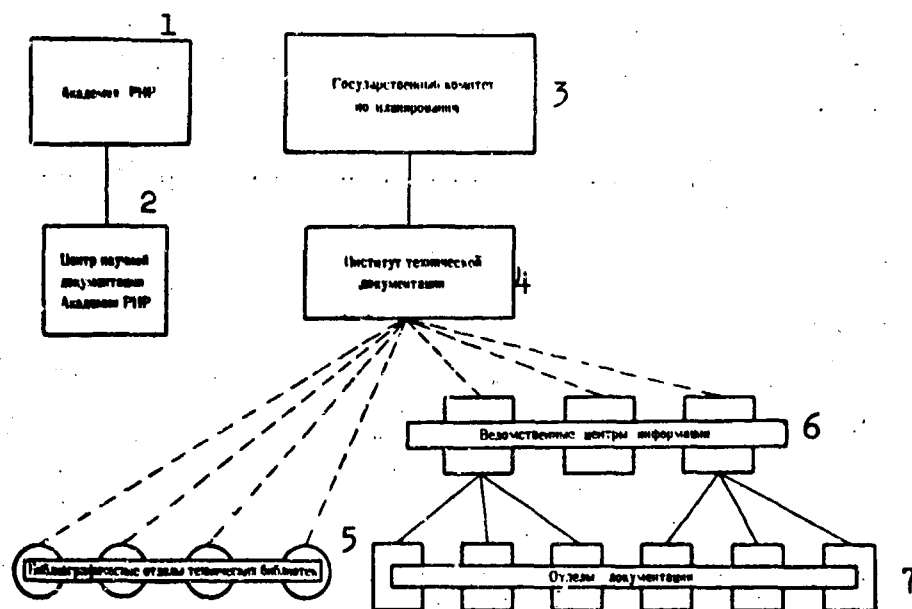


Fig. 146. Diagram of the Network of Information Agencies in the Rumanian People's Republic.

1 - Academy of the Rumanian People's Republic; 2 - Center for Scientific Documentation, Academy of the Rumanian People's Republic; 3 - State Planning Committee; 4 - Institute of Technical Documentation; 5 - Bibliographic sections of technical libraries; 6 - Departmental information centers; 7 - Documentation sections.

The network of industrial information agencies in the Rumanian People's Republic is headed by departmental information centers. Their number is constantly increased by the addition of new ministries and committees. At the present time the largest departmental industrial centers are the information centers of the Ministries of Petroleum and Chemistry, Health and Social Security, Transportation and Communication, the Lumber Industry, Metallurgy and Machinebuilding, and the State Committee on Construction, Architecture, and City Building. The departmental infor-

mation centers coordinate the work of the industrial documentation sections in their respective fields.

Documentation sections are established as industrial information agencies at scientific research institutes, large planning and construction bureaus, and large industrial enterprises. Documentation sections receive, store, and distribute scientific and technical literature and other scientific information material. Along with the bibliographic sections at scientific and technical libraries, they distribute information publications and compile certain types of information material.

Czechoslovak Socialist Republic

Information agencies in the Czechoslovak Socialist Republic may be divided into the following basic groups: State, departmental, and industrial.

The State Committee on the Development and Coordination of Science and Technology supervises and coordinates all information activities at the State level. For these purposes a consultative council was created, consisting of representatives from information service agencies, technical libraries and other organizations. The State Committee on the Development and Coordination of Science and Technology collaborates with the Czechoslovak Academy of Sciences in the field of scientific information.

The following central institutes, directly subordinated to the Committee, are engaged in scientific information activities: the Institute of Technical and Economic Information, the Office of Standards and Measures, the Office of Inventions and Patents, and the State Technical Library.

The Institute of Technical and Economic Information controls and supplies information publications to the leading political and economic agencies, solves administrative problems on methods of information dissemination, contributes to the central information research fund, and carries out international contacts.

The State Library is the focal point of all State scientific and technical libraries.

The Office of Inventions and Patents has an information center which supplies industries with data on patents; a considerable collection of domestic and foreign patents descriptions is stored in its library.

The office of Standards and Measures has an information center which supplies data on national and international norms and standards in industries.

The duties of departmental information agencies are to a great extent organizational and administrative, and much attention is paid to personnel training and to the planning of information dissemination through the industrial information network.

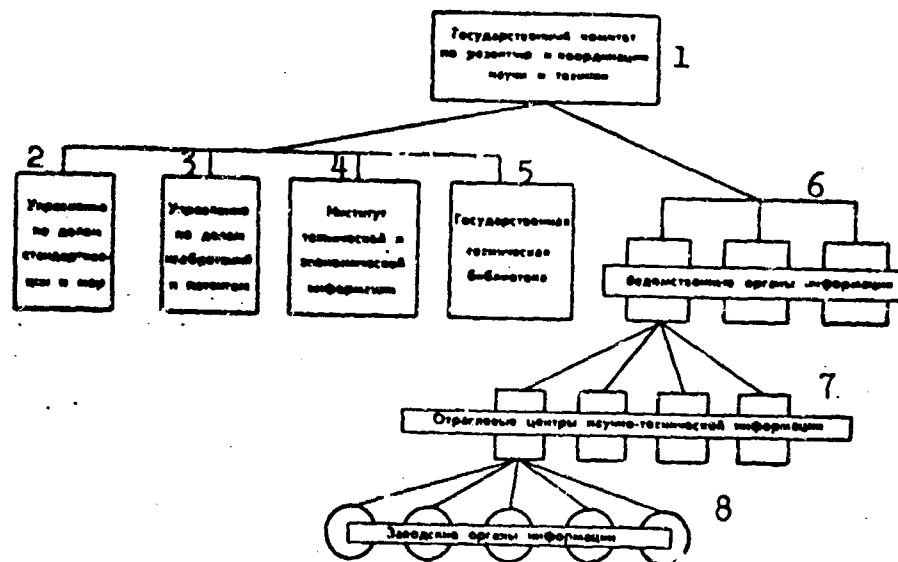


Fig. 147. Diagram of the Network of Information Agencies in the Czechoslovak Socialist Republic

1 - State Committee on the Development and Coordination of Science and Technology; 2 - Office of Standards and Measures; 3 - Office of Inventions and Patents; 4 - Institute of Technical and Economic Information; 5 - State Technical Library; 6 - Departmental information agencies; 7 - Industrial centers of scientific and technical information; 8 - Factory information agencies.

The third link in the information service of the Czechoslovak Socialist Republic consists of industrial centers of technical and economic information. They are responsible for collecting and processing information documents, supplying scientific and technical information to industrial organizations and to individual specialists, and guiding the activities of factory information agencies in their respective branches. Industrial centers publish a series of information publications, subject reviews, bibliographic lists and cards, and a series of abstract cards.

Factory technical and economic information agencies supply data to the factory personnel, disseminate technical and economic information, and guide the operation of technical libraries.

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50—INITIAL DISSEMINATION:			

ABSTRACT

This translation was prepared from a monograph originally published as follows: Mikhaylov, A. I., A. I. Chernyy, and R. S. Gilyarevskiy. Osnovy nauchnoy informatsii (Foundations of scientific information). Moskva, Izd-vo "Nauka", 1965. 656 p. Only the first two sections (pp. 494-544) of Chapter Seven have been translated. The Introduction presents background information on the All-Union Institute of Scientific and Technical Information (VINITI) and cites the director of same--A. I. Mikhaylov. In addition, recent administrative changes affecting VINITI are briefly discussed. The first section, "Organization of Scientific and Technical Information in the USSR", describes the components of the information network organized by the 11 May 1962 decree of the Council of Ministers: the VINITI itself and the analogous information services, either planned or already in existence. Functions and tasks of the following information agencies are covered: VINITI, Central Scientific Research Institute on Patent Information and Technical and Economic Research (TsNIIPI), The All-Union Scientific Research Institute of Medical and Medicochemical Information (VNIIMI), The Central Institute of Scientific Information on Construction and Architecture (TsINIS), The All-Union Institute of Scientific and Technical Information on Agriculture (VINTI), and information agencies of the State Committee on Standards, Measures, and Measuring Instruments, USSR (VNIKI). The final part of this section, "The Ascending Flow of Information Material and the Location of Central Industrial and Regional Information Agencies Within the System of Scientific and Technical Information", also discusses in more general terms the information services of the various republics, specialized fields, economic regional councils (Sovnarkhozy), industrial plants, and design and research institutes. The few pages describing the dissemination upward of unpublished production experience are of particular interest. In the second section, "Organization of Scientific and Technical Information in Member Countries of the Council for Economic Mutual Assistance", the national information and documentation services of Bulgaria, Poland, Czechoslovakia, Hungary, East Germany, and Rumania are described in detail. Appended is a translation of the complete Table of Contents.