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NELLY LITVINA AND VYACHESLAV SHVIRBLIS ARE STUDYING CHEMISTRY AT MOSCOW STATE UNIVERSITY.

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THE COLLEGE STUDENT IN THE SOVIET UNION

By Mikhail Kruglyansky

How do Soviet students study, work, spend their leisure, choose their professions?

The young people from sixteen to eighteen years of age who graduate from the ten-year combined elementary and secondary schools in the Soviet Union have a wide choice of schools of higher education.

There are 765 institutions of college and university level, attended by 1,867,000 students, including those enrolled in correspondence courses. The choice of college depends upon the professional interest of the student. He is assisted in making a choice by a many-sided guidance and counseling service.

Close contact is maintained between colleges and secondary schools, representatives of varied professions speak at student assemblies and confer with individual students, and at "open house," usually held on holidays, universities invite groups of high school students for a tour of the college-buildings and talks with faculty members.

Higher education is open to everyone in the Soviet Union without regard to color, nationality, social background or religious affiliation. Graduation from a secondary school and a passing grade in college entrance examinations are required. Since, however, more young people apply than can be accepted, entrance is competitive. During the five-year period from 1956 to 1960, for example, 6,300,000 young men and women will graduate from high school; the colleges and universities will admit 1,200,000.

Entrance examinations are uniform and

cover Russian language and literature; one foreign language which may be either English, German, French or Spanish; and other subjects, depending upon the particular school chosen. Students in premedical schools take examinations in physics and chemistry; future engineers take examinations in mathematics, physics and chemistry, and so for other professions.

Students who have had practical job training are given preference. This is to encourage the increasing numbers of metal workers, textile workers, fitters and building workers who have completed secondary school courses and wish to enter college.

Universities and Specialized Schools

There are three types of colleges: universities, polytechnical schools and specialized institutes.

The universities train students who major in physics, chemistry, mathematics, biology, geology, philosophy, linguistics, law, economics, and other fields. The best university graduates become research scientists and college teachers.

The polytechnical schools train engineers in one or another of the many branches of the profession.

The specialized institutes include teachers' training schools, medical schools, schools of agriculture, forestry, commerce and transportation, art schools and merchant marine academies, as well as certain specialized

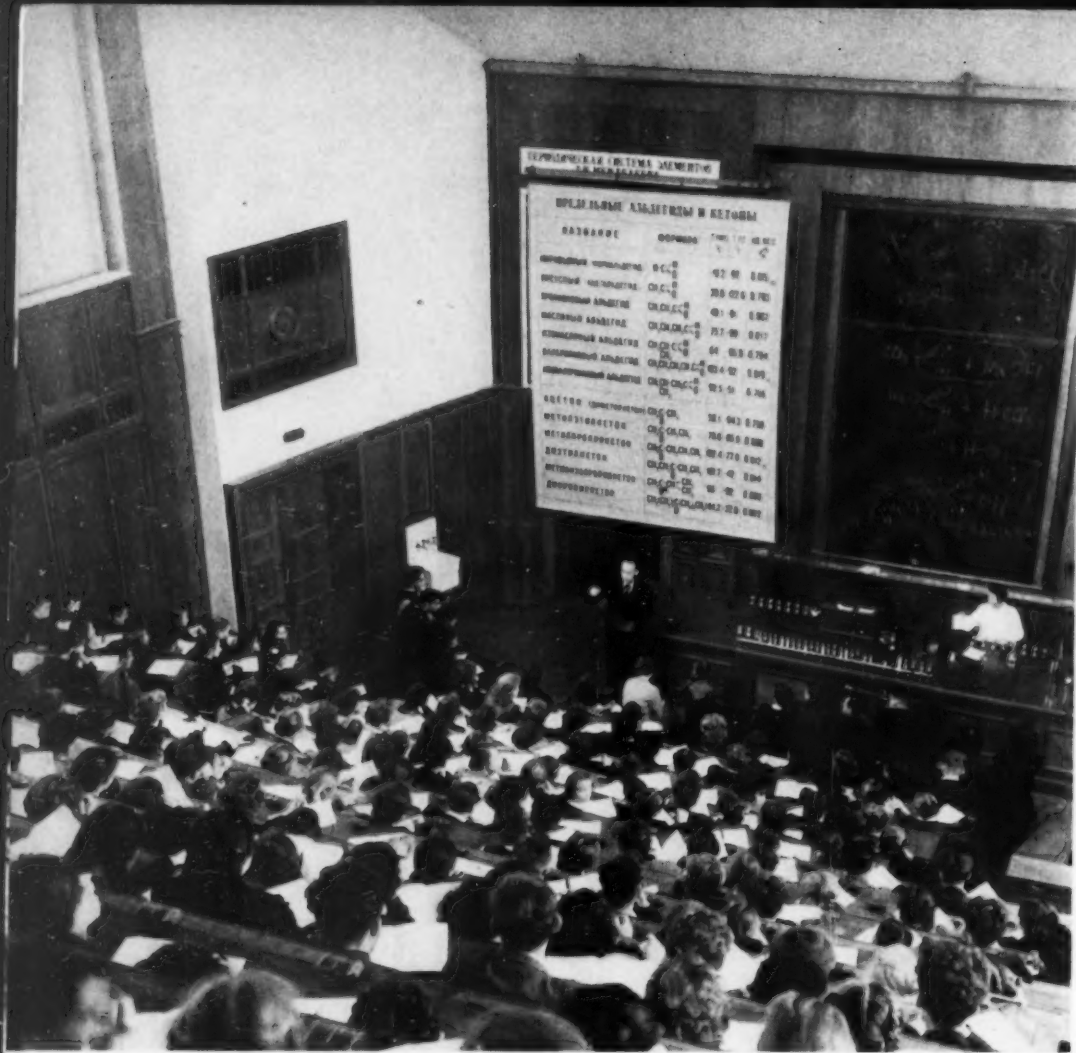
schools of engineering for metallurgy, mining, machine building and power production.

Each of the fifteen republics which make up the USSR has its own universities and institutes, where teaching is done in the native language. The Ukrainian Republic has 133 colleges attended by 325,000 students; Byelorussia has 23; Georgia has 19; Uzbekistan has 34. The growth of higher education, particularly in regions remote from capitals and the older large cities may be illustrated by the 200 universities and institutes with an enrollment of 400,000 students in the Urals, Siberia and the Central Asian Republics. Before the Revolution there were a total of four colleges in this great area.

Even in the most remote regions of the Soviet Union, higher education is within the reach of every qualified student. For the people of many different nationalities who inhabit the Soviet Far East, for example, there are colleges in Khabarovsk, Vladivostok, Yakutsk, Komsomolsk-on-Amur and other cities.

For historical reasons the oldest and largest of the colleges are located in the nation's capital. Moscow University has a student body of 16,000 from every part of the Soviet Union. The University comprises a group of forty buildings surrounded by a campus laid out like a park, with flower beds, ponds and botanical gardens. It has dormitories for 6,000 students, and a student clubhouse with its own auditorium, swimming pool and gymnasium.

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PROFESSOR REUTOV DELIVERING A LECTURE TO CHEMISTRY STUDENTS AT MOSCOW UNIVERSITY WITH LAB ASSISTANT.



A JOURNALISM LESSON AT LENINGRAD UNIVERSITY.



THE STUDY OF AMERICAN GEOGRAPHY IS POPULAR.

IMPRESSIVE GENERAL VIEW OF STATE UNIVERSITY CAMPUS IN MOSCOW WHICH IS LOCATED ON LENIN HILLS.



THE COLLEGE STUDENT IN THE SOVIET UNION

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The Course of Study

The universities have a five-year course, while the polytechnical and specialized institutes have a four, five or six-year course, depending upon the specialty. Teachers' training schools and library schools are four years; many of the engineering institutes are five years; medical and architectural schools are six years.

There are two academic terms, with an end-term vacation from January 24 to February 6, and a two-month summer vacation.

The course of study is composed of three core groups of courses: science, socio-economics and specialization courses. The proportion of time allotted to each of these groups varies with the particular school. The method of study is predominantly lecture and laboratory. In the humanities and in theoretical subjects, the seminar method is used. Attendance at lectures is obligatory. Most courses require end-term papers or term projects. These, of course, are done independently with the instructor as consultant and with assistance from the librarian in locating source material.

Training on the Job

During the junior year there is an emphasis upon laboratory or workshop training in preparation for production training. Production training is "on the job" or professional practice. Engineering students are assigned to factories or construction projects, agriculture students to collective and state farms, education students to schools and medical students to hospitals.

The amount of time devoted to production training varies with the specialty. Students of engineering, building, transport, economics, agriculture, forestry, biology, geology, geography and the arts spend from twenty to thirty weeks in production training; those in historical-philological subjects, in physics, mathematics, law, education and physical culture from six to twenty weeks.

This type of training is planned to apply the student's background of theory to specific and practical work situations and, at the same time, to give him a view in operation of his chosen profession as it relates to others and to the economy of the country as a whole. Where possible, production training is given at the enterprise, hospital, school or institution where the student expects to be working after graduation.

To round out both theoretical and practical studies, an original thesis or research project is required of each student for graduation. The subject for his paper has usually been selected before the student has been assigned to production training, in order to permit him to collect his data and do his preliminary research during this period. After this the student gets down to work on his diploma project, for which he is allowed from four to six months.

The project or thesis, when completed, is



AN ELECTRONIC MICROSCOPE IS AT THE DISPOSAL OF STUDENTS IN THIS LAB.



WORKING ON SOME SPECIAL PROJECTS AT MOSCOW POWER ENGINEERING INSTITUTE.

submitted to the instructor, who evaluates it for original thought, degree of independent work, and use of source material. It must be defended before the State Examining Board, which holds annual public sessions to which professors, scientists, industrial specialists and students are invited. In addition to the diploma project, graduating students must pass final state examinations.

Correspondence Courses

Study through correspondence courses and in evening classes has been developed widely within recent years to meet the needs of secondary school graduates who work in industry and agriculture. In the last five years, the number of such students has increased from 400,000 to 700,000, and it is expected to rise to 1,000,000 by 1960.

Correspondence and evening divisions have been set up at most of the universities and polytechnical institutions. Moscow University has 4,000 correspondence students enrolled. Schools devoted exclusively to correspondence study exist as well. One of the largest of these is the All-Union Correspondence Polytechnical Institute, which trains students in fifty-seven branches of engineering. It has divisions and consulting offices in twenty-eight cities and an enrollment of 20,000 students.

The length of the course of study depends upon the specialty, but is invariably a year longer than for students in attendance. Correspondence students are called to the institute or its branch division for consultation and for examinations. Upon completion of the requirements for graduation, they are awarded diplomas with the same rights and privileges as full-time students.

Correspondence students are granted certain privileges. They are entitled to an extra thirty days' leave from work with full pay each year to do their laboratory work and to take examinations. They are given four months' leave to work on their diploma projects at the col-

lege. During this period they receive a state stipend. If they come from out of town, they are provided with room and board in student dormitories.

Stipends for Maintenance

Students in the Soviet Union pay no tuition fees, laboratory or library fees, matriculation fees or entrance examination fees.

Students who apply to take entrance examinations at schools far from their homes live at student dormitories without charge for the ten- to fifteen-day examination period. Stipends for maintenance during the years of study are granted to more than eighty per cent of Soviet students. The stipend is not uniform. Priority is given to students with high marks in the entrance examinations, and the amount varies with need and course of study. Students of metallurgy, chemistry and mine engineering, for example, get larger stipends. Students who maintain a grade of

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STUDENTS ARE CHARTING AERIAL PHOTOGRAPHS.

EACH UNIVERSITY HAS STUDENT SCIENTIFIC SOCIETIES CONDUCTING INDEPENDENT RESEARCH IN THEIR LABS.





COED LEARNS MACHINE METAL-CUTTING. MANY WOMEN TAKE MECHANICAL AND ENGINEERING COURSES.

FARM MECHANIZATION IS AN IMPORTANT PART OF THE FUTURE AGRICULTURAL SPECIALIST'S TRAINING.



STUDENTS PREPARE FOR A SEMINAR IN A DORMITORY.

THE COLLEGE STUDENT IN THE SOVIET UNION

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excellent in their studies receive a twenty-five per cent increase in their stipends.

The average student, that is to say, the one who is not entitled to a larger stipend because of higher grades, receives 290 rubles a month during his freshman year; 320 in his second year; 355 in his third and fourth years and 395 in his fifth year. It is paid not only while the student is in attendance, but also during the end-term and summer vacations.

Most of the schools have their own dormitories for students who live in. The larger cities, Moscow, Leningrad, Sverdlovsk, Tbilisi and others, have special student resident blocks. The Moscow University student residential area in Strominka, apart from dorms, has a club, library, out-patient clinic, restaurants, laundry and shopping center.

New and well-appointed student residence buildings to accommodate some 75,000 students have been built in various parts of the country in the last five years, but these have not kept pace with growing enrollment. Dorms to accommodate another 85 to 90,000 students will be built during the next five years.

The individual student in residence pays the modest sum of ten rubles a month for room and service, and an additional five rubles for bed linens. These charges are well within the means of every student, as are the prices in student dining rooms. The simply furnished and typical room for undergraduates in the Moscow University dorms run on an average nine to eleven feet square.

If a student is assigned for production training to another city, his travel expenses are paid for. The trainee gets free living quarters. In addition to his student stipend, he is paid for work he does in the course of practice training.

Free medical treatment and frequent physical examinations to detect incipient illness is provided for every student. Some of the institutes have special night sanitariums. Students undergoing treatment or requiring rest attend their classes as usual, but live at the sani-

torium for periods up to twenty-four consecutive days. The regular stipend is paid during periods of illness and temporary disability.

During vacations, students obtain accommodations at resort hotels either without charge or at low cost, usually thirty per cent of prevailing rates. Student camps, associated with particular schools, have become popular in recent years. These offer all the summer sports and entertainment. Many students travel during vacation through the Crimea, the Caucasus, the Altai Region or one or another of the tourist areas. These tours are provided for students at thirty per cent of regular prices.

Extracurricular Activities

Extracurricular activities of Soviet students are wide and varied. There are student clubs which meet a variety of interests: lectures, amateur theatrical groups, student orchestras and choruses, dances and, of course, sports.

Soviet students go in heavily for sports, both as participants and as fans. Physical training is a required part of the curriculum for the first two years and optional for upper classmen. It includes gymnastics, swimming, skiing and other sports. Classes are given for two-hour sessions twice a week. There are intramural contests, city and regional contests, and national competitions for summer and winter sports. Students participate in European and international sports events and win their share of awards.

Student newspapers are published at many of the universities. Regional and national conferences of student editors are held from time to time, with awards given for the best publications.

Exchange visits of groups of students from various republics is a traditional activity during the winter holidays. Leningrad students last year played host to students of forty nationalities who came to visit from universities in Kazan, Riga, Moscow, Kiev, Saratov and other cities.

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STUDENT RECREATION HALL AT DNIPROPETROVSK. THESE CENTERS ARE TYPICAL OF ALL SOVIET COLLEGES.



AFTER CLASSES, THESE MOSCOW UNIVERSITY STUDENTS RELAX AT THE DORMITORY.

HIGH SCHOOL SENIORS SEE TECHNICAL INSTITUTE LAB ON "OPEN HOUSE" DAY.



DAILY CLASS IN GASTRONOMY IS POPULAR WITH ALL. FEW CUT THE HAPPY EVENT.





HIKING IS A JOPLY COED DIVERSION FOR COLLEGIANS OF MOSCOW UNIVERSITY.



FUTURE RAILROADERS CHART VACATION TRIPS AS A PART OF THEIR TOURIST CLASS.

POLISH STUDENTS JOIN IN A GALA WINTER BALL STAGED FOR ENTERTAINMENT OF MOSCOW UPPER CLASSMEN.



AS GRADUATION APPROACHES, STUDENTS GIVE FELLOW-CLASSMEN THEIR HOME ADDRESSES.



THE COLLEGE STUDENT

Continued from page 5

Soviet students take an active part in the work of the International Students' Union. Some 700 delegations of students and young people from seventy countries visited the Soviet Union in the last few years and Soviet students, in their turn, visited many foreign countries. International seminars are held periodically. Recent ones were the conference of agricultural school students, held in connection with the USSR Agricultural Exhibition, in which students from twenty-four countries took part; and an international seminar of medical students which brought visitors from thirty countries.

In addition, Soviet and foreign universities have exchanged student group visits. A Swiss student group was invited in March of last year by the Leningrad Herten School of Education. Finnish students of education and African students visited last year. Soviet students are to pay a return visit to Finland, and have been invited to take part in the Fourth International Art Festival to be held in Lille.

Some 12,000 foreign students attend Soviet universities. They come from China, Hungary, Poland, Bulgaria and the other east European countries, and from France, Norway, India, Finland and Italy. In 1956 Moscow colleges graduated 800 foreign students in various specialties.

Employment

Though the colleges graduated 250,000 specialists in 1955, they were all placed in jobs. Of the 250,000, roughly half went to work in industry, a quarter in agriculture and the remainder in hospitals, schools, public administration and other fields.

A committee on employment composed of



KEEPING FIT IS IMPORTANT. A MOSCOW UNIVERSITY COED PERFORMS A SPLIT.



STUDENT RELAY WINNERS LAUGH AT PRIZE PRESENTED BY JUDGES TO TOP TEAM.

IN THE SOVIET UNION

the director of the institute, the dean, representatives of the trade unions and other social organizations and of the government agencies concerned meets at each college some three months before graduation. In proposing a job assignment the committee considers the student's aptitude, his state of health, his family obligations and his particular interests.

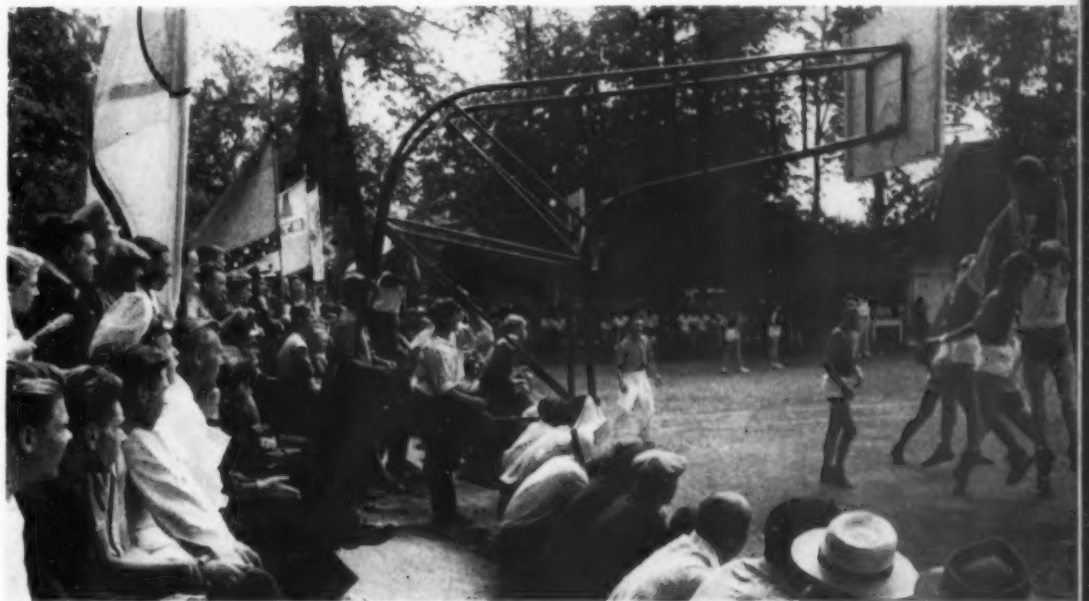
The committee informs the student what the proposed job is like, what salary it pays, what future it has, what the living conditions are in the area, what housing he can expect.

In certain cases the committee may leave the student to find his own job, if he so prefers, or will assign him to a job at an enterprise near his family or relatives. This holds for invalids, for young men and women whose parents are unable to move with them to other parts of the country, for married people with young children and for students in similar situations.

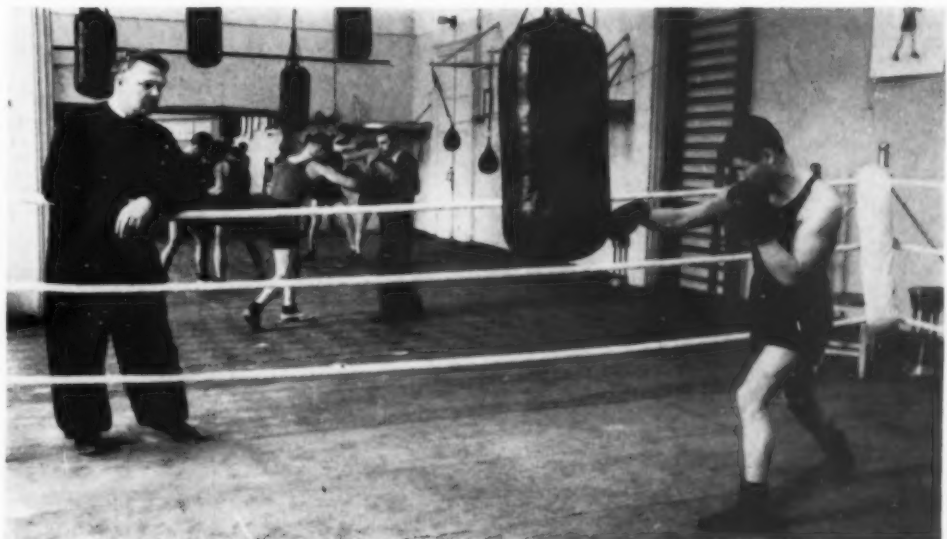
Every graduate is granted a month's leave with pay before reporting on the job. If it is in another district, the enterprise where he is to be employed will pay the fare for the graduate and his family and the cost of moving. He is also granted a travel allowance and a sum of money to furnish his new home.

Once launched on their respective careers, graduates still maintain contact with their school and turn to their old professors for help and advice. Not infrequently an old student will send back a suggestion that arises out of his professional work that the school will incorporate into its curriculum. Or a student will write to complain that the school did not adequately prepare him to solve one or another problem that crops up. These, too, are considered seriously in the continuous process of adjustment to changing needs and concepts which is characteristic of Soviet higher education. ■

A SCRAMBLE UNDER THE NET. BASKETBALL IS BECOMING INCREASINGLY POPULAR WITH SOVIET COLLEGIANS.



STUDENT CLUBS ARE WELL EQUIPPED WITH TRAINED COACHES FOR MANY FINE SPORTS, INCLUDING BOXING.





Spring Song

April and showers spell spring in much of our country. Early thaws break ice jams on creeks and rivers. Spring floods overflow low meadows, fields and woodlands.

Bears crawl sleepily out of warm winter quarters, while returning birds begin gathering nesting material uncovered by melting snows. Life's season is back to the beginning again.

Even this early in the southern areas there is a noticeable swelling of tree buds. And though winter still holds parts of the land in its grip, the ice and snow appear discouraged.

Girls and boys play outside more in the lengthening daylight and find many golden moments under the warming sun. Farmer and fisherman move more briskly—there's much to be done.

On the beaches of the southern coastal resorts one finds the first sun bathers, though the water is a bit too chilly for surf bathing. In the more northerly regions reports of these events set factory and office workers to speculating about where they'll spend vacations, while housewives begin planning their spring cleaning programs.

Everywhere one finds a welcome in the air. There's a freshness in the fields and woods and a new bounce to the step of even the oldsters.

Spring is a tonic as well as a song. ■



SHIPPING STARTS WHEN ICE-BOUND HARBORS OPEN UP.

CHILDREN PUT UP A NEW BIRD HOUSE IN A BIRCH TREE.





11/11/11





APRIL MEANS THE COMING OF SPRING IN MOST PARTS OF OUR COUNTRY. EARLY THAWS BREAK ICE JAMS ON RIVERS AND STREAMS, MELT SNOW IN FIELDS AND WOODS.

FREE
U



BALTIC BEACH IN LITHUANIA

LITHUANIAN POET, SOLOMEI NERIS



Oldest Lithuanian Painter

By ANATOLI CHLENOV, *Art Critic*

An American visiting the Ciurlionis Art Museum of Kaunas, Lithuania, would find a bit of home hanging on its walls, scenes of the Potomac, Yellowstone National Park and other familiar places. They are the work of Antanas Zmuidzinavicius, 80-year-old Lithuanian painter.

Twice—from 1908 to 1910, and from 1922 to 1924—Zmuidzinavicius visited the United States. During his second trip he toured the country, traveling by automobile from Chicago to Vancouver and then along the Pacific coast to Mexico. From Mexico he returned to Chicago via Arizona. He covered about 8,700 miles all told, and he painted as he went.

Zmuidzinavicius is no stranger to art lovers in America. He has had three special exhibitions of his works in the United States—in Chicago, New York and Washington. His canvases can be found in

Pittsburgh and Chicago galleries and in many private museums and collections in America.

I first met Zmuidzinavicius in 1951 at the exhibition of his paintings held in Moscow on his seventy-fifth birthday. He asked me to visit him in Kaunas, but it was some time before I was able to take advantage of his invitation.

During a recent trip to Kaunas I found Zmuidzinavicius in his spacious studio above his apartment. It was filled with what one would expect to find in a painter's studio—finished paintings, a canvas recently begun stretched on an easel, the usual conglomeration of paints, brushes and turpentine. The paintings lining the wall are all "pages" of the painter's biography—scenes of Paris, where Zmuidzinavicius studied in his youth, of Stockholm and Munich, of the Murman coast and the Azores. But most of them are landscapes of his native Lithuania and portraits.

One of the first things my host did when I arrived was to show me his collection of souvenirs, and a unique one it is. Zmuidzinavicius collects devils—glass devils, stone devils, metal and wood devils. He has specimens from France and India, Czechoslovakia, Japan and other countries, and, of course, Beelzebubs made by Lithuanian carvers.

Zmuidzinavicius is also a collector of Lithuanian folk art, and his studio contains ornaments made of amber, fancy wooden boxes in the shape of little fish, and an assortment of other trinkets.

On one of the shelves I saw a metal model of the Empire State Building, and on a table a small totem pole from Alaska portraying a mythical Indian bird standing on a demon.

"You have so many things from the United States," I remarked.

"Of course," he replied. "I did a lot of traveling in that country. I have many fond memories of the United States, and I hope that I haven't been forgotten there. You know, they knew me by a different name," he told me, picking up a small catalogue in English from a pile of books. The title of the catalogue was *Exhibition of Paintings by Antanas Zemaitis—Chicago 1924*. He explained that Lithuanian surnames have two forms, one Polishized and the other pure Lithu-

ANTANAS ZMUIDZINAVICIUS AND HIS WIFE, MARIA IN THEIR APARTMENT.



STILL VERY ACTIVE, HERE IS THE ARTIST WITH ONE OF HIS CLASSES.

anian. Zmuidzinavicius and Zemaitis both mean the same thing—inhabitant of Zmud or Zemaitia, the ancient Samogitia.

One of the canvases on the studio wall was a fine portrait of the painter's wife done in 1910. I had seen it before at the Moscow exhibit. Although many years had passed since the portrait had been painted, I could readily see the resemblance when I met Maria Zmuidzinavicius later in the artist's apartment. Here, in a room filled with pictures, enjoying tasty Lithuanian dishes which the artist's gracious wife had prepared for us, we continued our conversation.

We talked about many things—the artist's plans for the future and art problems in general. Zmuidzinavicius is a Lithuanian through and through. He was born in Lithuania and tended cattle there in his youth. His love of art first came awake there, and he has dedicated his talent to his people. In 1906 he was one of the sponsors of the first exhibition of works of Lithuanian artists, and in 1907 his name appeared among the founders of the Lithuanian Art Society. He was later elected its president and served in that capacity for twenty-six years.

Zmuidzinavicius' contributions to Soviet art have been gratefully received by his country. Recently the title of People's Artist of the USSR was conferred on him.

Although he is now eighty years old, Zmuidzinavicius is out sketching every summer. In other seasons of the year he paints indoors. His canvases are mainly landscapes of Lithuania—the sand dunes of the Lithuanian seacoast, Lithuania's forests, Lithuania's river bends and its towns. His favorite style resembles pastels in soft palette.

Zmuidzinavicius also teaches in the art institutes and art schools, and many young painters come to his home, too, for advice.

This would seem to be quite enough to fill up any man's time, but not so with Zmuidzinavicius. He has been repeatedly elected to the Kaunas City Soviet and the Lithuanian Supreme Soviet.

Before our pleasant visit was over, the conversation turned to the international ties of Soviet artists.

"I expect a great deal from the extension of cultural relations," Zmuidzinavicius said. "I hope that relations will develop between artists of the Soviet Union and of the United States. I have found that the American people are good people—plain, energetic and enterprising. American artists have done a great deal in my own field—landscapes. There is much in American art of interest to us, and I'm inclined to think that Americans will find merit in our art, too." ■



SAFEGUARDING THE WORKERS' INTERESTS

By Leonid Solovyov, Vice-President, USSR Central Council of Trade Unions

Soviet trade unions are enormous and powerful organizations uniting almost a fourth of the population of the country. There are 46 unions and in 1956 their membership reached 46 million.

Organized on an industrial rather than a craft basis, all workers in a given shop, factory or industry belong to the same union. Election of all officers and committees, from the smallest unit to the USSR Central Council of Trade Unions, is by secret ballot and every such unit makes periodic reports to the membership and gives an accounting of its stewardship.

The duties of Soviet trade unions are very broad. They are actively engaged in drafting legislation concerning labor and production, living standards and culture. They administer the state social security fund and control the observance of rules on labor protection and industrial safety. One of their important functions is setting wages and salaries of workers with management executives.

In the article that follows we will deal with only one phase of the work of trade unions: how they guard the interests of the workers.

A writer for *USSR* asked Leonid Solovyov, Vice-President of the USSR Central Council of Trade Unions, to describe how this protection is exercised. Solovyov, who visited the United States as head of the Soviet delegation invited to watch the election campaign last November, cites some examples.

Trade unions have about 50,000 sports clubs and societies with 5,215,000 members. All the unions have athletic fields and facilities similar to this stadium.





Inside a trade union club in Gorky, a large center of the automobile and engineering industries on the Volga River. Union clubs offer a wide range of activities for workers and their families.

At a concert of workers' amateur art. Trade unions sponsor 221,000 amateur groups with 3,865,000 participants.



A rather unusual letter was received by the USSR Central Council of Trade Unions not long ago. It was from the workers of a plant at Lvov that makes self-loading trucks, and they wrote the nation's highest trade union body that the chief of their factory was not interested in improving working conditions. They spelled out their complaint. The factory manager had permitted the operation of new sections with imperfect ventilation and often ordered overtime work.

This complaint had first gone to the Ministry of the Automobile Industry with a request for the dismissal of the manager. Now the workers asked the Central Council to back them up. The Central Council moved into action and the Ministry fired the erring manager. The faults exposed by the workers were corrected by the new management.

Labor protection is one of the duties of the management of a plant. In the rare cases where management fails to safeguard the health of workers, the trade unions will invariably step in and bring about corrective steps through the pressure of public opinion. The case of the Lvov factory offers a good illustration of this phase of the activities of our trade unions in protecting the workers' interests.

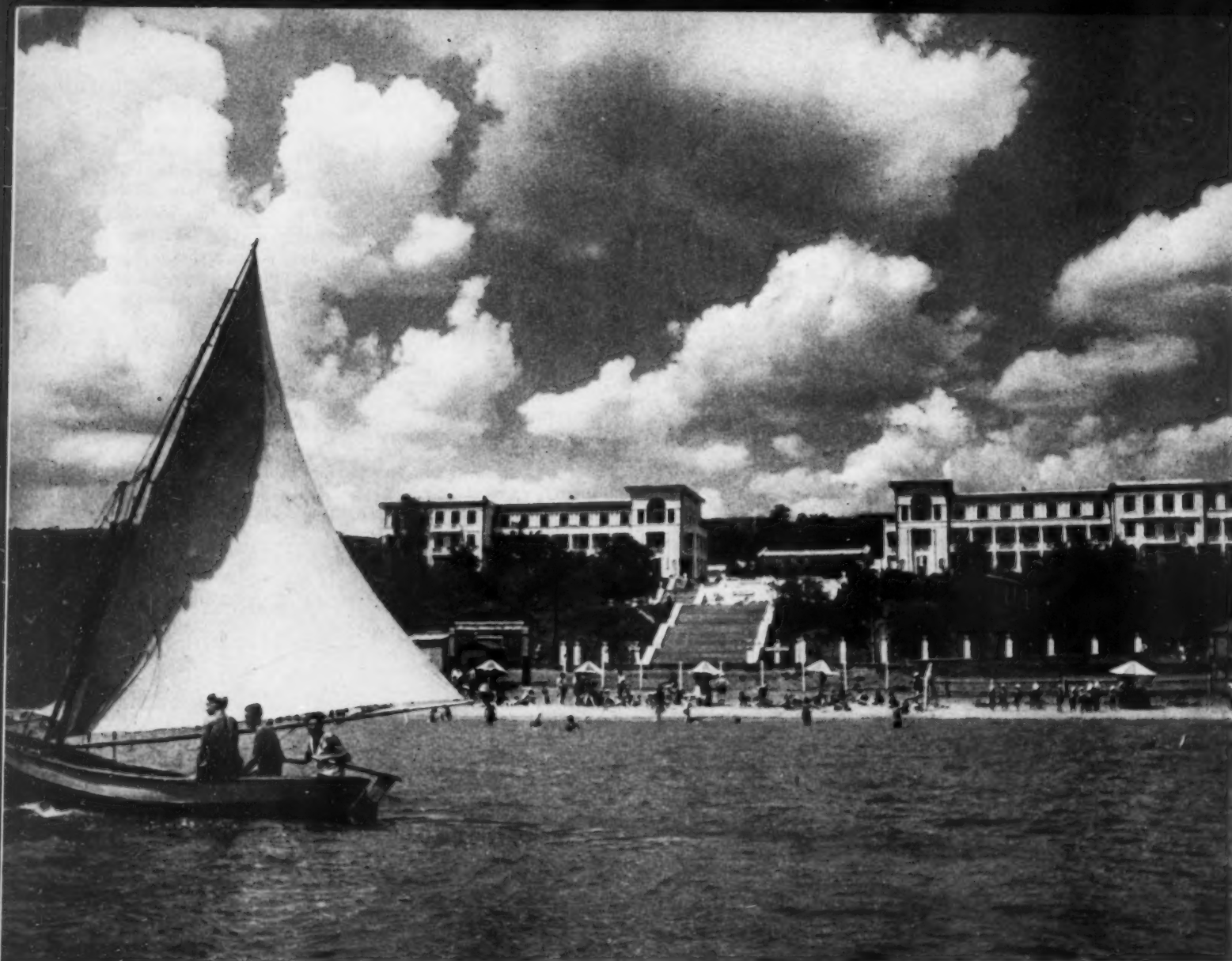
Labor Legislation

Our unions occupy an important place in the country's political, economic and cultural life. They nominate candidates for elections to all legislative bodies including the Supreme

Continued on page 14

This club belongs to iron and steel workers of Kazakhstan. Trade unions have over 10,500 social and recreational centers and 112,000 club-rooms at enterprises.





THIS VACATION RESORT ON THE SEA OF AZOV IS AT THE DISPOSAL OF COAL MINERS. UNIONS OFFER ACCOMMODATIONS AT EITHER 70 PER CENT DISCOUNT OR FREE OF CHARGE.

WORKERS' INTERESTS *Continued from page 13*

Soviet of the USSR, and through these trade union deputies in the Soviet parliament they directly influence both the legislative and administrative departments of government.

It has long been the custom here for unions to play an active role in writing legislation covering working conditions in factories and offices. It is not uncommon for our Central Council to recommend and the government to adopt decisions on many major problems.

Not long ago, for example, the Soviet Government, acting on a recommendation of the Trade Union Central Council, adopted a decision for a considerable increase in wages and salaries for a very broad sector of workers beginning January 1, 1957.

At the request of the Central Council the Soviet Government has ordered a number of departments to draw up new legislation for the further improvement of working conditions in mills and factories. This will be done with the participation of the trade unions.

The Soviet Government budgets ever-mounting sums for labor protection and safety engineering to all branches of the national economy. This money, increased almost twenty times in the last quarter century, gives every industry much more than before despite the increase in the number of plants and enter-

prises as well as the number of workers covered.

One of the principal tasks of trade unions is to see that managements properly use these sums in the interest of the workers, and the trade union's authority is voiced both at the highest level and in the individual plants.

Inspector Halts Work

During a routine check of safety devices at a ferro-alloys plant in the city of Chelyabinsk, Mikhail Nechayev, a technical inspector of the iron and steel workers' union, found three furnaces operating without smoke and dust eliminators that are mandatory under our safety regulations. His check of the air in the plant showed an excessive amount of dust, and he immediately shut down the three furnaces. They were put back into operation again only after the management had installed the required dust eliminators.

Inspectors like Nechayev are employed by all of the unions to see that labor protection and safety laws are enforced. These inspectors have broad powers and may visit any enterprise or institution day or night. No new mill or factory can operate without an inspector's approval of its machinery and

A new device which clears away lathe shavings is tested at a trade union labor safety institute.



premises. Inspectors have the power to stop work in any factory if they find safety requirements are not being met.

The orders of the inspectors are mandatory obligations on factory managements and the inspectors may force management to answer administratively if the laws are not observed. They may also initiate court action where necessary.

There are thousands of scientists and their assistants in the USSR constantly engaged to further improve working conditions. The trade unions have whole labor protection research institutes fitted with the latest equipment. These institutes help industry provide better ventilation, special safety screens for machinery, more practical work clothing, better lighting.

Recent legislation sponsored by the unions calls for the compulsory installation of air showers in all cases where heat radiation around a worker exceeds one calorie per square centimeter per minute.

Union Backs Workers in Conflict

When conflicts or disputes arise between workers and management, our unions move in to uphold the just demands of the workers. They negotiate directly with the management of individual plants and with ministries. They participate in the work of grievance commissions, send representatives to courts hearing cases filed by union members, and support complaints made by workers to higher economic bodies.

Grievance commissions are found in all plants and institutions. These are made up of

an equal number of members from the local union and management. Cases are settled by agreement between the two sides and their decision is binding to both parties.

Should management refuse to carry out a commission decision, the union forces it to do so by taking the issue to a local court. In such cases the worker pays no court costs or lawyer's fee.

Here is an illustration of how this system works.

Marina Kuzubova, a young woman, was employed at an agricultural experiment station near Moscow. Last summer she decided to spend her month's vacation at a Black Sea resort with a number of girl friends. It was a simple matter. She got her vacation pay and left.

While Kuzubova was on her vacation, the chief of the experiment station decided to put her on another job assignment. Upon her return from vacation she learned about her transfer and filed a complaint with the grievance commission.

All members of the commission decided that the transfer had been illegal as it had been made without her consent and ruled that she should be returned to her old job. But the management was stubborn and discharged the girl on the claim that her original job had been abolished!

Kuzubova went to court, and the court held that she should be returned to her old job and be paid for all the time she was idle as a result of the illegal dismissal. Attorneys from the union's legal department acted for her in court without charge.

Housing and the Unions

Another major part of trade union activity concerns itself with better living conditions for workers. The unions keep a constant check on how factories and other establishments meet their housing projects for workers and see to it that the huge sums allocated by the government for housing are properly spent. The unions also have a voice in the distribution of new apartment units.

Frequently we find ministers of various industries called before the ranking committees of unions or the Central Council of Trade Unions to report on how plants of a particular industry are fulfilling housing programs.

Ever-increasing numbers of workers have been building their own homes. Local authorities assign each prospective builder a lot, without charge, and he may use it indefinitely.

Unions lend considerable assistance to workers constructing their own homes. Local committees help them get state loans, acquire building materials and technical advice.

More than 4,000 workers of the automobile plant at Gorky are home owners. A hundred or so built houses for themselves last year, and those who lacked enough cash were helped through the trade union. At the request of the plant's local, the State Bank granted home builders loans of 7,000 rubles each to be repaid over a seven-year period at an interest rate of just 2 per cent per year.

Union committees at all Soviet enterprises and other establishments work constantly to improve housing conditions and to raise living standards generally. They regard this as one of their main responsibilities. ■

In a Moscow candy factory kindergarten. It's a duty of trade unions to supervise the work of children's institutions.



A dance group for children of oil workers in Baku, the capital of Azerbaijan. Trade unions have in their clubs various recreational and educational groups for children.



Unless you were looking for Vasili Lemisov, chances are you wouldn't pick him out of the crowd headed for the Leningrad Metal Plant at 8 o'clock of a weekday morning. Some of the workers are young people, some are older folks; some of them walk along laughing and lively, others seem to be wrapped in their own private thoughts; some are dressed in style, others are obviously people who don't pay much attention to what they wear. They are as typical and as varied as any group of workers, each one with his own concerns, ambitions, desires, worries and individual characteristics.

We stop Vasili Lemisov just as he is going into the plant. He is a short man, rather thin. He wears a cap and an ordinary suit. We explain that we want to get acquainted with him. We want to know something about him as an individual—what sort of work he does, how he came to pick his trade, what he thinks of his job, what he does after work, what his family is like.



getting acquainted with a **Leningrad Mechanic**

By Dmitri Gudkov

Why him? Vasili asks.

The only way we can answer that is with another question—Why not him? Anybody else we stopped would have asked the same question. Vasili laughs and admits that we have a point there. He doesn't mind telling us about himself.

Vasili is a mechanic; he works at assembly in the hydro-turbine division. He came to the plant as a lad straight from trade school. His father was a worker, and he himself had always liked working with tools. After two years at the plant he was put to work on assembling turbines that were being turned out for one of the Armenian power stations. He began to see the turbines he was working on with a different eye. They were more than complicated assemblies of carefully machined parts. They were house windows in Armenia, brightening with electric lights as the switches were turned on for the first time; water being pumped through irrigation ditches; high-

tension lines carrying light and power and new life to old cities and primitive villages.

Another two years went by and the war began. German troops reached the outskirts of Leningrad. The plant kept working in spite of blockade, of artillery barrage, of shortage of fuel and electric power. Leningrad won through these critical days, its workers fought bitterly to defend their city and the socialist way of life. What that defense cost is recorded on the marble plaque at the entrance to the plant—the names of workers who were killed by enemy shell fire.

All through the war period damaged, half-destroyed turbines came in, to be hurriedly repaired and sent back. Even then there was talk in the shops of new power plants to be built. Orders for new turbines came in as soon as the war ended, with dimensions which forecast power stations of an almost unbelievable capacity. Vasili Lemisov worked on some of these giant turbines.

Lemisov is not a big man physically, but even a big man would look tiny in the hydro-turbine shop where he works. The hundred-ton shaft we see being lifted by a crane at one end of the gigantic shop looks no bigger than an ordinary bolt from the other end. The monstrous machine tools are built to proportion, as though they were meant to be operated by twenty-foot people.

Lemisov works at one end of the shop where the assembly is done. His job takes a good deal of knowing, it demands a good technical background and great precision. Lemisov likes his particular job because it is not cut and dried, there is a constant call on the assembly mechanic for resourcefulness, imagination and new ideas. We watch Lemisov's team assembling a 120,000-kilowatt turbine for the Kuibyshev hydroelectric station on the Volga.

Lemisov is a good mechanic, and by inclination he is not a clock-watcher. With assembly problems cropping up one after another, his work week goes by quickly. His week ends Saturday at two o'clock. When he puts his overalls into his locker, he puts the shop problems away with them for the week-end.

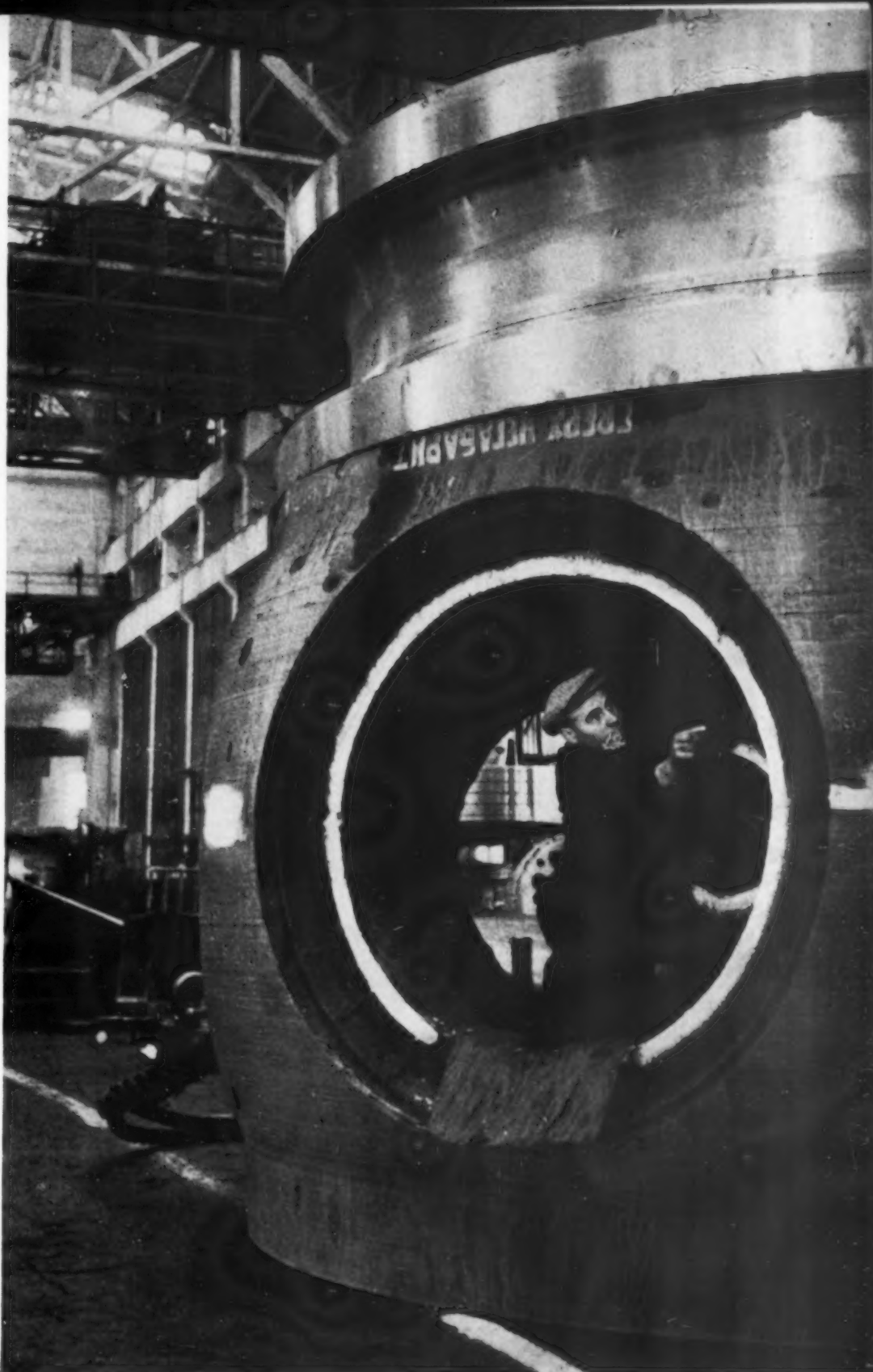
Saturday he slows down, takes a leisurely bath, shaves and sits down to family dinner. His wife says he ought to shave every day, he looks ten years younger. But she says that every Saturday, and Lemisov grins and gives the same answer, every other day is enough, he's not a movie actor.

Slava, his ten-year-old boy, sits down next to his dad and brings him up to date on all the school news. With Slava at the table, it's hard for anybody else to get a word in edgewise. He's a talkative youngster. Kapa, Lemisov's wife, has heard all the school news already. She listens with half an ear while feeding the baby, Lenchka.

Saturday dinner is special, relaxed. There's no rush, there is time to sit, listen to Slava talk away a mile a minute, laugh at Lenchka trying to handle a stubborn spoon, make plans for a Sunday outing. After dinner, Lemisov plants himself in an easy chair for an hour or two with a newspaper or book.

Saturday evening is usually TV time for the whole family, with the usual arguments about which program to watch. A couple of times

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LEMISOV IS ASSEMBLING THE WORKING WHEEL OF A TURBINE.



HE ENJOYS HAVING A FEW BEERS WITH FRIENDS AT THE BAR.



YOUNG SLAVA LIKES TO RUN TO MEET HIS FATHER, AS DAD RETURNS HOME AFTER A DAY OF WORKING.



HERE LEMISOV IS SURROUNDED BY ALL THE MEMBERS OF HIS FAMILY EATING AT THE DINING ROOM TABLE.

SLAVA IS FASCINATED WITH THIS CONSTRUCTION SET AND HERE HE IS GETTING SOME ADVICE FROM FATHER.



Leningrad Mechanic

Continued from page 17

a month the Lemisovs go to the theater. Their tastes differ. Lemisov himself prefers straight theater and musical comedy. Mrs. Lemisov is a ballet fan. Usually they work it out amicably.

The Lemisovs are sociable people, so that there is a good deal of dropping in. Kapa sometimes thinks there is a little too much dropping in, particularly on the part of Vasili's cronies to invite him out for what they call an "airing." Vasili says he's just going out for a couple of minutes, but the airing has a habit of stretching out to a few games of billiards or to a breeze session around a few beers, with shop talk, or politics or fishing yarns. When Vasili comes back, Kapa generally comments acidly about people "who go out for a couple of minutes." Vasili, a wise man, knows when to keep quiet.

Sunday morning Slava takes over again. He goes to an athletic school for children and he's got to show father how he boxes, wrestles and does gymnastics. After breakfast the family usually goes for a stroll. Both the Lemisovs are amateur photographers and the family album, with pictures snapped in almost every section of the city, is a joint enterprise. Vasili does the picture taking, Kapa the artistic arranging.

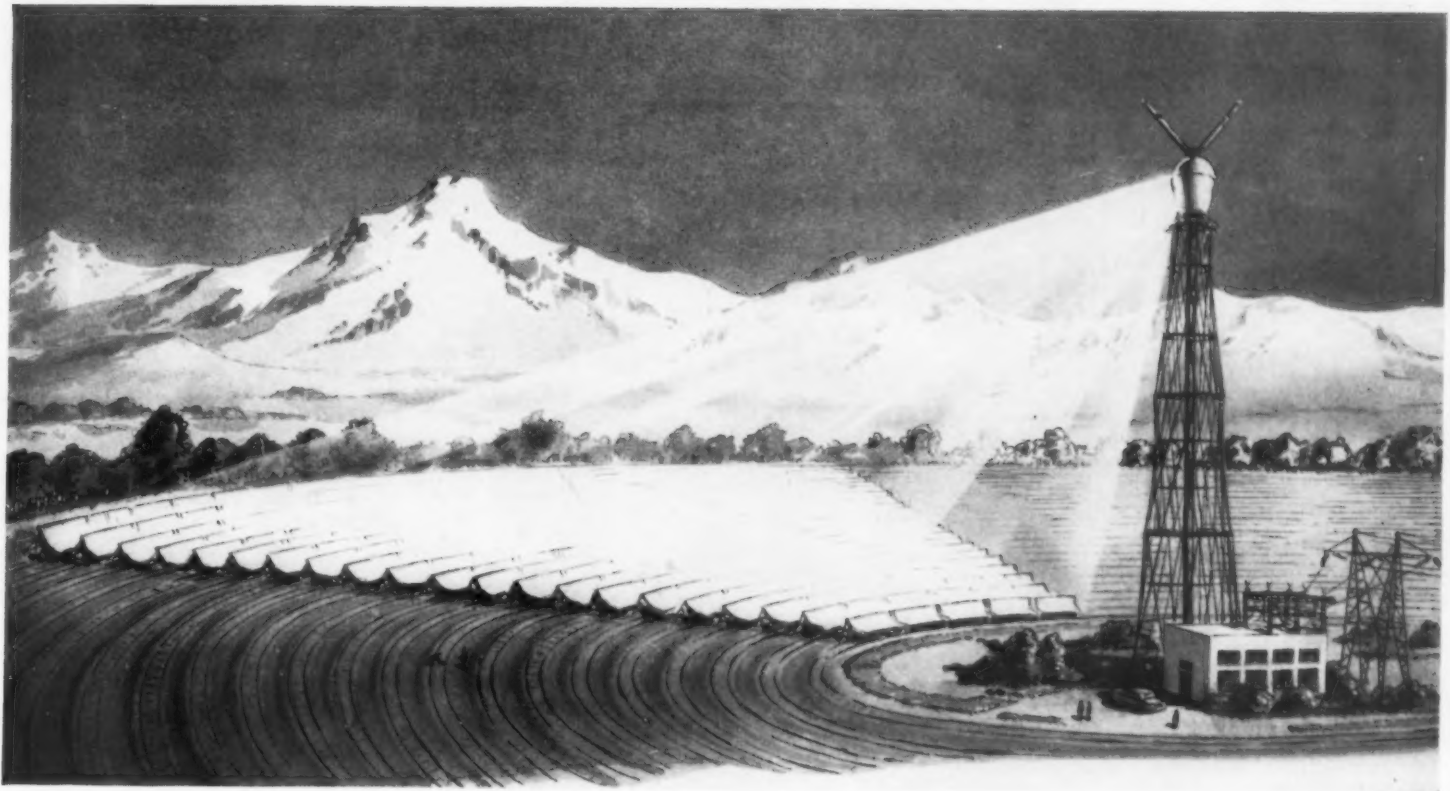
Leningrad is a picturesque city. The Lemisovs often take their Sunday morning walk in the Summer Garden, one of the sights of the city. Or they go boating on the Neva, past the beautiful palaces on the shore, and picnic on Kirov Island, the athletic center of Leningrad. The outskirts of the city, where the Russian czars once had their summer homes, is a favored picnic area for Leningraders. The Lemisovs are particularly fond of Petrodvorets with its beautiful fountains. They go out there from time to time with the children, have lunch at one of the restaurants in the park, or bring a basket lunch and picnic on the river bank.

Sunday evenings, after the children are put to bed, the Lemisovs entertain friends. After talk, there is always singing. It is the rare Russian gathering at which people do not sing.

The normal routine in the Lemisov home changes in June, when the school vacation begins. The family moves out to the country for the summer. The Lemisovs for a number of years now have been renting a cottage at Kavgolovo, set in a pinewood area with a lake nearby for swimming, boating and good fishing.

Vasili comes out for week-ends and an occasional weekday evening until his vacation begins. Then he divides his time between fishing and gardening. The Lemisovs also manage to get out to Kavgolovo during the winter for a day's skating or a walk in the snow-covered woods.

If you were to ask the Lemisovs whether they were a typical Russian worker's family, they would probably tell you they hadn't thought about it. They're a family—with the usual problems of a family. But everything considered, they like the way they live, the work they do, the security they have and the way their children are growing up. ■



TO CATCH A SUNBEAM

The First Solar Electric Station

By Pavel Markushenko

To catch a sunbeam is not only a game which children play with a mirror or a piece of polished tin; it is the principle behind solar power stations. A solar electric station, the first of its kind anywhere in the world, is to be built in Armenia. The sun's enormous potential for heat and power is to be brought to earth through a system of reflecting mirrors.

Glance at the sketch. It is an unusual power station we have here, without the smokestack of the power plant or the concrete dam of the hydroelectric station. Instead, here is a cleared circle almost a mile in diameter, lined with trees to keep the mirrors dust-free. The tower in the center stands 130 feet high. On its top a steam boiler rotates. The sun's energy heats the water to boiling point and raises a steam pressure of 30 atmospheres. The steam is piped to turbines at the electric station. The capacity of the station is 1200 kilowatts.

Surrounding the tower are 23 rail circuits. Twenty-three specially built automatic cars carry 1,293 big mirrors. Automatic relays keep the mirrors always turned to the sun and send the captured rays to the flat side of the boiler. At the same time other automatic relays synchronized with the cars turn the side of the boiler to an angle at which only

the direct rays reflected from the mirrors will strike it. The station begins operating as soon as the sun rises, its rays caught by photocells which open the relays.

Plans are to build this first solar station between ancient Echmiadzin and Oktemberyan, near Lake Aigerlich, in the Ararat Valley. Records show that this area has 2,600 hours of sunshine a year. Each square foot of the earth's surface gets some 24,000,000 kilo-calories of heat from the sun a year. Use of the sun's energy in the Ararat Valley will make it possible to farm many thousands of acres of fertile land. Pumps powered by the sun will drain the subsoil waters from the marshy lowlands and channel them to the fields for irrigation.

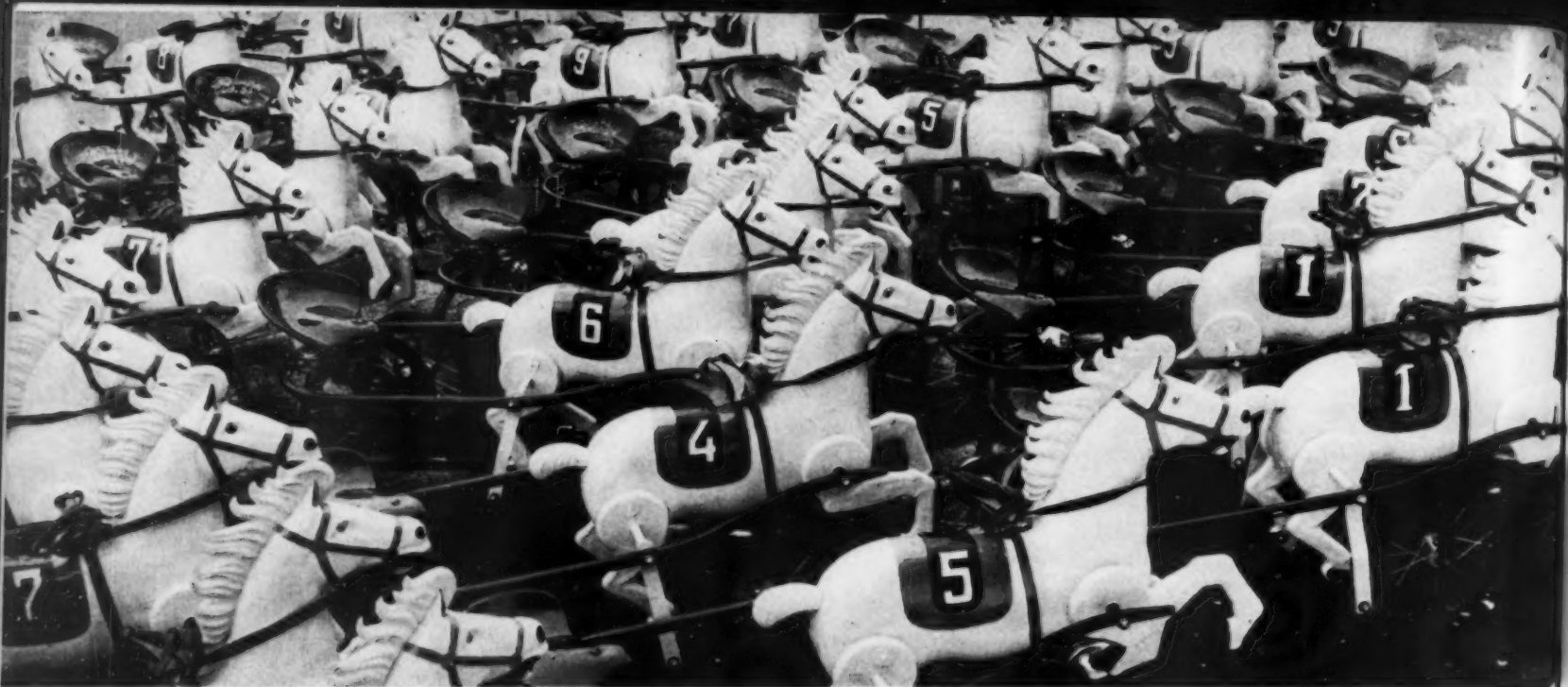
The solar electric station will, of course, operate only in the daytime and in sunny weather. This presents a problem—how to furnish a constant source of heat to greenhouses and hotbeds, to heat homes in winter, and to insure a hot water supply twenty-four hours a day. It is met with an easy but very ingenious solution. Simple heat accumulators are to be built at the station in the shape of underground reservoirs. They will look like immense thermos flasks, and will store water heated by the sun to a temperature of seventy to eighty degrees centigrade. Whatever water

and heat is used up at night and in bad weather will be replenished on sunny days when the station is operating.

The general outlines of the project for solar electric stations were developed by the Krzhizhanovsky Power Institute of the Academy of Sciences and presented as recommendations to the southern republics of the Soviet Union. The Armenian Republic has set the first project into motion. Its institutes are now preparing the background material required by the builders, and a factory in Armenia is making the complex automatic apparatus that the station will require.

Not too long ago, when Professor Vladimir Baum read a paper at the World Energy Conference in Vienna describing the project for the construction of a solar electric station, it evoked wide interest. Physicists in many countries have been working on the problem. Undoubtedly the Armenian station, the first one to be built, will provide invaluable data to the world of science and will spur the construction of other such stations to bring the earth stores of cheap heat and power from the sun. ■

(Abridged from the newspaper
Literaturnaya Gazeta)



A SPECIAL BREED OF "HORSE" EXTREMELY POPULAR WITH THE VERY YOUNG SET. YOUNGSTERS PUSH THEM FOR FAST RECORDS ON ANY TYPE OF TRACK.

HOBBYHORSES REPLACE JET BOMBERS

THE MOSCOW AVIATION PLANT CONVERTS FOR PEACETIME PRODUCTION

By Georgi Pavlov

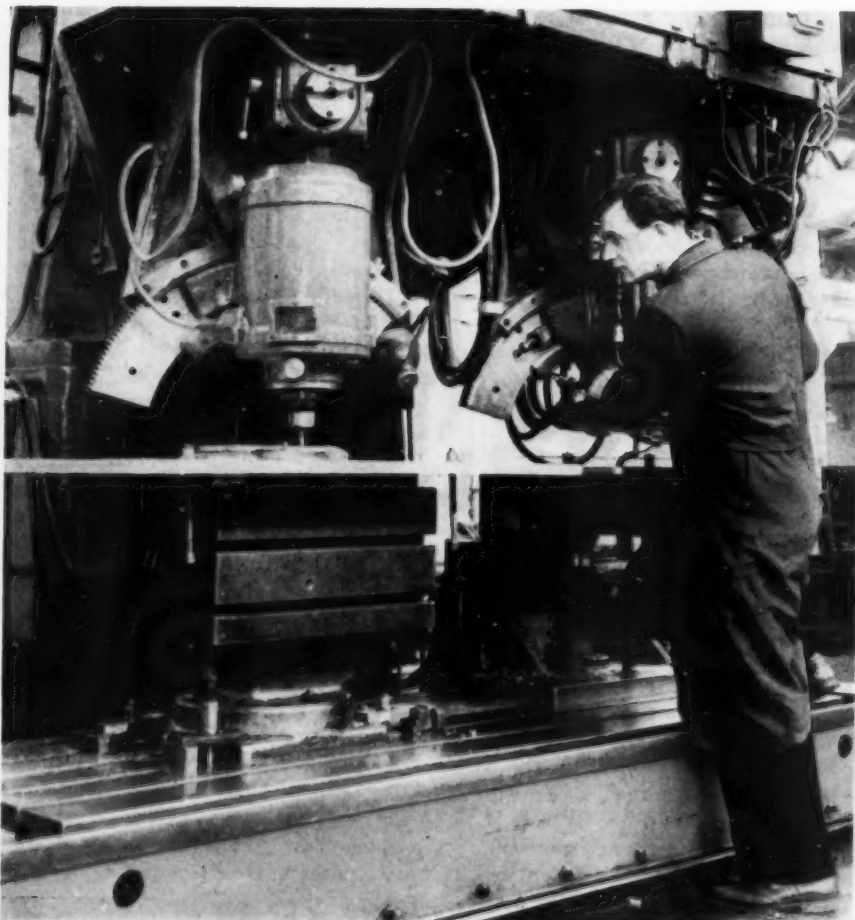
We had been invited to ride along on the final test flight of the IL-14, a passenger plane assembled at the Moscow Aviation Plant. It was a relatively uneventful flight, except that a half hour from Moscow and five thousand feet up in the air, with nothing but snow-covered forest under the plane wings, there was an unexpectedly shrill signal in the control cabin and the control board flashed red. The test pilot, Stepan Petukhov, said casually, "That means the left motor is on fire."

We sat up very suddenly. Petukhov laughed. "You don't need your parachutes yet. We're just testing. We switch off the motors to test the signal system. This plane is as fireproof and foolproof as any plane can be."

We were glad to be reassured but even happier to feel the bump as the plane landed on the concrete runway and we had good solid earth under our feet. A test flight, even in a fireproof and foolproof plane and with a top-notch pilot like Petukhov, but with the control-board signaling fire, is strictly for iron-nerved hitchhikers. We told Petukhov that as we left the plane.

He smiled. "I thought you would like to get the feel of a real test flight. But now that you've gotten acquainted with one of

ONE OF THE LATEST SOVIET MACHINES IS THIS COPYING-MILLING MACHINE WITH HYDRAULIC CONTROL.



the Moscow Aviation Plant's products in the air, how would you like to see some others? The rest are all on the ground," he added with a smile. "The Moscow Aviation Plant is no longer an accurate description. It should be called the "Moscow Aviation Plant that also manufactures folding beds, lightweight furniture and children's hobbyhorses."

Andrei Savostyanov, one of the veteran engineers, told us something of the plant's history. Its site was the scene of a tragic incident in May 1896, when Nicholas II, last of the czars, was crowned. To work up an appropriate enthusiasm among the czar's subjects, the authorities announced that gifts would be distributed to the assembled populace. A tremendous and, of course, poverty-stricken crowd converged from all over the city. In the terrible crush that ensued, 2,000 people were killed and thousands injured.

Subsequently, a small bicycle plant was built on this site by a foreigner. When the factory was renovated after the Revolution in October 1917, it was the first one in the young republic to turn to the production of planes.

Its planes were good for those early flying days. In the years since, it has maintained its well-founded reputation for reliable, thoroughly-tested aircraft. Valeri Chkalov, the flier who in 1937 made the first USSR-USA non-stop flight across the North Pole, was one of the plant's test pilots.

During the war, the plant turned out dozens of fighter planes every day. These were the formidable "Stormoviks," which Hitler's soldiers renamed "Black Death." Sergei Ilyushin, who designed that deadly fighting machine, also designed the passenger IL-14, which the plant is now producing.

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AMONG OTHER CONSUMER ITEMS, MILK CANS WERE RECENTLY ADDED TO PRODUCTION.

THE TREMENDOUS SEATING CAPACITY OF THE IL-14, NOW BEING PRODUCED, WILL RESULT IN A CONSIDERABLE REDUCTION IN FARE.





THIS PICTURE TAKEN FROM ANOTHER PLANE SHOWS THE IL-14 ON A TRIAL FLIGHT ABOVE RUSSIAN FIELDS.



THE BIG SHOP WHERE THE PLANES ARE ASSEMBLED.

HOBBYHORSES REPLACE JET BOMBERS

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After the first year of the war the plant began to mass produce the famous MIG, first Soviet jet fighter plane. Shortly after that the IL-28 jet bomber, nicknamed the "Beagle" by Western fliers, was placed in service.

Now, as part of the Soviet plan for conversion of many of its war plants to peacetime production, the shop which manufactured parts for the "Beagle" is turning out baby carriages and hobbyhorses. Other shops are manufacturing aluminum folding beds and lightweight furniture. A short time ago the plant added milk cans to its consumer items. All these are turned out side by side with passenger planes.

Engineers at the Moscow Aviation Plant seem to work with both hands at the same time. With one they design a children's automobile, and with the other a four-engine turbojet passenger plane.

The original plan called for complete re-conversion of the plant to consumer goods production to meet the constantly growing demand for such items. But the protest of plant workers, many of whom had spent years working in aviation, was so strong that the final decision was approved to produce the IL-14 passenger plane along with consumer items.

Incidentally, the IL-14 can make more trips because of its greater speed, and it accommodates more passengers per trip because of its greater carrying capacity. As a result, the cost

of a flight will be no more than travel by train.

It might seem that reconversion of a plant would mean lower pay. This did not happen here. As a matter of fact, the plant made more money and as a result was able to give substantial pay increases.

Greater profits also made it possible for the plant to build more housing for its employees. The Moscow Aviation Plant led all other industrial plants in the city in the number of apartment houses it constructed in 1956. It built 130,000 square feet of housing area. Building during the current year will be speeded up even more with a special shop being organized at the plant to produce large prefabricated sections of building. This requires a sizable outlay of funds. But the plant is making money. Its biggest customer now is the public and not the Ministry of Defense.

What has been happening at the Moscow Aviation Plant is not at all exceptional in the Soviet Union these days. Many other defense plants have been converted to peacetime production. With the recent decrease in armed forces and the accompanying reduction in military expenditures, it has been possible to make more money available and to retool more factories to meet the growing consumer needs of a growing country. ■

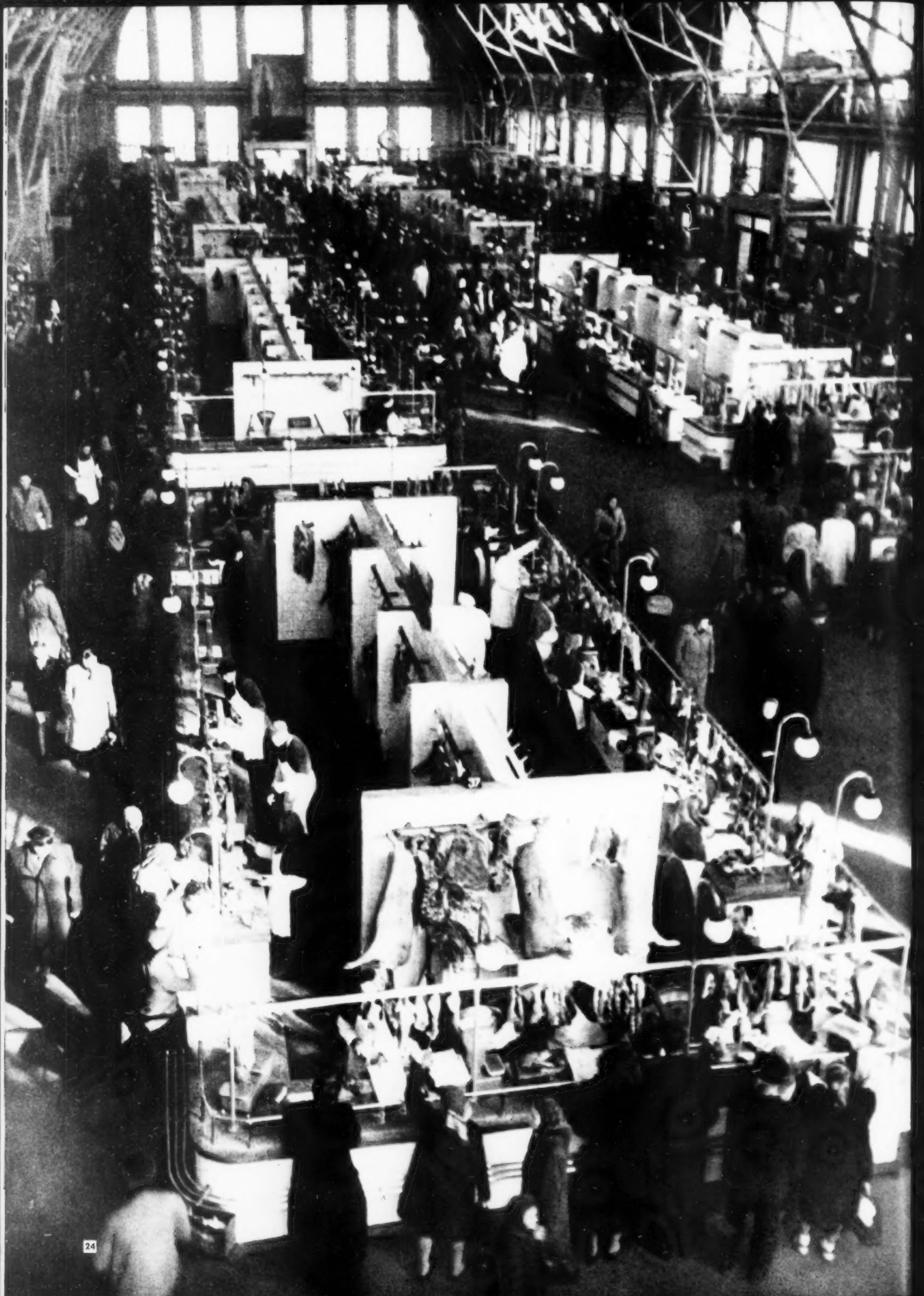


A DESIGNING BUREAU STAFF ARTIST IS SHOWN CREATING A CHILD'S AUTOMOBILE.

AN INVENTORY IS TAKEN OF THE FOLDING BEDS PRODUCED AT THE MOSCOW AVIATION PLANT, WHICH ONCE TURNED OUT JET BOMBERS.



THE
UN







IN RIGA'S CENTRAL MARKET

The big glass-domed Central Market in Riga is a gourmet's picture of heaven. Its colorful counters are piled high with Crimean grapes, Ukrainian watermelons, Uzbek honeydews, Georgian tangerines, and fragrant local apples; with Baltic sprats, anchovies, sardines and herrings; with meats and poultry; with tangy Moldavian wines; with lovely asters, chrysanthemums, and gladioli to grace the dinner table.

On a weekday 70,000 Riga people shop at the Central Market; on a holiday eve, 100,000 or more. Riga, capital of the Latvian Republic, has a population of half a million and is served by eight markets and hundreds of food stores, but its Central Market is the most popular and is busy from morning to night. Products are shipped by rail, truck, boat and plane from local farms and from other parts of the Soviet Union.

A big market is a complex enterprise, with all sorts of services and facilities provided by

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◀ INSIDE A GLASS-DOMED RIGA MARKET BUILDING.

HOUSEWIVES ARE MAKING THEIR SELECTIONS ALONG VEGETABLE ROW, ONLY ONE AREA WITHIN RIGA MARKET.



THIS MOTHER AND SON ARE TYPICAL. FOR SELDOM DOES ANY HOUSEWIFE LEAVE THE MARKET WITHOUT FLOWERS.

In Riga's Central Market

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hundreds of employees. Besides butchers, poultry men, dairy experts and cold-storage workers, the Central Market has its own staff of people to grade quality; laboratory technicians to test meats, milk, butter and other produce; sanitation inspectors to ensure cleanliness. Although the market closes to shoppers at 7 in the evening, the work of sorting, grading, inspecting and cleaning in preparation for the next day's business goes on into the small hours of the morning.

Like the exposed parts of an iceberg, the group of buildings that stretch for five blocks show only a part of the big market. Below street level are compressors and boiler rooms, workshops, cold-storage rooms, cavernous warehouses, lockers and shower rooms for market employees.

The old saying that you can't please everyone may be true, but not for Riga's Central Market. No shopper ever leaves the market empty-handed. ■

"DON'T CRY. WE'LL TELL YOUR MOTHER YOU'RE HERE OVER THE LOUDSPEAKER."



"THIS IS JUST THE PIG WE NEED," WORKER VLADISLAV STOMMA TELLS HIS WIFE.





THE BUTCHER ASKS: "DO YOU WANT SOUP MEAT, A ROAST, A STEAK OR CHOPS?"

FALL FOODSTUFFS ARE OFTEN SOLD OUTDOORS, FOR INDOOR SPACE IS EXCEEDED.



A CITY CHANGES ITS ADDRESS

By D. Iokhimovich

The old road signs to the town of Berdsk, in western Siberia, point across the bridge to where the highway turns right. But now the construction site for the future Novosibirsk Hydro-Power Station is where Berdsk used to be. The city has moved—lock, stock and barrel. And the old site of Berdsk by this time next year will be the bottom of the Novosibirsk Reservoir, a great artificial lake. To get to the new Berdsk you turn left at the bridge and keep going until you strike new blocks of buildings, some of them still under construction.

The prodigious job of moving a whole town has been going on for two years. This fall Berdsk will celebrate its town-warming at its new location. Moving the town was more than merely moving people; it meant building a city of more than three thousand apartment, industrial and public service buildings.

Some of the streets still carry their old names, but in all other respects they are changed beyond recognition. Pushkin Street in old Berdsk was little more than a narrow, crooked alley with a few dozen houses; now it is a broad, straight thoroughfare two miles long, with 250 modern buildings.

Assisted by state funds, many of the Berdsk people live in better houses than they did in the old town. The public buildings, schools, library and clubhouses are spacious and modern. The old town had no central water system; the new water mains reach out now to a wide radius.

Industry in old Berdsk was confined to a small and solitary radio factory and a few producers' cooperatives. New Berdsk will have a large radio factory, one for furniture, a number of garment factories and a mill for fertilizer production. It is slated to become one of the port towns of the new Novosibirsk Lake when the area is flooded. Docks for passenger and cargo vessels and a large shipyard are now being built. The proximity of the new town to a cheap power source, the Novosibirsk Hydro-Power Plant, will be an important factor in the development of other industrial plants.

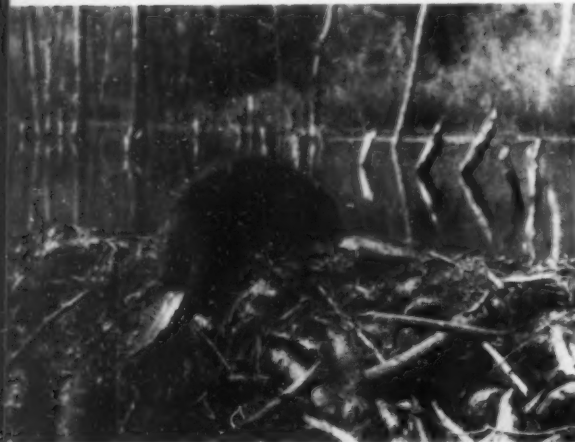
Near Berdsk, the shores of the future lake are covered with pine forests. Summer houses, resort hotels and homes for retired workers have been built in these beautiful surroundings.

Berdsk has an old but passive history. For three centuries it was no more than a stopping-off place on the trade route between Central Asia and Siberia. It was only ten years ago that it attained the dignity and proportions of a town. Its modern and active history as a new industrial center for Siberia will really begin with its town-warming this fall.

(Abridged from the newspaper *Soviet Siberia*)



The life of stately storks is carefully studied in the popular science film *Story of a Ring*.



This is a still shot from film *Woodland Saga*, rare for the beaver who is usually so active.

By Lydia Yavich

Popular science has brought a new and unusual cast of characters to the Soviet screen. They are rarely filmed in movie studios, most often they act their parts in the setting of a mountain top, a desert, a zoo, or deep under the sea.

The drama of nature and science can, as frequently as not, dispense with human actors. The villain or the hero may be the wind, birds, deep sea life, an atomic pile, the stars.

When Jules Verne wrote his *Twenty Thousand Leagues Under the Sea* almost a hundred years ago, he needed an exotic Captain Nemo to dramatize the submarine for his large but skeptical audiences. But the once incredible mysteries of science have become our daily fare, to be read in every morning's newspaper. Science in films today speaks its own piece, in the language of biology, chemistry, physics and astronomy.

The Wind as Hero

The wind sweeps over the desert in a fury, blows at the heaped sand dunes with hurricane breath, whirls the desert sand aloft in a turbulent column and drops the mineral cloud on a plain a hundred miles away. The sand buries the scant vegetation. Left to the centuries, the plant life decays, combines with the sand and slowly transforms the sandy wastes into fertile farmland.

This is wind, the hero in the film *Gift of*

the Desert, directed by Yelenitskaya of the Moscow Popular Science Film Studios. The plot? Deserts turned fertile by the wind. The film sequence shows the ever-active change in nature, its constant building up and breaking down. The audience is the researcher, looking on, evaluating, watching the evolution of new structures. Every onlooker feels himself a part of the cast of this film without actors.

Not all science films, of course, can dispense with a human cast. Man's struggle with nature and his ever-growing ability to change and harness its great forces form the subject for many films. The film *Terenty Maltsev* produced by Yevgeni Yermakov is one. It is not a picture with the usual plot, although its hero is a man. Maltsev is a self-taught Soviet scientist who employed a new method of plowing which is likely to revolutionize farming.

Although the camera is focused on the scientist, it is his science which really steals the show. And this is as it should be, since with Maltsev, as with any other innovator or research worker, work and workman are inseparable. His almost endless experiments, his many temporary defeats and his final dramatic victory make the story to be filmed.

Be Careful, They Bite!

These wolves running in a pack through the dense mountain forest, hiding in gullies, waiting to spring on the mountain goats, were not photographed in a film studio, in spite of the fact that the chase looks as though it had been planned and carefully organized by a very competent film director. The *Trial*

of the Beast, in which this sequence appears, was filmed in the wild, natural surroundings where the wolves range. It was directed by Boris Domin, of the Moscow Popular Science Film Studios.

These animal films are not simple to produce. When the *Trial of the Beast* was shot in the Siberian Mountains, cameramen lived for two weeks in a shelter overlooking an eagle's nest, keeping watch for the moment when the mother would bring food to the young birds.

In another Domin directed film, a stork, hero of the film, had to be watched for a full summer. In another, to capture a wild sheep, a net 4,000 feet long had to be woven. In filming an undersea scene, huge basins weighing tons had to be built.

Shooting wild life films, besides being expensive, requires ingenuity, an almost unbelievable patience and, often, very real courage. These are dangerous actors that bite and claw, they do not play for fun. Script writers, editors and directors must make careful studies of the animals, their habitat, their behavior. They must become combination zoologists and engineers to be able to fabricate on-the-spot devices and contraptions needed for observation and filming.

For his film *Pacific Ocean*, Alexander Zguridi, of the Moscow studios, descended to the ocean floor in a bathysphere built for underwater filming. The interior of the diving bell is heated, the atmospheric pressure normal, and it is equipped with telephone for contact with the floating base above. The bathysphere was originally devised for under-



The fascinating film *Man's Winged Helpers* tells much about the habits of this fierce bird with its powerful beak and big talons.



Parent bird comes in for a graceful nest-bound landing, in ornithology film *Story of a Ring*.

sea scientific observation. Zguridi, as a matter of fact, accompanied on his undersea film explorations by a consulting scientist, not only produced an exciting film but was able to supply data which contributed a great deal to the scientific knowledge of deep-sea life.

Such dual contributions to both film and science are not unusual. Film workers have more than once refuted old scientific notions. It was generally accepted, for example, that the rare marine mammal, the *kalan*, a northern Pacific sea-otter, lives exclusively on fish and mollusks. Zoologists recently had a chance to watch *kalans* on the screen eating seaweed. In another case, ornithologists, looking at a showing of *Story of a Ring*, filmed in the Ukraine, added a new item to their knowledge of bird behavior. They found that during the hot summer days storks not only cover their nesting young with their wings to shield them from the sun, something they knew, but spray them with cooling showers of water brought in their beaks.

Touring the Art Galleries

The art museums have also been taken over by film makers as their province. For people with a love for fine paintings who live far removed from the world's great galleries, these films are tours led by an expert art critic. The camera is a guide with an uncanny eye. It can emphasize details which the naked eye passes over, enlarge individual figures so that they show almost imperceptible brush strokes.

Purists may argue that such films merely substitute for art catalogues, that they are a poor second best for museum visits and actually seeing the original. This argument has an element of truth. These films are catalogues in a sense. They are made to place the world's great paintings within reach of people who, because of distance, time, or inclination, do not visit galleries.

An illustrative case, for example, might be the pictures exhibited at the Dresden Gallery. At the end of the war, these were taken to Moscow and restored. When they were shown at the Moscow Fine Art Museum, they attracted great crowds. The pictures were returned to Germany some time ago, but they can still be brought to Soviet art lovers through films.

These films, however, are much more than a listing and reproduction of the Dresden col-

lection. The same principles that are used to dramatize science films are employed here—movement, conflict and depth. In *Rembrandt*, produced by the Moscow studios and directed by Yakov Marinov, the biography is the story of the growth of a great painter, of his struggles, both within himself and with the circumstance and temper of his time, to achieve perfection.

Sistine Madonna is another biography, not of the painter this time, but of his painting. The film achieves depth by tracing the development of a creative idea in the painter's consciousness, its germination, growth and blossoming into a masterpiece. Reproduced are many of the sketches Raphael made of his beloved Fornarina, in whose face he saw the image of his Madonna.

Other of the more notable art films have been *The Hermitage*, directed by Beresnev' in 1954, *Russian Museum*, by Director Bratukha made in the same year, and two films by M. Kligman, *Maxim Gorky* and *Chekhov's Notebooks*.

Starring Science Itself

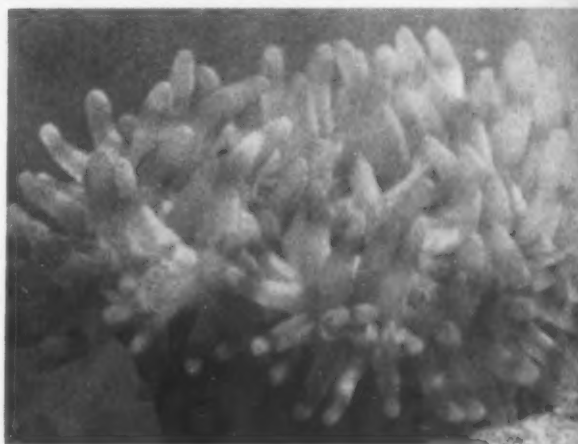
An atomic power plant in construction was the plot of a film short shown in 1955 at the Geneva international conference of atomic scientists. Another film produced the same year described Soviet achievements in the peaceful uses of atomic energy. These two films, *First in the World* and *Atomic Energy for Peace*, both directed by Dmitri Bogolenov, told their stories simply, without ornament, but they were intensely dramatic nevertheless. It was science figuring as character and story in a work of art, a fusion of two areas of knowledge that we tend to think have little relationship to each other.

The Mystery of Matter, directed by Pavel Klushchantsev of the Leningrad Popular Science Film Studios, won a prize at the last world film festival. This was the story of thought, that little-known function of man by which he was enabled to split the atom. It was the story of Democritus and Boyle, of Lomonosov and Mendeleev, Becquerel and the Curies, of Rutherford and Chadwick, all the men and women whose speculation and thought through the centuries helped unveil the mystery of energy. Although a series of biographical narratives developed the story line, it was the scientific problem of the mastery of matter which gave the film its intensity and drama. This type of film is no longer reportage in its simple sense, it is art of a very high, if special, order.

Among the recent outstanding popular science films produced by studios in Moscow, Leningrad, Kiev and Sverdlovsk are some which deal with technical progress—*Continuous Steel Flow*, *Machine Tool Builders* and *Polytechnical Museum*. *Virgin Soil*, *Golden Fleece*, and *Fertility* have to do with agriculture. Biology supplies the theme for *Invisible Enemies* and *Snakes*, and astronomy for *Universe* and *Stars over the World*.

Soviet educational films have within a comparatively short time built up an impressive backlog of documentaries in art and science and have captured a very wide audience. The best of them can well take an honored place alongside the best of the feature films. ■

Among many other forms of plant life, this one is fascinating in the film *Life in the Arctic*.



Typical of the views of marine life in cold waters is this shot from the film *Life in the Arctic*.

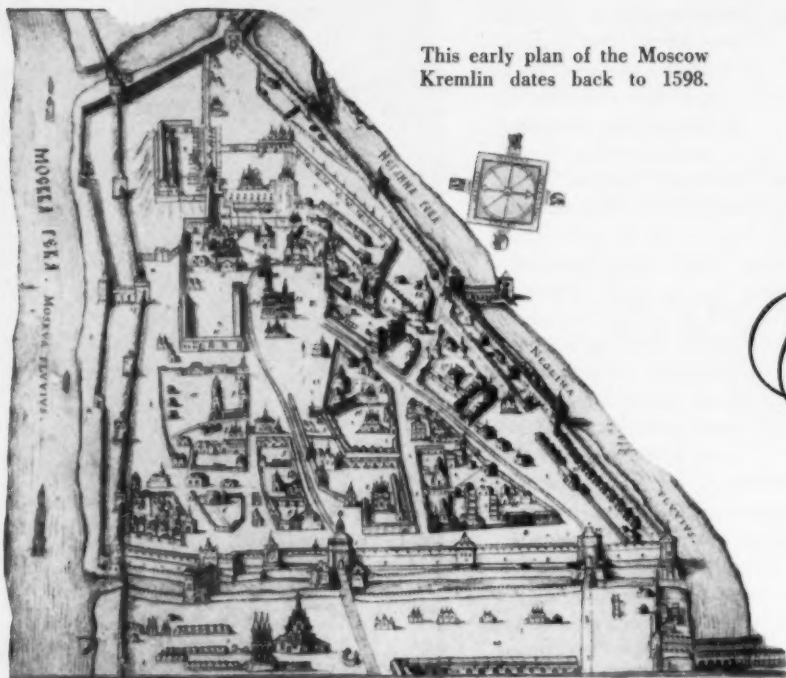


Many strange fish inhabit the world under water and here's one taken from *Life in the Arctic*.



The film *Man's Winged Helpers* reveals many valuable facts about birds like this little one.





This early plan of the Moscow Kremlin dates back to 1598.

Kremlin



The Kremlin viewed from the Moscow River. The building at the left is the Weapons Chamber, famous museum of old Russian art and craftsmanship. Dominating the center is the Grand Kremlin Palace where the Soviet Parliament holds its sessions. At the extreme right are cathedrals, now serving as museums.

VLADIMIRSKY HALL IN THE GRAND KREMLIN PALACE. ►

Last year five and a half million people passed through the Borovitskiye Gate of the Kremlin wall, visitors from every corner of the Soviet Union and tourists from every country in the world.

In this national shrine of 100 acres enclosed by ancient walls with battlements and towers are palaces and venerable cathedrals that have been converted into public museums, and government buildings designed by great Russian architects.

For the foreigner a tour of the Kremlin is an unforgettable event.

For Soviet people it is much more. Firstly, they are visiting the birthplace of the nation. And the massive structures of the Kremlin are both historic sites and at the same time examples of the genius of Russian architects of the past. Quite the same is true of the relics of the past in these museums: the art work of old masters, the treasures of gold, precious metals and jewelry done by Russian

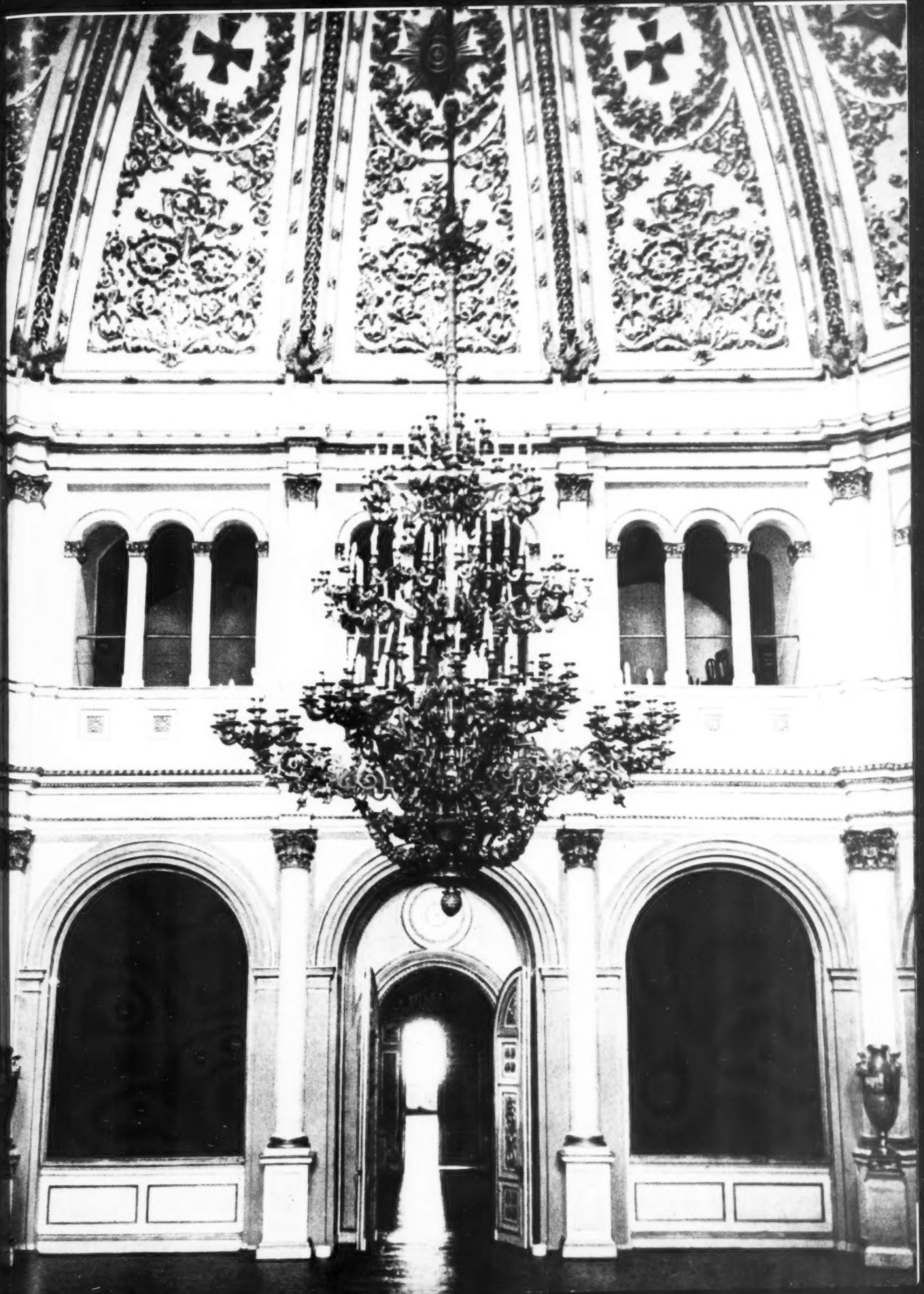
craftsmen of long ago. Once hidden from public view by royal custom, all these, and more, are now part of the heritage of every citizen.

Moscow was founded 810 years ago here, on Kremlin Hill, washed by the Moscow River on one side and the Neglinnaya River on the other (the Neglinnaya has run underground in a conduit since 1826). The settlement was destined to become the capital of a princi-

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THE CHAMBER OF FACETS WAS DECORATED BY ARTISTS FROM THE VILLAGE OF PALEKH, FAMOUS FOR THEIR ORIGINAL FOLK PATTERNS IN TRADITIONAL RUSSIAN STYLE.

EKATERININSKY HALL SHOWS THE SKILL OF OLD RUSSIAN ARTISTS AND CRAFTSMEN.



Kremlin Continued

THE GOLDEN CHAMBER WAS ONCE THE CZARINAS' RECEPTION HALL.





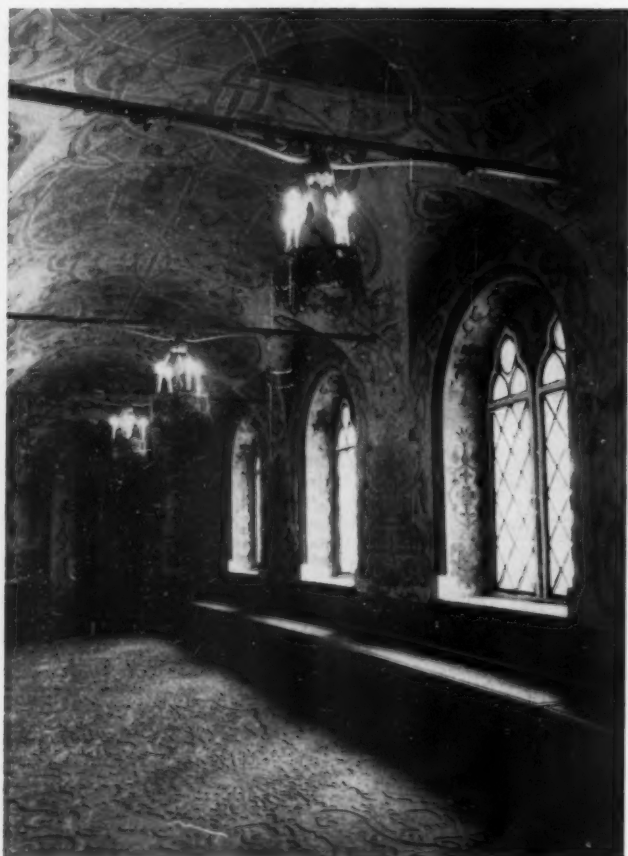
THIS ROOM IN THE WEAPONS CHAMBER CONTAINS MANY GIFTS PRESENTED BY FOREIGN AMBASSADORS TO THE RUSSIAN CZARS.





THE CATHEDRALS GROUPED IN THE CENTER OF THE KREMLIN ARE PART OF THE RUSSIAN ARCHITECTURAL AND HISTORICAL HERITAGE AND ARE CAREFULLY PRESERVED.

HERE IS ANCIENT WOOD CARVING REPRODUCED IN INTERIOR STONE WORK.



Kremlin Continued

CZAR'S STUDY WITH "PETITION WINDOW" IS ONE OF THE KREMLIN'S ANCIENT RELICS.



Continued from page 30

pality that was to unite the Russian lands into a single state. Around the hill an oak wall was erected to safeguard the settlers from enemy raids. In 1367 stone walls were built to replace the oak, and in 1495 red brick replaced the stone.

The massive walls which still stand today are fifteen feet thick and fifty feet high in some places. They form an irregular triangle with a perimeter of 10,000 feet.

Twenty towers top the Kremlin walls. During the sixteenth century the Tatar hordes of the Crimea raided Moscow from the south. The first towers were therefore built on the southern wall, which stretches along the Moscow River.

From the embankment the wall turns north and runs along Red Square. A deep moat once connected the Moscow and Neglinnaya rivers on this side, with drawbridges at three of the gated towers. At the last tower on the east side the wall turns southwest. Here it is hidden by the trees of Alexandrovsky Park.

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Entombed in the Archangel Cathedral are rulers of Russia from Prince Ivan Kalita, who began uniting Russian lands in the fourteenth century, to Czar Peter the Great, famed for his reforms in the eighteenth century.

Recent restoration work on this column in the Cathedral of the Assumption exposed some interesting sixteenth century inscriptions under many old layers of paint.



The Cathedral of the Annunciation was built in the fifteenth century. Its architecture is a striking example of early Moscow style.





AFTER VIEWING THE ART COLLECTIONS IN THE WEAPONS CHAMBER (SHOWN IN THE BACKGROUND) THE VISITORS CONTINUE THEIR TOUR OF THE KREMLIN GROUNDS.

Kremlin

Continued from page 35

Fabulous Collections and Ancient Cathedrals

A slight rise from Borovitskiye Gate brings the visitor to the top of Kremlin Hill. To the right is the Moscow River, to the left is the Oruzheinaya Palata (the Weapons Chamber). This is a world-renowned museum which houses a rare set of old Russian weapons and a very full collection of various samples of Russian art covering several centuries.

Among its rarities is the only existent collection of czarist coronation and audience robes, some going back to the fourteenth century—a display of fabrics embroidered in gold and silver and set with pearls. On exhibit are tiaras and crowns of gold and precious stones, scepters and orbs which were carried as an emblem of sovereignty, inlaid thrones from which the czars held audience, a unique collection of gifts presented by foreign ambassadors to the Russian princes and czars.

Next to the Oruzheinaya Palata stands the Grand Kremlin Palace, built in 1849. It was formerly the temporary residence of the Russian emperors. Now the Soviet Parliament conducts its sessions here. Diplomatic recep-

tions, balls and New Year's parties for Moscow's youth are held in its luxurious Georgievsky and Vladimirsky halls.

Beyond the Grand Palace is Sobornaya (Cathedral) Square. This is the center of the Kremlin. Here, in an architectural ensemble, are grouped the cathedrals, the Granovitaya Palata (Chamber of Facets), the Teremnoi (Chamber) Palace and the Bell Tower of Ivan the Great.

All these buildings are part of the Russian architectural and historical heritage and are carefully preserved by an air-conditioning system which keeps the temperature and humidity constant.

The largest of the cathedrals in the Kremlin is the Uspensky Sobor (the Cathedral of the Assumption), built in 1479. The oldest and most precious of its icons, the Georgi, was painted in the eleventh century, and its frescoes date from the sixteenth to the nineteenth centuries. The Uspensky Sobor was the most important in old Russia. There decrees of state were read, dukes vowed fidelity to the Grand Prince of Moscow, in later times the czars were crowned, and high church

dignitaries, the Metropolitans and Patriarchs, were buried.

Beside the Uspensky Sobor is the Granovitaya Palata, with its great vaulted hall which served as a state reception room and banquet hall for Russian princes and czars. It was here that foreign ambassadors were received and victories celebrated.

The Granovitaya Palata was built in 1491, the oldest secular building in Moscow. Its walls and arches were decorated with paintings in the sixteenth century, but these were not preserved. The frescoes to be seen today were done at the end of the nineteenth century by artists from the village of Palekh, famous for their original folk patterns executed in traditional Russian style.

The Teremnoi Palace, built in 1636, stands behind the Granovitaya Palata. In the Refectory Chamber, the entrance room, the Boyars, a privileged order of old Russian aristocracy, gathered in the morning to wait for the czar to arise. In the second room, the Cross Chamber, the czar held audience.

The third apartment, the Throne Room or czar's study, has the traditionally famous



The Kremlin has two outstanding monuments of old Russian casting art. The King Cannon above weighs 40 tons and was cast in 1586. The King Bell at the right weighs 200 tons and was cast in 1735. Shortly after its completion a large section of the bell was broken off during a fire.



"Petition Window." From this window a box was lowered into the courtyard into which people dropped petitions. Since the petitioners customarily waited a long time for an answer, the box came to be called "the long box." Hence the Russian saying "to put into the long box" means to shelve or to pigeon-hole something.

The fourth room was the czar's bed chamber, and the fifth a chapel. The rich furnishings are in the typical Russian style of several centuries ago.

Icons and Frescoes

To the right of the Granovitaya Palata stands the Blagoveshchensky Sobor (the Cathedral of the Annunciation) with its nine cupolas, built in 1489 in the early Moscow style. Its wall paintings, executed in 1508, blend with the multi-colored agate jasper of the floor. The strikingly beautiful frescoes were found and restored in 1947 after four layers of paint had been removed.

The Cathedral's iconostasis, a partition sepa-

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THIS IS TROITSKAYA TOWER—ONE OF THE TWENTY THAT TOP THE KREMLIN WALLS.



BOROVITSKIYE GATE IS A MAIN VISITORS' ENTRANCE TO THE KREMLIN GROUNDS.

GENERAL VIEW OF GEORGIEVSKY HALL DURING THE NEW YEAR SCHOOL CHILDREN'S PARTY INSIDE THE KREMLIN.



Kremlin

Continued from page 37

rating the sanctuary from the main body of the cathedral, is made up of icons painted in the fourteenth and fifteenth centuries. For a long time the icons were thought to have been destroyed in one of Moscow's fires, but they were found hidden beneath paintings of a later period and were restored in 1920.

Opposite is the Archangel Cathedral. It was built in 1509 on the site of a white stone church erected 176 years earlier. The Archangel Cathedral combines the traditional Russian architecture with certain elements taken from the Italian. Its iconostasis is the work of artists of the fifteenth to seventeenth centuries.

The frescoes, dating back to 1666, were hidden beneath crude paintings done in the eighteenth and nineteenth centuries. Restored in 1955, after two years of careful work to remove the thick paint layers, they revealed a series of extraordinarily vivid paintings with themes that reflect the Russian people's struggle for independence.

The Russian princes and czars, from Ivan Kalita, who began to unite Russian lands in the fourteenth century, to Peter the Great, are buried in the Archangel Cathedral.

The last of the old buildings in Sobornaya Square is the 250-foot Bell Tower of Ivan the Great, erected 450 years ago. It rises high above the cathedrals, like a gigantic white candle, and the sun is reflected warmly from its golden cupola. The Campanile was built originally for military rather than religious reasons, as a lookout to watch for the approach of enemies. From the top of the tower it was possible to see for twenty miles.

At the base of the Bell Tower two interesting relics of Russia's past stand on a stone platform: the huge Czar-Kolokol (King Bell), nearly twenty feet high and twenty-one feet in diameter, and the Czar-Pushka (King Cannon), a piece of ordnance of truly regal proportions.

A Sense of History

Leaving Sobornaya Square, we come to buildings of the more recent Russian classical architecture of the eighteenth and nineteenth centuries. Among them are the old Arsenal, fronted by 900 cannons taken in battles from Napoleon's invading Grand Army, and the former Senate building, designed by the famous Russian architect Matvei Kazakov, which now houses the Government of the Soviet Union.

We leave the Kremlin at the Spasskiye Gates, which open onto Red Square, with a sense of having looked on at the telescoped history of eight centuries, with its inheritance of invasion and battle, of serfs and emperors, of monumental cathedrals and palaces, and of imperishable architecture and great painting.

It was Mikhail Lermontov, the nineteenth century Russian poet, who said, "The Kremlin, with its crenelated walls, its halls, its magnificent palaces, defies description. One must see it . . . One must sense what it tells the heart and imagination." ■



THE BEAUTIFUL ARCHITECTURAL DETAIL AND STATUARY TO BE FOUND IN GEORGIEVSKY HALL IS SHOWN HERE.

THE SPASSKAYA TOWER (ON THE LEFT) IS A PERFECT VANTAGE POINT FOR VIEWING A LARGE SECTION OF THE CAPITAL CITY'S BUILDINGS ACROSS THE MOSCOW RIVER.





YADGAR NASREDDINOVA IS SOMETIMES STERN ON BEHALF OF HER CONSTITUENTS.

Daughter of UZBEKISTAN

By Mark Arkadiev

It is not too long ago, still well within today's memory, that the birth of a daughter to an Uzbek family was a misfortune to be condoled with. The common saying went: "It would have been better if a stone had been born, it could at least have been used to build a wall."

On the day Yadgar Nasreddinova was born, her father, going home from his blacksmith shop, was stopped by an old friend. "A son?" he asked.

Yadgar's father looked away. "A daughter," he replied unhappily.

The old friend, kindly, but rooted in custom that had not changed since the Middle Ages,

shook his hand sadly, in profound sympathy.

When he came home, his wife did not ask why he looked bitter, an Uzbek woman had no right to question even her husband, but she knew. He was sorry for his daughter, her chance for happiness was very remote among a people where women were bought and sold like cattle.

In pre-Soviet Uzbekistan, unhappiness was the common lot of a great part of the population. But even the most unhappy man, poverty-stricken, destined to work out his days for the moneylenders, was a favorite of fortune compared to the Uzbek woman.

From the age of ten she looked out at the

world through an ugly black horsehair veil. In her shapeless robe she was covered from head to foot, the long sleeves tied at the ends, as a lifelong reminder to the world and to the woman herself that she was bound as a slave. Permanently hidden away from the world, a household drudge, fettered by senseless prohibitions—that was the Uzbek woman under the old regime.

It is not too long a step from the narrow twisting lane in which Yadgar was born to the broad, flower-bedecked square in Tashkent, capital of the Uzbek Soviet Republic, where the offices of the Council of Ministers

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IN THE MORNING, AT THE VERY MOMENT SHE GETS INTO HER CAR, ALL THOUGHTS OF HOME DETAILS AND FAMILY LIFE ARE PUT ASIDE AND THE WORKDAY BEGINS.

FREQUENTLY SHE MAY VISIT WITH FARMERS IN THE FIELDS WHEN THE COTTON, "WHITE GOLD," IS RIPENING, FOR THIS CROP IS UZBEKISTAN'S CHIEF SOURCE OF WEALTH.



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A LARGE GROUP OF YOUNGSTERS FROM THE NEARBY COLLECTIVE FARM SURROUND THEIR WELCOME GUEST.



AT THE AIRPORT YADGAR NASREDDINOVA WAVES FAREWELL AS SHE LEAVES BY PLANE ON OFFICIAL BUSINESS.

IT'S FUN FOR THE CHILDREN WHEN MOTHER CAN SPEND SOME TIME AT HOME AFTER BEING AWAY.



Daughter of UZBEKISTAN

Continued from page 40

are located. But it is a very long step and a very great one indeed, in the light of the present status and position of Uzbek women. On the third floor of this building is the office of the Vice-Chairman of the Council of Ministers, Yadgar Nasreddinova.

With the Revolution, Uzbek women stepped across centuries, to new thoughts, new customs, a new way of life. And with them, the nation moved within a matter of a few decades from feudalism and superstition to a modern economy and universal education, with opportunities open to everyone, men and women alike.

The young men and women, and older people, also, to all of whom our present-day knowledge had been closed, flocked to the secondary schools and colleges that were established. At first, for lack of Uzbek teachers, Russian scholars and scientists did the teaching. Then as time passed, Uzbek teachers in all areas were trained. Before the Soviets, only two out of every hundred Uzbeks could read and write; today there is universal literacy.

Uzbekistan higher education at present is more highly developed than in any other country in the East and in many Western countries. Eighty-one out of every 10,000 people in the population go through college or some other institute of higher education. This is twice as many as France and seven times as many as Turkey. There are Uzbek engineers, physicians, scientists, writers and artists.

Yadgar Nasreddinova took early advantage of the opportunity for education. She received her diploma in engineering and did unusually well in her profession. She took an active part in public affairs and was elected, with a large women's vote, to the Supreme Soviet, the parliament of the Uzbek Republic. When the ministry was formed, her name was proposed to head the newly created Ministry of Building Materials in recognition of her outstanding work both as engineer and administrator. This ministry grew out of the need for a central agency to allocate the materials required for the steadily growing construction of modern apartment houses, schools and industrial buildings.

Construction and building is only one manifestation of Uzbekistan's development. With an area larger than Italy and a population equal to Australia, the republic grows millions of tons of cotton, raises vast herds of Astrakhan sheep, makes steel, mines coal, extracts oil and produces hydro-turbines, fertilizers, cotton harvester combines, machine tools, beautiful silks, and numbers of other products. It is a country rich in potentialities, in accomplishments and in challenge.



COLLECTIVE FARMER SAODAT GULAKHMEDOVA IS MORE THAN PLEASED TO SHOW HER IMPORTANT GUEST THE NEW CARPET, WHICH SHE WOVE WITH HER OWN HANDS.

That challenge Yadgar Nasreddinova and the women of Uzbekistan have taken up. In the government formed after the last elections to the Supreme Soviet, Nasreddinova won the post of vice-chairman of the Council of Ministers.

Perhaps one postscript should be added to this story of a woman born in an Uzbekistan where a daughter once had less value than an animal.

Yadgar's mother wept when she learned that her daughter wanted to go to college. She tried to dissuade her for fear that no man would be willing to marry her. Learning was for men. Yadgar smiled and assured her mother she would have grandchildren.

Nasreddinova has a husband and a family, with whom she spends whatever time she can snatch from her official duties. She is a devoted mother, an honored public official and, to all Uzbekistan women, the embodiment of the status which women have won for themselves in Soviet life. ■

SOMETIMES THERE IS NO PEACE AND QUIET, EVEN AT HOME, BECAUSE OF IMPULSIVE MAGAZINE REPORTERS.





DESPITE HIS EARLY STARDOM, VITYA IS REALLY ALL BOY, AND HE TAKES PART IN THE GENERAL HORSEPLAY AND GAMES THAT ALL YOUNGSTERS LOVE.

An Actor at

Although only eight years old, he has already appeared in four films and his fifth is to be cast soon. This young screen actor is Vitya Koval, second-grade pupil in School No. 240 of Moscow.

His "career" began as follows. Preparations were under way at the Gorky Film Studios of Moscow for filming an adaptation of *Toward the New Shore*, a novel by the Latvian author Vilis Lacis. The leading parts had already been assigned, but it was not so easy to find a player for the role of Aivar as a child.

"Do you realize, Mother, I have not yet found a boy for Aivar's role. None of the boys we have tried will do, and we have to begin production," complained Nora Muller, assistant producer.

"Suppose you look at the boy next door, Lydia's son, he's quite a bright lad. Perhaps he'll do."

The interview was arranged, and on the following day Vitya Koval, a Soviet officer's son, was introduced to Ilya Frez, the producer.

"What sort of an Aivar would he be with that pug nose of his?" said the producer, ready to dismiss him. Nevertheless he made a few trial shots, and Vitya passed the test with credit.

That was just the beginning. The "actor's work" was attended by many disappointments.

For example, it was very hard to shed real tears in the scene where Aivar mourns the death of his mother. Much film was wasted.

"No matter how I try, I can't cry," complained the boy. Nevertheless, Aivar does cry in the film, but that is the work of cinematography technique.

Shortly after the film *Toward the New Shore* was released for the screen, Ilya Frez gave Vitya one of the leading parts in his new film for children, *Vasyok Trubachov and His Pals*. Practically at the same time the boy received an offer to play in *The Rumyantsev Case*, produced by the Leningrad Film Studios. The film gained great favor and there was not a spectator who did not like the flaming redheaded, freckle-faced Sashka from the children's home. That was Vitya Koval. But he is not really a redhead.

Two important events were marked recently in Vitya's home: firstly, he completed the first term at school with excellent marks, A's in all subjects, and, secondly, the new animated cartoon, *Bragging Hare*, in which the young screen actor dubbed in the sound for the role of the little schoolboy, appeared on the screen.

The Moscow Film Studios is now at work on the second film of the series based on Konstantin Fedin's novel. *An Unusual Summer*, where Vitya will play the part of Vanya, the son of a ruined landlord.

But Vitya doesn't want to become an actor. He spends a lot of time at the piano, and he is quite good at drawing.

Before concluding this illustrated story I dropped into the school where Vitya Koval is studying. Walking up the stairs I noticed a boy consoling a little girl who was crying. She had gotten a C in some subject. Coming closer I recognized Vitya Koval, and it was at that moment that I took the snapshot on the far right.

"Honest, I'll help you get a better mark," assured Vitya, "and I promise to take you to the studio. You'll see lots of interesting things there!"



VITYA, A FINE STUDENT, IS NOT TOO TAKEN WITH ACTING AS HIS LIFE WORK. HERE HE CONSOLES A GIRL CLASSMATE WHOSE GRADES HAVE BEEN A LITTLE LOW.



PIANO LESSONS HOLD HIS INTEREST NOW. BUT AT 8, HOW CAN A FELLOW BE SURE? ▶

Six



By Miroslav Murazov

FREE 57 UM



MIKHAIL MARGOLIN DESIGNED A PISTOL THAT FIRES 100,000 SHOTS WITHOUT LOSING ITS ACCURACY.

He made a gun he never saw

By Victor Maryanovsky

"I'll bet that's the end of the Russian success," said the reporter of a European newspaper, holding out his hand to his partner in the conversation.

The latter shook his head noncommittally.

"Don't be so sure. I heard they brought a new pistol. Said to be an excellent piece."
"Nonsense! Mark my word. . . ."

That conversation took place in November, 1954, at Caracas, the capital of Venezuela, at the time of the competitions for the world title in marksmanship. Rifle competitions had just ended with a notable victory for the Soviet team, and small-bore pistol shooters were due to begin.

There was logic in the reporter's arguments. The Russians could not boast of great achievements in competitions of this kind in the past; they had nothing to match even the German Walter, or the American Colt.

Then Nikolai Kalinichenko took his place

at the firing line. The first shot, the second and third, and every bullet hit the target. Two days of competitions, sixty shots and Kalinichenko scored 584 points. The world record set by Benner, an American, was beaten. The team record was also carried off by Soviet marksmen who scored 2,317 using the new pistol.

The pistol which helped to gain the victory was resting calmly on Kalinichenko's palm. Correspondents and athletes crowded around him.

"Can you tell me if this pistol was made in Russia?" asked the reporter who was offering the bet, with a note of incredulity. "Who is the designer?"

His first question answered in the affirmative, the correspondent jotted down in his notebook the name "Margolin" and went away. But the reporter missed the real story. The designer of this pistol had never even seen it.

Before and After

The corner of a small room. Ancient firearms are hanging on the walls, and there are books on the shelf. Next to it is a bed and a plain night table. There is a vice fastened to the table, and on the table are files, little hammers, a brace and other tools. A stocky middle-aged man stands near the table. In his hands is a small piece of wood with cardboard "parts" attached to it by two nails. The man's fingers move carefully over the mechanism, "watching" its inter-action.

"Still too short!" he murmurs, and, putting the piece of wood aside, he picks up scissors and begins to cut a new part out of thick cardboard.

I watched every movement with interest.

His wife, Kira, entered the room.

"Well, recluse, locked up in your cell again? Victor's late for some reason. Don't you think we ought to have our dinner?"

While my host was washing his hands, the bell rang and his 18-year-old son came in. He was sullen and taciturn.

"He just can't get over having missed the university by one point," his mother whispered to me. "He's working at the Historical Museum for the time being. He wants to try his luck again this year."

"Never mind," said Margolin, coming over to us. "He'll get there."

Margolin Sr. was not pampered by fate. He was just a little older than his son is today when a merciless bullet cut his life into two parts: "before" and "after." "Before" means 19 years, youth itself! He had been working in a factory as a lathe operator's helper, and had a record of service as a Black Sea sailor and as commander of an army platoon.

Then came "after." The year 1924.

How was he to go on living? There were moments of despair when everything seemed lost and he himself seemed useless. But he finally overcame those feelings. His friends helped. They kept him informed about the developments in the world, read books and newspapers to him, walked with him in the street.

It was more difficult to settle another question: "What was he to do, how was he to learn to use his hands?"

Margolin's hobby had been firearms. During his service in the army he had handled various pistols, the Smith & Wesson, the Colt, the Nagant. He was familiar with their design to the minutest detail; now that he was blind, he often caught himself thinking of changing various parts of pistols, simplifying and improving their design.



MARGOLIN'S HANDGUN PLACED FIRST AT CARACAS

"You sure are aiming high!" he thought bitterly. "Was there ever a blind designer? And I don't even have the education and special training, only three years of elementary school."

It took nerve to dream of designing with the little knowledge he had and with his handicap. But he didn't stop at dreaming.

To begin with, he began to study Braille. Then he proceeded to study mathematics, mechanics and strength of materials. His wife and his friends helped him by reading aloud from textbooks and books on the history of firearms. But most important was his splendid memory. Within a few years he was a good match for any engineer. As for firearms, there was no disputing his superiority.

In the early thirties he started to design sports weapons. His first two pistols were failures. It was a difficult job; he was unable to sketch the parts on paper, explaining his thoughts literally with "his fingers."

A way out was found unexpectedly when Margolin was at a sanatorium, bored by idleness.

"Suppose you try clay modeling, that may be interesting," suggested his roommate.

At first he worked on animal figures: elephants, tigers, horses. They were pretty good. And then he decided to try modeling parts of firearms. It turned out to be an excellent idea.

But it was a long time before he produced his first successful design, that of a semi-automatic sporting rifle. It appeared in 1934.

"Margolin" on the Firing Line

Margolin received an offer to work at a designing office in Tula, home of famous Russian armor-makers. June 21, 1941, was a memorable day for Margolin. After the tests



KNOWLEDGE OF BRAILLE, A SHARP MEMORY, AND CAREFULLY SELECTED READING—ALL ARE VERY HELPFUL.

his pistol was recommended for serial production. On the following day, however, sports pistols were forgotten, for the first Hitlerite bombs were dropped on the USSR.

During the war Margolin worked as an ordnance engineer. He developed many new ideas at that time. When the war was over, he himself scrapped the pistol recommended for serial production, and within eighteen months designed an entirely new weapon which brought victory to the Soviet sportsmen at Caracas.

What sort of a pistol is it, and what are its merits?

Margolin's pistol is a self-charging automatic weapon with a free, open breech-block. Its magazine, lodged in the handle, has room for ten 5.6-millimeter lateral fire cartridges. Unlike the hitherto known systems, this pistol has the sight mounted on the static tough base which is fastened together with the handle frame. This has secured an independent sight.

The barrel groove has been changed. It has six notches with a broader pitch, and a special cartridge chamber protects it from rapid wear. The experience of the rifle clubs has shown that Margolin's pistol may be used for years. It will take more than 100,000 shots without losing its accuracy and infallible action. The designer has equipped it with equalizers and a handle which is convenient for any hand.

Margolin is now working on a match pistol. "The Americans, Norwegians and Germans have excellent armor makers of their own," he says. "And, of course, they are always working on new ideas for sporting firearms. It takes some stepping to keep up with them."

Speaking of his new pistol, Margolin said: "I have made new calculations for the sight, changed the dynamic stock drastically and made the handle incline more convenient. There will be a new locking system and muzzle fastenings."

The working drawings for the new match pistol were prepared by Margolin with the help of his assistant Kim Otomanenko, a young engineer. Their teamwork is rather interesting. Margolin dictates the drawings, using the models of mobile, fairly complex sections of the machinery he prepares himself. He makes them of cardboard, wood, metal, and some items are modeled of clay or wax. The designer and draftsman have thus found a common language which is simple, understandable and visual.

Margolin has great plans for the future. In a year or two, perhaps, a new pistol will be used in international marksmanship competitions, one that will increase the fame of this remarkable designer. ■

CARDBOARD PARTS MOUNTED ON WOOD ARE A MEANS OF ASSISTING MARGOLIN TO TEST HIS NEW IDEAS.



FREE 57 UM



BEFORE GOING TO WORK, POLYA TAKES LITTLE VEROCHKA TO THE NURSERY.

the whole town adopted

“LITTLE MAMA”

Polya Kalyadina of Serpukhov, a town near Moscow, does not know what to do with the toys and dolls that people all over the country have been sending for her newly acquired three children. That's not all. The postman brings dozens of letters every day from folks she doesn't know.

The gifts and letters started coming last October, when an article about Polya and the children appeared in the Moscow youth newspaper *Komsomolskaya Pravda* under the title "Little Mama."

The three Kozlov children—thirteen-year-old Victor, seven-year-old Tolya and year-old Vera—were left orphans in January of last year. Both their parents were killed in an accident. Victor escaped death by a hairbreadth but lost his sight.

Neighbors took turns caring for the children until some permanent arrangement could be made. There were any number of offers to adopt the children singly. An engineer at the plant where the father had been employed wanted the baby, another wanted to adopt the seven-year-old, but there was no one ready to take on the responsibility of bringing up all three. Victor was in the hospital then and he was to enter technical school as soon as he recovered.

Arrangements had almost been completed for separating the three children when Polya stepped into the picture. She was a distant relative of the Kozlovs and was insistent that under no circumstances should the family be broken up.

Mrs. Valentina Arkhipova, who was trying to make arrangements for the children, explained that there was no alternative, since there was no one willing to adopt the three together.

Polya said, "I want to adopt them."

Valentina stared at the young girl. Polya is only a few years removed from childhood herself. "My dear, I don't think you know what you're saying. You haven't the faintest notion of the responsibility and the difficulties." Mrs. Arkhipova has three of her own and she spoke from experience.

But Polya was adamant. She knew what was involved, she liked children, she was the only relative and she wanted them. She spent the afternoon trying to persuade a very reluctant Mrs. Arkhipova, who finally agreed to take up the matter with the head of the City Council.

The City Council chairman, when consulted, agreed immediately. A relative? Fine. Mrs. Arkhipova tried to explain that the girl was very young, but apparently that didn't register. She was to send the relative to see him and he would conclude the arrangements.

Polya came to see the chairman. He took one look, sent her packing and phoned Mrs. Arkhipova. "Are you out of your senses," he yelled, "to entrust three children to a slip of a girl? I won't hear of it." And that was that.

But Polya is a stubborn young lady. She had been living in the Kozlov home for three days now. She was getting along fine with the children and the littlest one was calling her mama. They were her children, she had decided, and nobody was going to take them away from her.

There were conferences, talks and arguments until everybody but Polya was weary. The chairman explained for the hundredth time that it was not only the two younger children but a blind boy that she would have to raise. Polya knew that, it was all right with her, she liked the children, the children liked her, she was the only relative and she went through the same speech, also for the hundredth time.

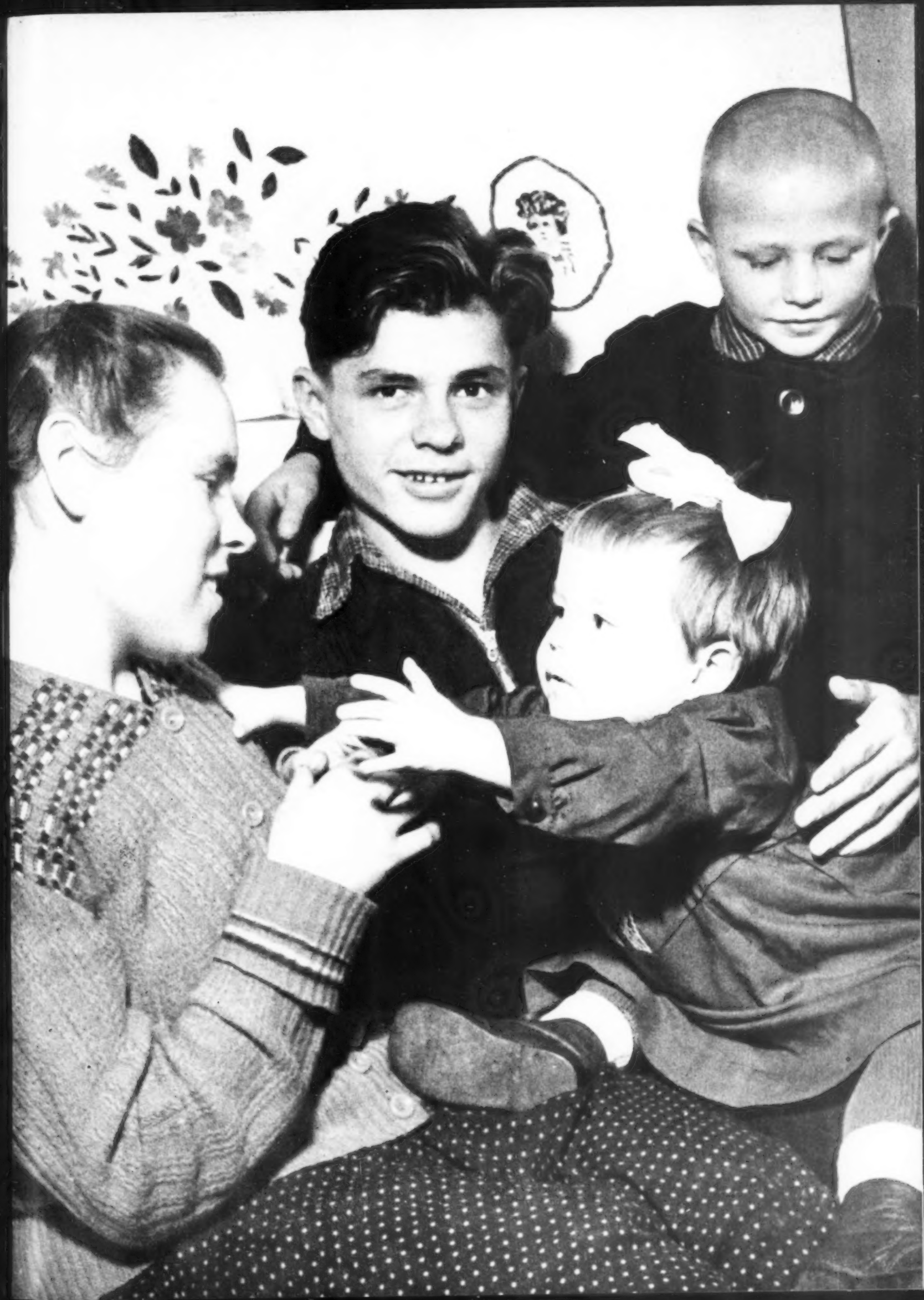
The authorities finally broke down and gave her temporary custody

Continued on page 50

THE "LITTLE MAMA" WITH ALL HER CHILDREN: VITYA, TOLYA AND VEROCHKA. ►







"LITTLE MAMA" *Continued from page 48*

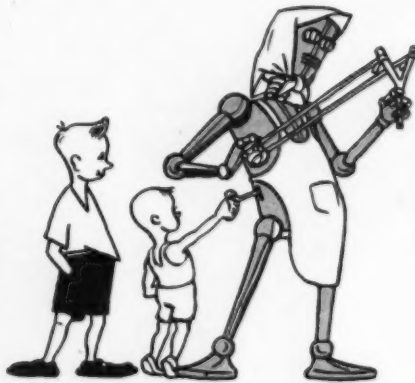
of the three children. Then everybody in Serpukhov, stirred by the fight Polya had put up, set out to help her do a good job—the superintendent of the plant where Kozlov had worked, teachers in the school the children attended—the whole town adopted "Little Mama." Practically every physician in Serpukhov examined Victor, Moscow eye specialists were consulted, and when they reported that the boy would regain his sight, Serpukhov staged a minor celebration.

It's about a year now since Polya took over. Her job at the local textile mill pays well, and with the state pension the orphans receive there is no problem of money. Victor can see as well as he did before the accident, the other two children are getting along fine at school. Everybody in town is pleased at the way things have turned out, and even the City Council chairman, in a forgetful moment, was heard to congratulate himself for his foresight in recognizing that Polya would make a wonderful mother the first time he set eyes on her. ■

Victor assists his "little mama." Before Tolya is allowed to go out, his older brother sees to it that he is properly dressed for the cold weather.



**Cartoonists
Corner**



LOOK, I'VE FINALLY FOUND THE RIGHT KEY!



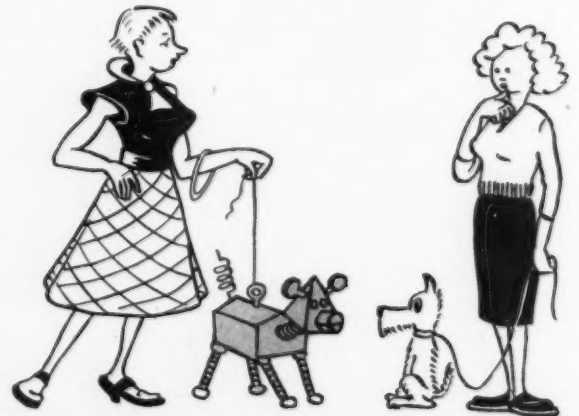
THE DESIGN'S GONE HAYWIRE! NOW I SEEM TO CATCH ONLY FROGS.



WHERE DID THE SOLE COME FROM? MUST HAVE PRESSED WRONG BUTTON.



SOMEBODY FORGOT TO ADJUST A FEW SCREWS—THE ONES TO CONTROL FOUL PLAY.



LET'S FACE IT, MY DEAR. THIS IS REALLY THE LATEST STYLE.

A Melody Reborn

by Zinaida Feodorova



THE ORIGINAL SCORE WAS OBLITERATED AND THE COMPOSITION COMPLETELY DISTORTED.

A Tchaikovsky Composition Resurrected

Music lovers are familiar with Peter Tchaikovsky's *Rococo Variations*, but very few know the curious history of this composition. The composer dedicated the *Variations* to a certain Professor Fitsengagen, of the Moscow Conservatory, and gave that worthy his single final copy. The Professor, a man of decided opinions but of very limited imagination and vision, thought the fresh melody too unadorned and the charming simplicity too "primitive," and thereupon proceeded to alter Tchaikovsky's music to suit his own taste.

Fitsengagen armed himself with a knife, eraser and sealing wax and set to work. He changed notes, altered phrases, erased whole passages and substituted others, blithely distorting the composer's conception and theme development in the process. He covered some lines in the manuscript with sealing wax and then pasted his own "variations" over the original text.

More than with most composers, each of Tchaikovsky's scores is a very personal and emotional record. He was, therefore, most disturbed and violently angry when the manuscript was returned to him in this disfigured shape, particularly since he had no copy and had discarded even the rough notes from which he had worked.

Early in 1877, Tchaikovsky gave the mangled score to a favored pupil, the cellist Brandukov. In 1930, Professor Brandukov gave it in turn to his pupil, Victor Kubatsky, now professor at the Gnesin Music Teacher's Institute in Moscow. "This is more than a curio," he said. "Keep in mind that the real Tchaikovsky is hidden under that mess of sealing wax and paste."

Professor Kubatsky kept it very much in mind. In 1932 he undertook the almost impossible task of restoring the original score. But Fitsengagen had done so thorough a job that musicians were certain that Kubatsky had no chance of success. In some spots the erasures were so deep that the notations on the other side of the page could be seen through. In others, the gobs of sealing wax could be removed only with the paper attached. To make the task more difficult, the changes were made in a handwriting very similar to Tchaikovsky's and with the same kind of ink.

Kubatsky studied samples of handwriting of Tchaikovsky and Fitsengagen under a magnifying lens for comparison. Tracing the consecutive clues supplied by the parts of the text which Fitsengagen had mercifully left unchanged, he gradually resurrected the original score. It took him twenty-three years to do it. But even after that he delayed publishing the score. Although musicologists agreed that the score was Tchaikovsky's own, Professor Kubatsky himself wanted additional

evidence. He asked art experts at the Tretyakov and other museums to work over the manuscript, but they thought the restoration much too difficult and risky. As a last resort he appealed to criminologists.

One of the experts at the Criminology Research Institute, Arkadi Purtov, a good amateur musician in his own right with a special fondness for Tchaikovsky's music, became interested in the project. He put all the latest crime detection apparatus to work, made innumerable chemical tests and photographed the manuscript some three hundred times. With ultraviolet and infrared rays he was able to reveal Tchaikovsky's notes under Fitsengagen's erasures. The manuscript was slowly and painstakingly restored. When complete, it read exactly as Kubatsky had anticipated.

The original *Rococo Variations* as the composer wrote them will be published for the first time in the State Music Publisher's edition of Tchaikovsky's collected compositions. They are to be issued in the very near future.

(Reprinted from the newspaper *Evening Moscow*)

PROFESSOR KUBATSKY WATCHES PURTOV WORK ON THE MANUSCRIPT'S RESTORATION.









In Life's Sunset

AN OLD PEOPLE'S HOME

By Alexei Grigoriev

Old age brings its own problems, but the most tragic one is insecurity—the need for shelter, food, clothing. In the Soviet Union the scrap heap for the aged and infirm was leveled years ago. The old age pension system, expanded and enlarged last fall, provides a basic guarantee for security in old age.

This, however, does not meet other problems: loneliness, for example, which is so common a feeling with people of advanced years.

For most old people, the strong family tie which has always been a characteristic of Russian life ensures that the aged spend their declining years with members of their own family, sons, daughters, or near relatives. But there are people who, by the hazards of life, are left alone.

Ignat Bokov is an old man. His wife died, his four children perished in the war.

Stepan Barinov, almost ninety, is totally blind. He has no family.

Valentina Karpinskaya had worked as a children's nurse all her life. She helped raise thirty-nine children. She never married.

These are short case histories of loneliness.

To provide some measure of companionship for these people who have no kin, there are homes for the aged in every city of significant size in the Soviet Union, set up and supported by allocations provided for in the budget of the city council.

Moscow has ten such homes which take

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◀ "THERE IS A SHOT THAT'S REALLY IN THE BAG!"

LADIES RECALL STORIES OF THE PAST AND GOSSIP OF THE PRESENT WHEN THEY CHAT BY THE FIRE.

In Life's Sunset

Continued from page 53

care of 3,000 old people and are maintained by a budget of 35 million rubles yearly.

Besides the old people's homes supported by the local city councils, homes are maintained by various public organizations. The All-Russian Theatrical Society, for instance, has homes for stage veterans in Moscow and Leningrad. The Union of Soviet Composers recently built such a home for its old people.

Women past 55 years and men past 60 without close relatives to look after them are admitted to a home for the aged if they so choose. This holds true for chronic invalids also, without regard to age.

The state is required to make full provision for the maintenance of those people who live in homes. If the pension received by the aged person or invalid is larger than the cost of his maintenance, he receives the difference. If his pension is smaller than the cost of his maintenance, the old person or invalid receives a minimum of 50 rubles a month for pocket money.

Here is something of a picture of the home for the aged to which Valentina Karpinskaya was admitted. She came with the normal qualms and hesitations of all people, wondering whether she would like it, whether she could, so late in life, adjust to a place inhabited by so many other old people, each with his individual quirks.

But there was a hospitable spirit she sensed as soon as she crossed the threshold which made her feel at home and wanted. Even the physical surroundings—the walls painted in light soft colors, the rugs, the lace doilies on the small tables—were pleasant and warm and easy to live with.

The bedrooms fitted with comfortable, pleas-

ant furniture, the linens, the drapes on the windows, the flower vases, the private corners of the room fixed up by each one to his own taste gave her a feeling of rooms that were lived in. One of the women had hung a group of photos of old friends above her bed, another a piece of embroidery, another a reproduction of a painting.

There is a routine and a tradition which develops in these homes very quickly, as it does in any family or with any group of people who live together. It was customary, Valentina Karpinskaya found, for one of the old people to read the newspaper aloud every morning to whoever wanted to listen. The talk which followed the reading—a news item, a play or movie, a new book—sometimes moved from calm discussion to heated dispute and argument. Here, as elsewhere, people had their own decided tastes and differing temperaments which inclined to erupt under argument. But the group was friendly and companionable and, on the whole, got along pretty well.

The days in the home are filled with chess, dominoes, billiards, radio and television broadcasts. There is a library of books by both the classic and modern writers, Russian and foreign.

The women spend many hours knitting, embroidering and making lace doilies, table runners and pillow cases. Gardening is a favored activity for many of the less infirm people, and in season the dining rooms and bedrooms are filled with flowers grown and tended by the old people.

Arts and crafts keeps many of the old people busy and interested. Visitors from the nearby villages were recently invited to an exhibition of the varied handicrafts. Concerts are often given at the home, films are shown regularly and theater groups from the city are brought in to perform. Lectures are popular. After one heated discussion on art which arose

out of a magazine article, a lecturer from a nearby art museum was asked to talk on modern painting. Another time there was a good deal of interest in dreams, and a psychiatrist was invited to lecture on sleep and dreams.

The home has a staff of doctors and nurses, and specialists in geriatrics are on call. Its clinic is open twenty-four hours a day.

Four times a day this large family of old people gathers in the dining room. And as with all families, birthdays are reasons for festivity. The seventy-seventh birthday of Pavel Vinogradov, for example, was observed with a cake baked for the occasion by the chef.

In good weather the old people walk in the garden which surrounds the house or sun themselves in the wicker chairs scattered through the garden lanes. For those who cannot walk, there are wheel chairs and attendants.

They gather in small groups to exchange stories and to reminisce. Stepan Barinov always has a group of listeners around him. He has an inexhaustible fund of stories and a gift for telling them. Born in 1868, he is the oldest person in the home. Like many people who are blind, he is meticulous about his appearance, always carefully shaved, always neatly dressed. Without people of his own, he seems to have found a measure of happiness in the companionship of the friends he has made at the home, and whatever moments of grief and perhaps bitterness he may have at the ravages of time are not evident in his talk and animated stories.

There is no feeling of charity about the home. On the contrary, there is the dignity which comes with a secure old age. These old people have lived out the major portion of their lives. They have earned the right to peace, to unworried rest, and to friendly care. ■

THE COOK PRESENTS HAPPY PAVEL VINOGRADOV WITH A BIRTHDAY CAKE ON HIS 77TH BIRTHDAY IN THE PRESENCE OF HIS FRIENDS HERE IN THE DINING ROOM.



TBILISI

City of Sunshine

By Nikolai Mgeladze

Tbilisi, capital of the Georgian Soviet Socialist Republic, is a city of sunshine. Its skies are a clear warm blue most days in the year. Even its name is aptly descriptive, "Tbili" in Georgian means warm.

The inhabitants of the Georgian capital seem to bear out its name. The people are gay and light of heart. Their city amid its mountain setting saturates them with energy. Warm evenings encourage a full social life. There are parties, strolling couples, and the streets are filled with laughter.

From the top of Mta Tsminda, the "Sacred Mountain," it seems as though a sculptor's hand might have carved the city out of the mountains surrounding it. The Kura River, over past geologic ages, cut its way through the folded mountain belt and chiseled a great unfinished bowl. This has shaped the city.

Tbilisi is built along both banks of the Kura River. On the left bank it is cut short by the spurs of the Makhat Mountain, but the bowl is open to the north side and it is in this direction the city has grown.

The river terraces give Tbilisi its distinctive character. The altitude of the downtown section, around the Metekhi Bridge, is 1,300 feet above sea level, but the streets, built on the sides of the Mta Tsminda Mountain, slope upward to a steep 1,600 feet and more. You climb by funicular railway.

Tbilisi is an ancient city. It figures in the chronicles of the Transcaucasian people as far back as fifteen centuries ago. Its history is one of wars and invasions—by the Macedonians, the Romans, the Persians, Byzantines, the Seljuk Turks, the Mongol hordes of Genghis Khan. Successive conquerors besieged and destroyed the city. But like the phoenix of legend, Tbilisi was each time reborn out of its ashes.

The last invasion was in 1795, when Georgia was ravaged by Agha Mahommed, shah of Persia. The Georgians appealed to Russia. In return for Russian help in driving out the invaders, the king of Georgia renounced his crown, and in 1801 Georgia became a province of Russia. With the end of invasion and internecine wars, a new era of peaceful development opened up for the country.

Tbilisi then was a city of some 20,000 people, with 3,000 houses, 200 stores and 200 small handicraft shops in which artisans worked in chased metals, fashioned weapons, jewelry, musical instruments, fine leather boots and fur caps. Tbilisi was also a trading center, and both its commercial and social life was concentrated in the market places, the

Continued on page 57



TBILISI'S MAIN AVENUE IS NAMED FOR SHOTA RUSTAVELI, FAMOUS GEORGIAN POET OF THE MIDDLE AGES.



NEW TBILISI IS GRACEFULLY MODERN, AND IT IS RATHER DIFFICULT TO REALIZE THAT THIS ORIENTAL CITY WAS FOUNDED AS FAR BACK AS FIFTEEN CENTURIES AGO.

FLOWERS IN ABUNDANCE IN BOTH SHOPS AND PARKS ARE A COMMON SIGHT.



A CLASS IN GYMNASTICS AT ONE OF TBILISI'S YOUTH RECREATION CENTERS.





A TBILISI METAL WORKER RELAXING AT HOME WITH THE DAILY NEWSPAPER BEFORE DINNER IS SERVED BY HIS WIFE.

TBILISI—City of Sunshine

Continued from page 55

great open courts where caravans stopped over for the night, and in the inns and taverns.

Until the early part of the nineteenth century, Tbilisi was a town of narrow streets and alleys, of houses with flat oriental roofs and overhanging balconies.

Then new districts began to grow, and they were modeled on the European tradition. Soon Tbilisi developed into an important railway junction. This accelerated the expansion of the city. By 1865 its population had grown to 71,000 and by 1917, to 246,000. Today it has a population of 650,000. In the last quarter century Tbilisi has doubled its area and housing.

After the 1917 Revolution Tbilisi became one of the large industrial centers of the Soviet Union. Its growth proceeded along three main lines—machine manufacturing plants were built; new light industry and food processing plants were constructed and old ones modernized; and electric power resources were developed.

The nature of Tbilisi's present industries are illustrated by a machine-tool plant which produces complex metal-cutting machines for Georgian factories as well as for factories elsewhere in the Soviet Union and by other

plants which turn out machines for wine-making and for food industries generally, textile machinery, precision instruments, electrical equipment and farm tools. A new locomotive-building plant was opened recently. Three new hydroelectric stations have played an important part in industrializing Tbilisi.

There has been a sharp increase also in Tbilisi's output of consumer goods. Silk and cotton cloth, shoes, knitgoods, tea and wines carrying the Tbilisi trade-mark are on sale everywhere in the Soviet Union. The city has six new mechanized bakeries, one chocolate and four confectionary factories, a large creamery, a meat-packing plant, a cold-storage plant, a macaroni factory and four breweries.

Tbilisi is the cultural center of Soviet Georgia. Besides theaters, museums and libraries, it houses the Georgian Academy of Sciences, 77 research institutes and ten colleges.

Tbilisi University has an enrollment of 6,000 students of 30 different nationalities. The Polytechnical Institute and the Railway Engineering Institute train engineers for industry, building and transport. Georgia's highly diversified agriculture gets its specialists from Tbilisi Agricultural Institute graduates. The city has a medical college, a conservatory, an art school, and two teacher training schools.

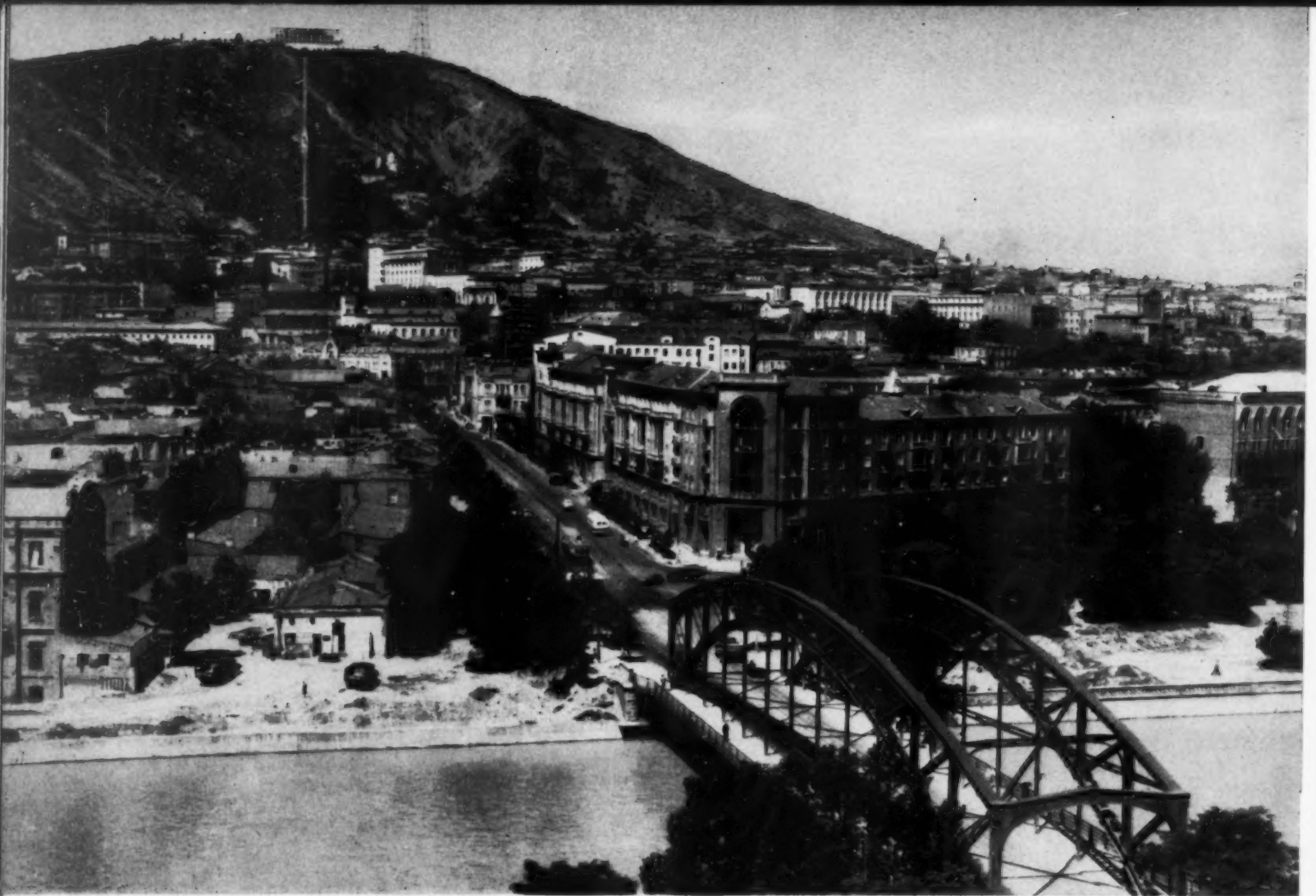
Among Tbilisi's museums, the Janashia, with its valuable historical and natural history collections and its rich library, is the most famous. The Georgian Art Museum has an impressive collection of old and modern paintings and sculpture.

The city has many theaters, among them the Rustaveli Dramatic Theater, the Palashvili Theater for opera and ballet, the Griboyedov Russian Theater, the Marjanishvili Georgian Dramatic Theater and two theaters for young people. They present both classic and contemporary Georgian plays, Russian

Continued on page 58

TBILISI-MADE MACHINE TOOLS ARE OFTEN SEEN IN CITIES AND INDUSTRIAL CENTERS ALL OVER THE COUNTRY.





ALTHOUGH TBILISI HAS DOUBLED ITS AREA AND HOUSING IN THE LAST QUARTER CENTURY, YOU'LL NOTICE IN SOME PARTS OF THE CITY SIGNS OF ITS LONG HISTORY.

TBILISI—City of Sunshine *Continued from page 57*

plays and the work of foreign playwrights.

A great deal has been done in recent years to beautify and improve the city. The main streets are now wide thoroughfares, lined with maple, cedar and lime trees. The many new residential and public buildings combine modern building techniques with Georgian national architectural forms in a functional and aesthetic harmony which was achieved only after much trial and error.

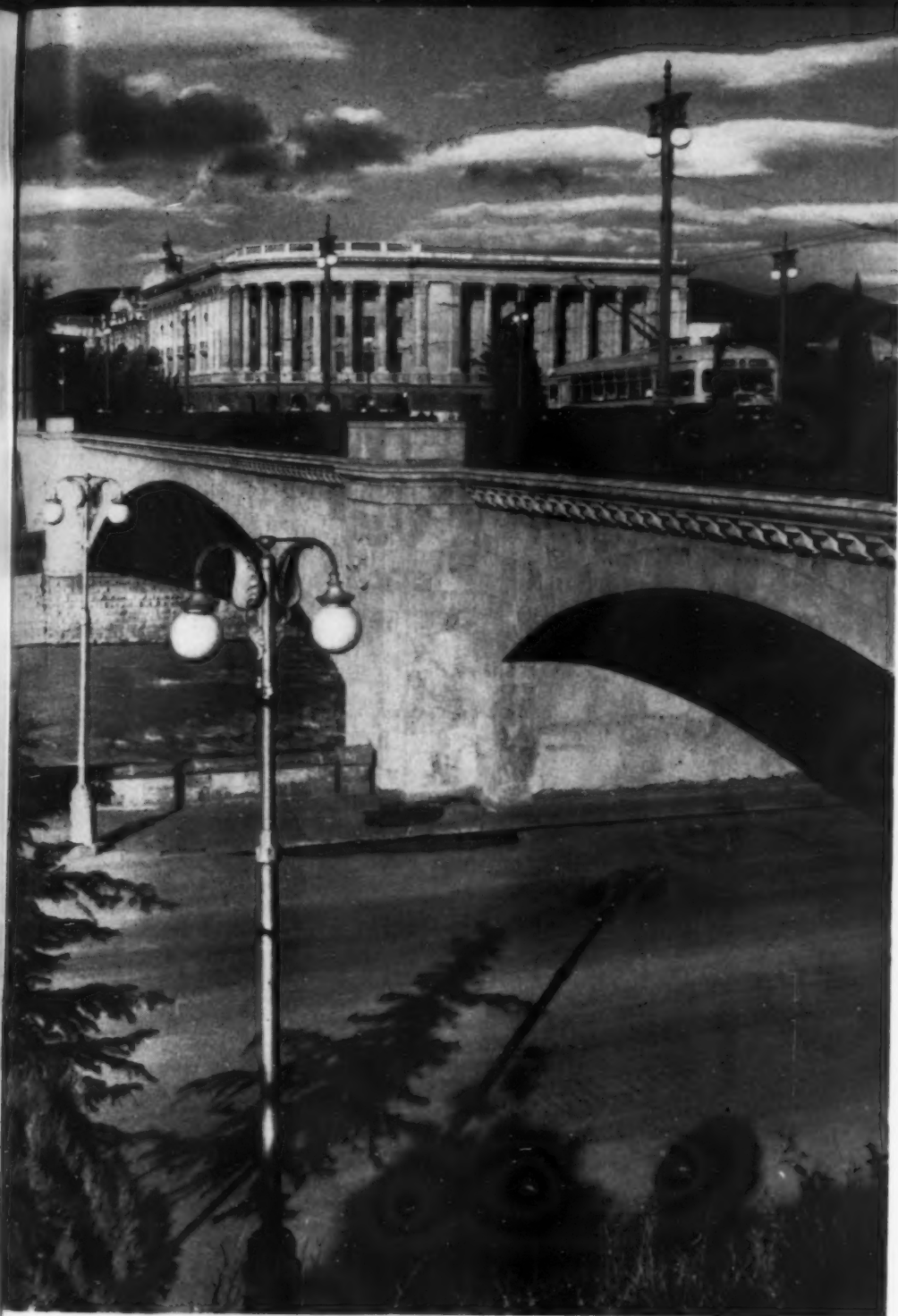
Five new bridges across the Kura connect the city's right and left bank districts. For many centuries the Kura River used to be the city's only water supply, insufficient, muddy and unpalatable. Today fresh water is piped from the Natakhtari Springs, and the water supply has been improved even more by the recently built Bulachaur water mains.

People in Tbilisi have only recently begun to go aquatic. The Kura River has always been too muddy and too fast for swimming and boating. A large reservoir, newly built in connection with the Upper Samgori Canal, has become the center for water sports, with rest homes and recreation areas being built on its shores.

For visitors from abroad, Tbilisi has become a must in tourist itineraries, not only for its museums, theaters and places of historic interest, but for its balmy weather, its sunny skies and, so charmed visitors say, for its hearty and sun-warmed people. ■



THIS DRAWING IS AN ARTIST'S CONCEPTION OF HOW THE CITY OF TBILISI APPEARED ABOUT A CENTURY AGO.

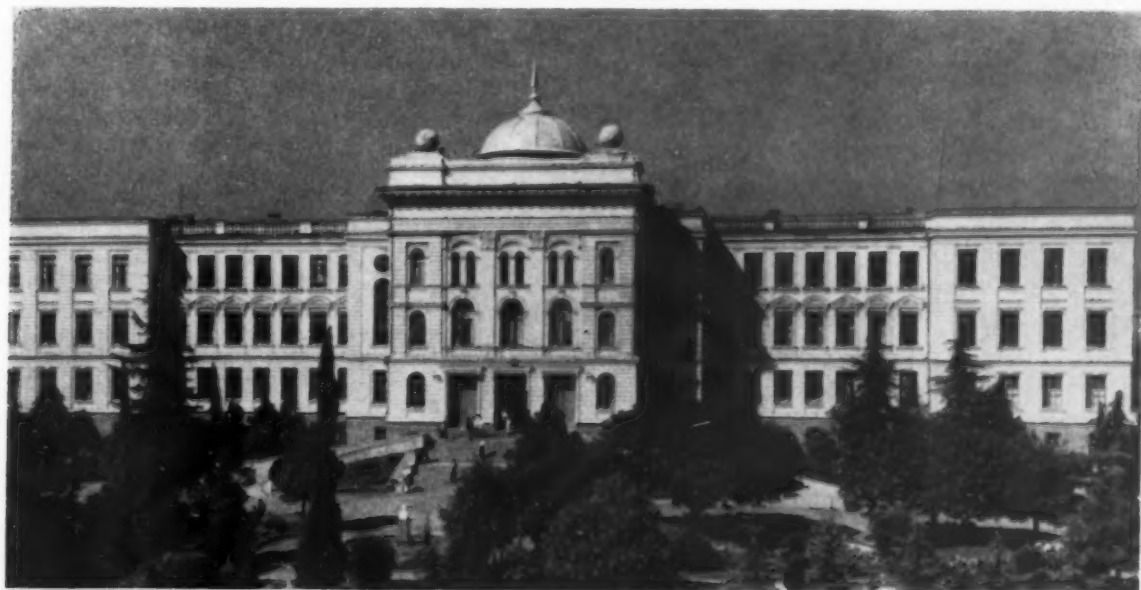


FRINGED BY MOUNTAINS, THE CITY OF TBILISI HAS GROWN UP ALONG BOTH BANKS OF THE KURA RIVER.



BUSY CARD-INDEX ROOM OF A TBILISI LIBRARY.

THIS IMPOSING AND HANDSOME STRUCTURE IS THE MAIN BUILDING LOCATED ON THE CAMPUS OF THE GEORGIAN STATE UNIVERSITY.



FREE
57
UM



YOUNG VISITORS FROM ABROAD ARE A USUAL SIGHT AT ANY TIME OF THE YEAR. HERE IS A GROUP STROLLING ALONG THE PARKWAY NEAR MOSCOW'S FAMOUS BOLSHOI THEATER.

THE SIXTH WORLD YOUTH FESTIVAL

In about three short months young people from all corners of the globe will begin traveling to the Sixth World Youth Festival. More than 30,000 strong and representing many tastes, faiths and convictions, they are being drawn together by a desire to promote friendship, help build more understanding and make a further contribution to peace.

These young men and women will be in Moscow from July 28 through August 11 for the festival organized by the International Preparatory Committee (IPC) composed of 126 delegates and observers from 59 countries. Chairman of the IPC is Govino Sahai, leader of the Bharat Yuvak Semadj organization of India.

It is now traditional for the World Youth Festival to be held in a different capital city on each occasion. The first festival was held in Prague ten years ago and drew delegates from 71 countries. The fifth festival, held in Warsaw in 1955, was attended by delegates from 115 countries. Each of the festivals draws young people of different trades and diverse political views, various religions and customs.

Preparations for the sixth festival are already well advanced in many countries, with well-known political, cultural and social leaders and athletes lending their support to the movement.

In Britain the National Preparatory Committee's conference was attended by representatives of eighty organizations. About 2,000

British young people are expected to go to the Sixth Youth Festival. They will include the London Theatrical Workshop Company, the Scottish National Orchestra and the London Amateur Youth Choir.

Six major youth groups of France are working hard on festival preparations. The German Democratic Republic is sending 1,300 boys and girls. Italy will have 1,800 members in its delegation.

Hosts at this festival will be a Soviet youth delegation of 3,000—college students, farmers and workers. In addition, 120,000 boys and girls have been invited to Moscow from all over the country. They are young men and women who excel in work or studies and were winners in contests and events at local festivals.

The IPC has decided that this privately financed festival of international youth shall abide by a per diem cost of two dollars per individual. This outlay will cover all expenses—transportation, meals, hotel accommodations—from the border of the USSR to Moscow, and back to the border entry point.

On their arrival in Moscow—the experts estimate that some ninety railroad trains will be required for the delegates—they will be housed in fifty-one hotels and student hostels. In addition, arrangements are being made to facilitate travel through European countries by accommodating delegates in the homes of local citizens. This practice will also widen



CUPS AND TROPHIES FOR THE SIXTH WORLD YOUTH FESTIVAL ARE BEING ASSEMBLED BY CRAFTSMEN OF AN ART METAL GOODS FACTORY IN MOSCOW.

the acquaintances of the visitors to the festival and be another practical way to spread its message of friendship and peace.

Funds for the festival's expenses will be raised in a variety of ways. In the host city, for example, more than 12,000 booths and carts will be used to sell souvenirs and badges. Special stamps will be issued and sold in honor of the festival. All money from admission and registration fees will go to the fund, and an international bazaar has been planned. Foreign delegates will be able to sell various articles at the bazaar and contribute the proceeds to the World Festival Fund.

Opening ceremonies of the festival begin at 2 P.M. on July 28. There will be fleets of open cars to take the delegates through the city to the Central Lenin Stadium for the parade of delegations and the flag raising ceremonies. Following this, there will be mass performances based on the theme of peace and friendship.

With the assistance of 4,500 guides and interpreters, the delegations will be introduced to each other. People of the same trades and professions will get together. There will be student seminars, excursions, exhibits, open-air concerts, movies, a continuing program of sports events and contests for all types and classes of athletes, plus numerous parties and balls.

The advance program indicates there will be 350 to 400 separate events each day. Delegates will have sixty recreation centers and clubs, twenty-five moving picture houses, twenty-two theaters and at least six concert halls at their disposal. Platforms will be erected in sixty of Moscow's largest squares where festival participants will give concerts, offering a unique exhibition of the national cultures of the peoples of the world.

During the second week of the festival there will be a great peace and friendship meeting in one of the largest squares of Moscow, coupled with a colorful program on the Moscow River. Specially equipped barges and floats will be provided for performances by foreign artists and amateur groups. This gala affair will be concluded with an evening carnival on the river.

The festival will draw to a close on Sunday, August 11. Impressions of all the events will be summed up. Winners of the amateur competitions will give a final concert, and prize-winning movies of international film festivals will be shown. The last event will be a grand ball in the Kremlin with the youth of Moscow acting as hosts to their foreign visitors.



Representatives of countries the world over attended the inaugural meeting of the International Preparatory Committee of the World Youth Festival.



FIRST STEP IS A SET OF MEASURING SPOONS AND A PILLSBURY HOT ROLL MIX.



THE BEATERS SHOULD BE REMOVED FROM THE ELECTRIC MIXER WHEN FINISHED.

BISCUITS ARE READY FOR OVEN. NOTE THE INSTANT COFFEE AND PREAM JARS.



PRETTY YANKEE COOK INVADES MOSCOW KITCHEN

Preparing a meal for 30 Moscow cooking experts and using American canned foods and kitchen gadgets exclusively, Mrs. Myra Waldo had an attentive audience at the Moscow Technical School of Public Nutrition recently.

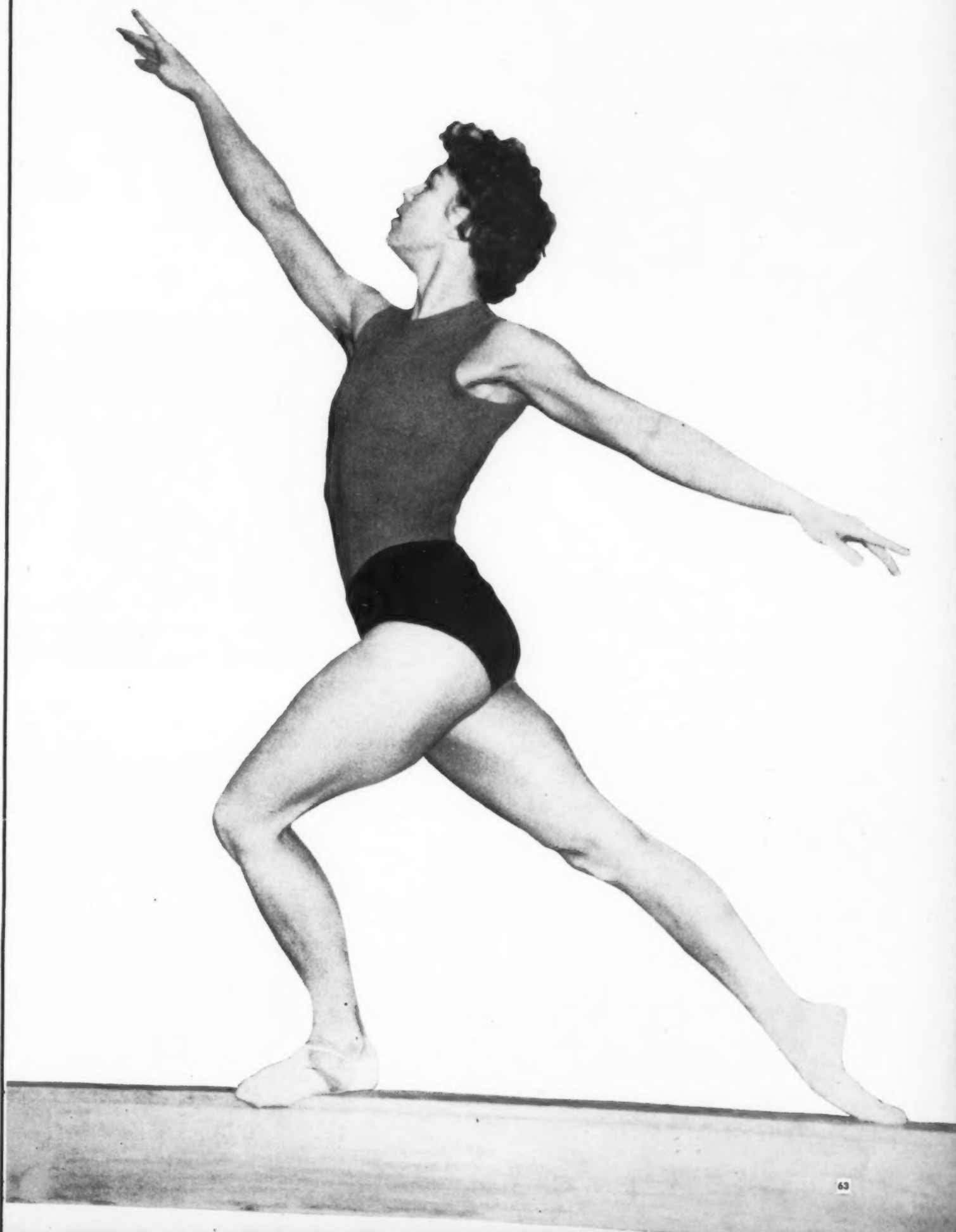
"MM-M-M—IT TASTES JUST ABOUT RIGHT," SAYS MRS. WALDO, AFTER A TEST.



CANNED CHESTNUTS GO INTO THE STUFFING FOR THIS BIRD, AS EXPERTS WATCH.



Larissa Latynina, Winner of three Olympic gold medals in gymnastics, shows championship form. An article on Soviet gymnasts and gymnastics will be found in the next issue of *USSR*, explaining one of the most popular of Soviet sports.



QUEEN

of the SWANS

By Gennadi Sibirtsev



Slim, graceful Sofia Vinogradova was born to be a ballerina. Her superb figure and lovely face distinguish her from other dancers on the stage. When she dances alone, it is not so much her technique as her grace and poise that earn her applause.

Sofia has been dancing since the age of nine, when she entered the School of Choreography at the Bolshoi Theater in Moscow, one of the country's best schools of the dance. Her father, a doctor, and her mother, a medical statistician, felt that even if she did not become a famous dancer, the school would give her better physical and aesthetic training than the regular public school.

But Sofia proved to have more talent than her parents believed. When she graduated at the age of eighteen she was invited to join the Stanislavsky and Nemirovich-Danchenko Music Theater company. There her first sizable role, that of Fleur de Lis in *Esmeralda*, a ballet based on Hugo's *Nôtre Dame de Paris*, showed that the theater had acquired a dancer of great promise. Not much space is devoted to Fleur de Lis in the novel, nor does the ballet provide the person who dances this part with as much material as it does those who interpret *Esmeralda*, *Quasimodo* or *Claude Frolo*. Nevertheless, Sofia's vivid personality in this role of a flirtatious lady passionately in love with Feb made her the most important figure on the stage.



The roles of both *Odette* and *Odelia* in Tchaikovsky's *Swan Lake* have been Sofia Vinogradova's most significant achievement to date. She is admirably suited for the poetic role of the Swan Maiden, and conveys magnificently the Swan's tender, shy love for Siegfried, a love that later grows into an overwhelming force which destroys the spell cast by the magician. Her soulful lyricism, however, does not prevent Sofia from also being a very successful *Odelia*, the fiery, treacherous daughter of the evil magician who masquerades as *Odette*.

"Vinogradova is perfectly enchanting. Her haughty expression, her *élévation* and remarkable airiness, the line of her legs and the pliancy of her arms and hands make her every inch the beautiful Queen of the Swans," declared *Le Figaro* when the Stanislavsky and Nemirovich-Danchenko Theater performed in Paris last summer.

I feel certain that such high praise will not tempt Sofia Vinogradova to rest on her laurels. Ballet lovers are sure to have many more opportunities to enjoy her poetic virtuosity in new roles and new productions. ■



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BALLET STAR SOFIA VINOGRADOVA. (See Story on Page 64.)



