Emphasis is placed on the role of scientific and technical libraries in the education of Soviet workers. One of the main tasks of technical libraries is to educate workers to respect their professions, and to maintain communist attitudes towards labor. Librarians acquaint younger workers with literature on the history of their plants with booklets about the plants' best people, innovators' achievements, advanced experience, etc. Book propagandists as a rule know the names and working places of all their subscribers, their readers' interests and attitudes toward work and literature regarding their interests and demands, social obligations, education and family status. The rate of production, growth of the professional level of engineers, technicians and workers, and use of the achievements of science and engineering depend to a great extent on the output of the industrial workers. (M7)
ROLE OF SCIENTIFIC AND TECHNICAL LIBRARIES
IN EDUCATION AND TECHNICAL CREATIVE WORK
OF THE SOVIET PEOPLE

N.I. TYSHKEVICH
Candidate of technical sciences

Report submitted for the session of
the IFLA Special Libraries Section

Moscow, September 1, 1970
CONTENTS

1. The working class of the USSR and scientific and technical progress ..............

2. Characteristics of the USSR network of scientific and technical libraries ........

3. Coordination and cooperation of library and bibliographic services for workers ........

4. Differentiated servicing workers in the field of vocational and technical education ........

5. The library as a help for workmen's technical creative work ..........................

6. Information and bibliographic service. The state-of-art of recommended bibliography for workers ..........................

7. Conclusion ..........................
I. The working class of the USSR and technical progress

We live in the era of great industrial and social transformations. The standard-bearer of this era is the working class of the USSR - the creator and pioneer in the sphere of new ways for social and technical progress.

The realization of the far-reaching program of creating the material and technical basis of socialism means an all possible development of workers' technical creative work as one of the most important requisites for accelerating technical progress.

A creative force of labour begins to depend more and more on workers' cultural and technical standards, on their knowledge of scientific principles of production on their skills to use in production the highest scientific achievements. Why, use of computers and self-adjusting and self-regulating automatic systems being extended, the worker "stands beside the productive process instead of being its main agent" (K. Marx). Only such a worker who does not need bending continually over an object of labour and whose hands are free for a long while, can cover in mind the whole productive process, approach it critically and find ways to use essentially mechanisms and the entire system of production.

A necessity of solving complex problems in diffa-
rent fields of knowledge (hydraulics, pneumatics, electronics, etc.) and a necessity of free orientation in a changing production situation while shifting from one type of articles to another, induce the worker to systematic training.

At present there are over 35 mill. workers at our country's plants and factories, and their number increases approximately by 700 thousand people every year running. About 10 mill. per year acquire professions in schools for vocational and technical education, or improve professional skills by means of industrial training.

There appear new complex professions demanding comprehensive and versatile knowledge: adjuster, fitter for automatic lines and machines, radio mechanic, operator of chemical production, etc.

The appearance of the worker of a new type - not only mastering professional skills but also having a serious general education - is a natural consequence of tremendous social and economic changes in the Soviet Union for last decades.

The uninterrupted growth of workers' technical creative work as a mass phenomenon is typical of the USSR. This country's industrial power being developed, demands of workers have heightened, and their newer and

wider strata have manifested creative activities and have taken an active part in the improvement of production. Suffice it to say that only for the last decade the total number of inventors and rationalizers who have submitted their proposals, increased by five times and is now over three million people.

Mass technical creative activities of Soviet workers are one of the obvious indices of our successful progression towards eliminating the distinction between brain and manual labour.

The face of the Soviet working class has changed fundamentally for a historically short period, and his technical and general education standards have immeasurably grown.

And this is an important basis for developing workers' technical creative activities, and for their energetic participation in improving the production process.

The working class manufactures the predominant portion of national wealth. The fate of the plan of national economy and of the country's economic development depends to a considerable degree on his efforts. The role and place of the working class in the ranks of builders of a new society make it incumbent upon scientific and technical libraries to concentrate attention on services to the vanguard of builders of communism.
2. Characteristics of the USSR network of scientific and technical libraries

Technical libraries of the USSR (about twenty thousand by the beginning of 1967 as to data from the Central Statistical Bureau) where collections contain varied technical literature (almost 300 million items in all), have the best possibilities to inform operatively and effectively industrial workers about literature enabling to help solve specific production problems. They, as no other types of libraries, are closely connected with production and serve certain collective bodies. Therefore technical libraries occupy the leading place in the library and bibliographic service of industrial workers being conducted by the Soviet Union's libraries.

Soviet technical libraries are centres contributing to scientific and technical progress and wider technical education, and to increase the level of workers' professional skills and to popularize advanced production experience. They are not isolated agencies with a limited membership of readers but libraries for mass use intended for categories of workers in national economy: workers, foremen, technicians, engineers, managerial personnel of plants and economic organizations.

Activities of technical libraries at plants, where they are up to 67% of the total number of technical libraries (over 13 thousand) and include a book stock of more than 100 million items, reflect vividly specific features of Soviet technical libraries: they are directly connected with the sphere of material production, are a structural division of a plant, and serve a comparatively stable collective body. All this gives a library the possibility, on the one hand, to render optimum and operative aid to the plant in carrying out its planned targets, in introducing new techniques and advanced technology, and on the other hand, to spread its influence over the whole production body and its every member.

The reorganization of our country's management of industries by the branch principle has started a new stage in the development
of the SU technical libraries, has led to a reorganization of their network and has introduced new elements into its structure. Central scientific and technical libraries of branch ministries and State committees (branch CNTB) have become a main link in the network of technical libraries. Multibranch territorial CNTB of Centres for Scientific and Technical Information and republican scientific and technical libraries (RNTB) continue to develop.

The USSR State Public Library for Science and Technology (GPNTB) is still the leading multibranch technical library and is, at present, at the head of the whole network of Soviet libraries. Besides performing the library and bibliographic service of workers in ministries and agencies, plants, scientific organizations and higher educational technical institutions it is an interbranch methodical centre of libraries serving industry. One of the main tasks of the USSR GPNTB is coordination of the activities of all technical libraries, generalization their experience and setting up common directions in the operation of libraries in all branches of industry.

Thus, the new economic reform has become the basis to finally form the branch principle of building the network of technical libraries, strengthening and developing branch CNTBs, and has created a possibility for maximum service of industrial workers by the library network.

Changes in the structure of the technical libraries network due to the fact that the branch principle (the territorial one retained) became the leading principle to build a network of technical libraries, originated more favourable conditions to improve the biggest number of workers and to completely subordinate this work to tasks of technical progress.

General-purpose mass libraries whose activities are assigned on the main for communist education, cannot, in a required volume, concentrate their efforts to satisfy demands linked with solving concrete production problems. At the same time, a widely developed network of technical libraries has accumulated a considerable amount
of scientific and technical literature and document materials. Relevance of these stocks to information requests of workers, engineers and technicians permits to use operatively and fully results of scientific researches and experience of innovators of production in practice.

Owing to this, technical libraries have the possibility to meet differentiatedly needs for production tasks, promote workers' technical creative activities, and give help in improving qualification and in deepening professional knowledge.

Technical libraries, an organic component of the all-union scientific and technical information system, are in turn a component of the system of libraries of the Soviet Union.
3. Coordination and cooperation of library and bibliographic services for workers.

Being an organic part of the whole Soviet library system, technical libraries, on the one hand, coordinate and cooperate the work of technical libraries between each other and with information organizations; on the other hand, are closely intercommunicated with libraries of other systems and institutions, and in the first place with the network of national general-purpose libraries.

The necessity of establishing maximum coordination in the operation of technical libraries between each other, with libraries of other systems and institutions, requires with particular acuity the introduction everywhere of a common system of library and bibliographic service for workers of industry, construction and transport.

The essence of organizing work in the common system of technical and other libraries having technical literature in their collections is that libraries of various systems and institutions, cooperating and coordinating their work between each other and with information organizations in all the fields of library science, beginning with library stock acquisition and finishing by service to readers, delimiting the spheres of their activities and uniting their efforts where necessary, operate as a single well-coordinated mechanism and, thanks to this, serve readers successfully. The general introduction of a
single system into practice will allow to eliminate the main drawback of library and bibliographic service of national economy, i.e. each technical library of a plant, scientific research institute, design organization is formed and functions as an isolated organization as to the nature of its holdings and work contents.

Now that the main condition for an improvement on workers' information, library and bibliographic service is to strengthen and improve interactions of a network of technical libraries with other library systems, mutual information about a location of technical literature and documents plays a very considerable role. One of the ways to solve this problem is to produce territorial union catalogs on the stock of technical literature available on the territory of a given town, city, area, region, republic. And it is important to strengthen on the spot a coordinating role of central town libraries.

The All-Union Central Council of Trade Unions and the State Committee of the USSR Council of Ministers for Science and Technology worked out recommendations on use of technical book stocks by wide circles of workers and employees. It is recognized as necessary that production-technical and industrial and economic literature acquired at plants by the management and trade-union organizations should be more disseminated among workers through technical and trade-union libraries as through two intercommunicated channels of mass popularization of engineer and technical knowledge.
For example, a good decision was taken by the USSR Gosstroi (the State Committee for Construction) and the Central Committee of the Trade-Union of Construction Workers. They determined a necessary providing with books and circulation of the chemical books stock in the branch, main principles of dissemination and acquisition of technical books on common plans for construction sites and plants, and established the staff for plant technical libraries.

There are only 200 technical libraries in the Cheliabinsk region. But the working people are issued yearly over 4 mill. volumes of technical books. This is the result of combined efforts of the region's plant and mass libraries. Most of libraries in the region are closely connected with plants. They take an active part, for example, in control over the quality of the output.

Now oftener and oftener one the plant's libraries—trade-union or technical—performs the function of both. In recent years activities of trade-union and technical libraries on popularization of books among workers are transferred more and more into teams, shops, production sections. This bears fruitful results. Book propagandists know as a rule names and working places of all their subscribers, their readers' interests, attitude to work and to social obligations, education and family status. The overwhelming majority of workers are recommended literature regarding their interests and demands.

At a modern industrial plant a team becomes more and more the main cell of workers' library service.
By this principle, for instance, the service of trade-union, technical and State mass libraries for workers' collective bodies in Lipetsk is based on a single reader ticket. The introduction of such a ticket at the New Lipetsk metallurgical works led to qualitative changes in popularization of books. Here is a well organized coordination of the activities of trade-union, mass and technical libraries and now 90% of the plant's workers are covered by library service. The most active people such as shop chiefs, foremen, team leaders, representatives of social organizations, front-rank workers, engineers and technicians are grouped around professional librarians. They help analyze results of interviews, formulate and realize book popularization plans.
4. Differentiated service for workers in the field of vocational and technical education.

From the first years after the Great October Socialist Revolution and throughout the whole history of Soviet society, one of the main tasks for libraries was to involve workers in systematic reading. Great successes achieved in this field practically made book wealth the property of the widest strata of workers, and this permitted to put before all the libraries the task to involve every worker in reading. We know many examples how with the help of libraries workers are involved in active reading of special literature, continue to extend their knowledge, raise education, graduate from secondary and higher educational institutions.

Striving for involving as many readers as possible brings libraries to the necessity of creating branch and mobile libraries.

At the Balkhash Mining and Metallurgical Works where a ramified network of branch, mobile and reference libraries embraces almost all the shops and mines, 80% of skilled workers read technical literature. Mobile libraries of the 8-th State Bearings Plant in Kharkov popularize technical literature interestingly and actively. They perform in the main mass and information service in shops. Participation of technical informants in this work makes it effective and purposeful. Forms of performance of mobile libraries are being improved. So, at the Kirov Works (Leningrad) readers can return to a mobile library book: lent in their library.
This facilitates them to use a technical book right in working place.

The process of workers' book servicing is a complex problem. In connection with the appearance of the worker of a new type technical libraries are searching new more perfect forms and methods of library and bibliographic service.

It should be taken into account that in automatized production the worker must know a whole system of mechanisms. In studying theoretical principles of machine designs and techniques to operate them progressive workers aspire more and more to study his machine so as to manage without any adjuster, they are eager to master all the production line operations, and to assimilate several professions.

In regard with this high demands are made of workers' general education. As researches have indicated, the average level of workers' education in automatized production is higher than in common mechanized shops.

Workers' vocational and technical education is of a systematic nature now. Workers have extended use of technical literature, and libraries in turn have intensified book popularization. Libraries have taken an active part in workers' training at all the stages and in any forms. One of the direction of library service is to aid workers' vocational and self-education. Nowadays many workers study without giving up work.

Over 1000 workers only at the Gomselmash plant are taught in higher educational institutions, schools for working youth, plant school for foremen. Workers are trained second professions here. These data show that we are near-
ing to solve the problem to make all workers cultural and educated. We have already many sections and shops wherefrom all the workers study. At a number of plants there are libraries affiliated with educational establishments providing workers with text books to help an educational process. Where there are no such libraries this task is carried out by trade-union, technical or mass libraries in workmen's settlement or area. At first the worker applies for a technical book often in connection with raising his skills, and his first book is usually a text book take either to have an exam for a higher grade or study in the vocational and technical education system.

Workers' lent for reading of general and popular literature on science and technology increased in recent years. Now universities for culture and institutes for technical knowledge are organized at plants where lectures on scientific and technical problems are delivered. Their programs define topics for library expositions, bibliographic surveys and talks on books. Many workers study technical dilettantism: motoring, photography, radio, etc. These workers should be skillfully guided from popular to special technical literature.

One of the main tasks of technical libraries is to bring up workers to respect their profession, communist attitude to labour. This problem acquires a specific acuity when servicing working youth. Librarians acquaint younger workers with literature on their plant's history, with booklets about the plant's best people, innovators' achieve-
ments, advanced experience, etc. They organize meetings of youth with labour veterans, exhibitions such as "Man is beautiful and famous for labour" (the Artiomovsk plant "Labour victory"); "Miners are Guards of labour" (factory "Donbassantratsit", mine 2 named after Dzerzhinsky F.E.).

At many factories information organizations, technical and trade-union libraries and the public hold through combined efforts "Turner's Day" and "Founder's Day" on which literature is not only exhibited but also reviewed and discussed, consultations on specialities are organized too. Months', decades', days' popularization of technical literature, interfactory schools for experience exchange, seminars on studies of technical literature, etc., are widely organized.

Technical and trade-union libraries begin oftener to undertake joint actions. And in regard with this popularization of political, economic and technical literature is more and more combined.
5. THE LIBRARY AS A HELP FOR WORKMEN'S TECHNICAL CREATIVE WORK.

In our epoch when scientific researches take the form of production science penetrates into every worker's flesh and blood. Improvement of production and searching new resources are becoming an organic necessity of the vast masses. There is no shop, no section where machines, devices, instruments and technological processes created by man are not used. Workmen's technical creative work assumes step by step a new form and content. Workers-innovators pass from odd, partial, empirically obtained achievements over to a balanced integrated improvement of production on the basis of the highest achievements of science and engineering.

Making work more active to help workmen's technical creative activities is a natural reaction of libraries to this process. Popularization of the idea itself and concrete experience of technical creative work at other factories, and wide popularization of latest literature on urgent production and technical problems either in a library itself or directly in shops by organizing open reviews of literature, "Specialist's Day", reading conferences, bibliographic reviews, etc. are very important.

Libraries reveal wider and wider their book riches and possibilities to give the worker concrete help for raising his cultural and technical level.

The main aim is to open before workers everything new contemporary technical thinking and industrial practice will give.

The highest effect in popularization of literature among workers is achieved by those libraries which attract more active readers such as the engineer community capable of recommending workers the most valuable literature and drawing workers' creative initiative to analyse collectively newest literature on innovators' advanced experience and achievements.
As is known, engineers and technicians of many factories are now taking younger workers under their patronage. The engineer involves them in solving production questions, trains to books, to self-educating reading.

Worker's seminars on studies of current technical literature (engineer I.V. Yashin's method) are being developed in libraries of all types. It should be noted that I.V. Yashin organizing technical seminars to study literature formed groups so that both younger and elder skilled workers were in them. He wrote: "Only in this case it is possible to effectively bring up technically competent, initiative innovators of production out of younger workers."

In selective routing of youth they must not be separated from the remaining mass of industrial workers but be in any case influenced over by older working people. This principle is taken as a basis of all educational work at factories.

Rendering assistance for inventors and innovators together with the All-Union Society of Inventors and Inventions and the Bureau for Innovations and Inventions is a specific sphere of technical library activities. Soviet workers-inventors and innovators, discoverers of new ways to the world's highest labour productivity contribute to the gold stock of human experience not only results of many years' practice but also ripe fruits of creative thinking inspired with knowledge and science. Most of novelties created by workers widen the limits of our knowledge and increase the fruitfulness of social labour by scores of times.

In the creation of how many remarkable, clever machines, mechanisms and devices did the fitter of the 1st State Bearings Factory Alexei Victorov participate, and not as an executor of somebody else's intentions but as a worthy coauthor? Creative cooperation of workers, engineers and scientists is the main way of scientific and technical progress in conditions of full-scale construction of communism.

Involving workers in creative activities is the duty of each technical library. Creative work influences positively
to a great extent over the development of a worker's personality. In his time S.L. Rubinshtii, a well-known Soviet psychologist, noted that "a man having done something important becomes, in a certain sense, another man".

Libraries serve industrial workers in close contact with technical information bureaus. Important for production materials are regularly forwarded to those who might be interested in them. Technical informants in shops pass literature directly over to workers, organize its discussion in the shop, help introduce novelties described in it.

Library activities to help for production are directed to acquaint readers with new technology, involve them in the fight for something new and progressive, for an increase of the number of innovators. A specificity of serving this group of readers is the necessity to differentiate them depending not only on a profession, qualification, cultural and technical level but also on a nature of work. Many plants have individual innovators information systems. For example, some Leningrad factories, the Perm factory named after Dzerzhinsky, and some others operate such systems.

Library widely use "intervenor's subject", select bibliographies and organise together with the technical information bureau and the public, their discussion, hold review-contests and parties, organize "inventors' rooms", exhibitions, bibliographic reviews, etc.

The activities of the technical library of the Sukhon Pulp and Paper Mill (Vologda Region) is an example of many-sided work with inventors. The library takes into account the necessity of an individual approach to every reader working creatively; if the library know what problem an innovator or inventors is working on, it provides him with individual information on new items received. Innovators visit open expositions of literature, bibliographic reviews which are held by the library together with the mill's Scientific and Technical Society and division of the All-Union Society of Inventors and Innovators.
Popularization of patent literature among workers-inventors is a specific task of technical libraries. Well-organized patent information creates necessary conditions to check an inventor's ideas for novelty.

In addition one is ought to remember that in the world a new invention occurs every 5 minute, over 300 thousand patents are issued every year, and 150 to 200 thousand people become inventors.

Main forms of technical literature popularization used by many technical libraries are such highly effective measures as "months", "decades" and "weeks" of patent literature.

For popularization of materials to develop creative activities many factories have permanent "rooms" for innovators and inventors.

Rationalization work reaches its peak when a factory or plant hold reviews and contests in preparation of which the library takes a leading part.

Thus, library workbooks on production and technology among workers as readers is differentiated in two main directions: to promote vocational and technical education and workmen's technical creative work. But it does not mean at all that these direction are principally opposite to each other – they have much in common, for vocational and technical education has elements of creative work, and vice versa. Yet, with many common features, each of the directions has its own specific ones and requires a specific organization of library service.
6. Information and bibliographic service.
The state-of-art of recommended bibliography for workers.

According to sociological research data out of all non-library information about books received by our readers, esp. workers of the younger age group, the main source is a "friend's advice". But workers at modern industrial enterprises provided with the latest technical equipment cannot do without technical literature. In this connection, it is time to finally solve the question about scientific principles of recommending technical literature for workers depending on their education and special training.

A sound organization of bibliographic service plays a very important role in popularizing scientific and technical literature.

In compliance with the Resolution of the CPSU Central Committee "About state and measures to improve librarianship in our country" (1959) the USSR State Public Library for Science and Technology and central scientific and technical branch libraries were charged with providing planned work to create current, retrospective and subject bibliographies.

In order to implement this resolution all-union and branch scientific and technical information organization and CNTB publish the awareness bibliographic information "News of Technical Literature" (NTL) in 34 branch issues informing workers and specialists of the main branches of national economy about new

*) Reading interests of working youth. Moscow, 1968.
home and foreign literature. Over 230 thousand bibliographic centres are added yearly into the NTL.

More than 120 branch and territorial organizations for scientific and technical information publish yearly various information materials: lists of subjects to be recommended and collections of rationalization proposals, information leaflets and posters about advanced experience at factories and plants, indexes, of new literature in the reference stock, information cards, etc. All these materials widely inform workers and specialists about achievements of science and engineering. In addition, over 600 retrospective and subject bibliographies are published yearly for workers and specialists.

In order to promote workers' vocational education and broaden their technical outlook, the USSR GPNTB and CNTBs have also been publishing for several years bibliographic handbooks to be recommended. From 1966 to 1968 were published 297 recommended handbooks for workers numbering about 500 thousand copies, including the USSR GRNTB materials: "New books on engineering for workers", "To the worker about new technology", "To help workers of construction industry" as well as bibliographic indexes of CNTBs which, for the last three years, published 47 bibliographies to be recommended for workers in agriculture, timber and woodworking, oil, food, light, shipbuilding industries and in the system of the Communications Ministry.

CNTBs of the USSR Coal Industry Ministry widely use periodicals publishing monthly in every issue of the production and mass journal "Soviet Miner" recommended lists of literature under the heading "In the world of books". The journal totals 125 thousand
copies which permits to inform a great number of workers and specialists about new literature.

The CNTBS of the Tractor and Agricultural Engineering Industry Ministry attracts its branch libraries to create recommended bibliographic lists. For example, the Volgograd Tractor Mills published in 1967 sixteen posters and recommended bibliographic lists such as "New inventions", "To help the puncher", "To help the turfounders, turners and thermists were also published by other mills: Rostcelmach, Vladimir, Cheliabinsk, Kharkov tractor mills. The CNTB carries out a coordination and methodical guidance of this work.

Of no lesser interest is the experience of combined publishing bibliographic lists for workers conducted by the libraries of different departmental subordination: the CNTB of the Shipbuilding Ministry and the State Public Library named after N.E. Saltykov-Shchedrin. These libraries published during the three years 12 bibliographic indexes for workers numbering three thousand copies each. The recommended lists of these libraries are very qualitative.

From 1969 preparation of current branch recommended bibliographies and recommended bibliographic indexes by professions and individual engineering problems was placed upon branch scientific information organizations and branch CNTBs. 1970 showed an increase of recommended lists, published (from 30 in 1969 up to 70 in 1970). Subjects to be included in indexes will be more: They will cover requirements of workers in ferrous and non-ferrous industry, chemical and coal, oil, electrotechnical, machine, tractor, construction and other branches of industry. Booklets being
prepared meet the precise reading purpose: "What the drifter should read about speedy drifting" or "What the fitter should read", etc.

On purpose to render methodical assistance the USSR GPNTB distributed among all branch GPNTB the instructive and methodical letter "Production of recommended bibliographic lists on engineering for workers", held a seminar on this subject, and is giving a consultative help for bibliographers making up such lists.

Within the USSR GPNTB there is the Problems Commission on recommended bibliography in the field of engineering composed of representatives from the country's largest general-purpose and special libraries, the Moscow State Institute of Culture, the Sector of libraries of the All-Union Central Council of Trade Unions Cultural and Educational Division, and a number of branch libraries. The long-term of the Commission's work envisages such important problems as analysis of providing workers with production and technical literature, studies of workers' demands for professional literature through special methods, development of methods to study the efficiency of recommended indexes, determining role and place of each information organization in creating an all-union recommended bibliography system to promote production.

The Working Group of the Problems Commission is now collecting required data in order to coordinate publisher's plans, thus avoid their duplicating and create a single union long-term plan of publishing recommended indexes on engineering for five years. Indexes to be published are systematically reviewed to heighten their quality. Reviews are forwarded to authors, union reviews are published in the journal "Scientific and Technical Libraries of the USSR".
7. Conclusion

Technical libraries have wrightfully occupied the position of auxiliary shops and laboratories of Soviet industry. The fate of production, growth of the professional level of engineers, technicians and workers, use of achievements of science and engineering depend to a great extent on their work.

Scores of thousands of Soviet industrial workers would have reasonably adhered to the skills of P.I. Klementiev (from the shop control bureau of the Lysvenski Metallurgical Works) who, having the floor at a Works party "Book is my assistant in technical advance", said: "Whatever speciality you have got - turner, fitter or moulder - life demands that to the name of your profession be added the word 'excellent': excellent turner, excellent fitter, or excellent moulder. It cannot be achieved without technical books, without libraries". These words bear the people's recognition of importance of the technical library in the Soviet Union and confidence in it.