

China

What Are Chinese
Scientists Doing?

Reconstructs

VOL. XXVII NO. 7

JULY 1978





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PUBLISHED MONTHLY IN ENGLISH, FRENCH, SPANISH,
ARABIC AND RUSSIAN AND BIMONTHLY IN GERMAN
BY THE CHINA WELFARE INSTITUTE
(SOONG CHING LING, CHAIRMAN)



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Inside front: In memory of Premier Chou En-lai.

Inside back: A 330,000-v. power line along the Yellow River.

Editorial Office: Wai Wen Building, Peking (37), China, Cable: "CHIRECON" Peking. **General Distributor:** GUOZI SHUDIAN, P.O. Box 399, Peking, China.

LAUNCHING THE DRIVE TO MODERNIZE SCIENCE

CHOU PEI-YUAN

AT THE National Science Conference held in March Chairman Hua Kuo-feng spoke at length about the importance of "greatly raising the scientific and cultural level of the entire Chinese nation" and expressed confidence in the possibility of realizing that goal in the near future.

All who attended the conference were deeply moved because these words expressed exactly what was in our hearts and exactly what is needed for China. This was the first time in my 76 years I had participated in such a large scientific conference. It was attended by nearly 6,000 people. After hearing speeches from national leaders and discussing plans, policies and measures for future work, we could hardly wait to get back to our labs, offices, classrooms and crop lands to begin taking up the tasks of this new march on science in our country.

A glorious science and culture had been created in China in ancient days. In more recent times an increasingly corrupt feudal system and intensifying foreign aggression caused our science and technology to stagnate and fall far behind. When I was a young man I had dreamed of seeing China made independent and strong through a highly-developed science. I took up physics as my special field and continued the study abroad. But experience taught me that science and technology could never develop in a semi-feudal and semi-colonial China. They could develop only when China was liberated and had established a socialist system.

Dynamic Leadership

After the founding of the People's Republic of China, under Chairman Mao and Premier Chou, plans

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were made to build China into a strong socialist country and attention was paid to scientists and their work. Research units were set up under central and local authorities and the number of trained personnel grew steadily. By the mid-1960s our work in some scientific fields had approached advanced world levels of the time. New technology was widely promoted and new industries established. The most concentrated expression of the advances were the explosion of China's atom and hydrogen bombs, her earth satellites and their accurate recovery.

Then interference and disruption by Liu Shao-chi, Lin Piao and especially the "gang of four" caused us to lose much time, so that the gap between China's science and technology and world levels which had been narrowing widened again.

In general China is about 15-20 years behind world levels, even farther behind in some fields. Annual grain production per farm worker is about one ton, several dozen times less than world levels. Labor productivity in our steel industry is only a small percentage of advanced levels abroad. By pointing out our lags our leaders helped us make a realistic analysis of our situation, find the causes, draft plans, and organize our forces for a rapid change. Having recognized and admitted we are behind, we are ready to learn from the best and catch up with the best. It is this kind of dynamic and down-to-earth leadership that gives us confidence to tackle our tasks ahead.

New Plans

There had been two plans since liberation for developing science and technology. A 12-year plan was drawn up in 1956. Its major targets were completed by 1962, five years ahead of schedule. That year a second plan was made, to be completed in 10 years. The activities of Liu Shao-chi and Lin Piao prevented this plan from being fully realized. At the



Chairman Hua Kuo-feng greets Kuo Mo-jo, President of the Chinese Academy of Sciences, at the National Science Conference.

1978 science conference a third plan was drawn up, to be completed in eight years. In our drive to modernize by the end of the century, the eight years starting from now are the crucial ones. Under the 1978-85 plan we are to: 1. approach or reach world's advanced levels of the 1970s in a number of important fields; 2. increase the number of scientific research personnel to 800,000; 3. build a large number of up-to-date centers for scientific experimentation; 4. complete a nationwide research network.

The plan provides for research in both basic and engineering sciences and in 27 separate fields including natural resources, agriculture, industry, defense, transport and communication, oceanography, environmental protection, medicine, finance and trade, culture and education. More specifically, there are 108 key research projects. Emphasis is placed on agriculture, energy, materials, electronic computers, lasers, space, high-energy physics and genetic engineering, as progress in these fields has a bearing on overall development.

Under the present guideline for development, industry and agriculture take first priority, followed by sophisticated science and technology and basic theory. Drawing on our experience from the previous two plans we have been able to make the current plan more comprehensive. Work to draft the plan actually began in June 1977 with many meetings on it by the State Council, the Chinese Academy of Sciences and the State Science Commission. More than 20,000 people took direct part in discussing and revising the plans in different fields. The final eight-year plan is therefore more broadly based than any previous plan.

Correct Principles

The "gang of four" persecuted the intellectuals and had spread erroneous ideas that caused great confusion in people's minds. In his speech at the science conference Vice-Chairman Teng Hsiao-ping gave cogent analyses of some questions, clarifying much of the confusion.



The author meets with young science enthusiasts at a gathering sponsored by the national scientific and technical association.

He said that Marxism has always held science and technology to be a part of a society's productive forces. Modern science and technology, he said, are becoming increasingly indispensable to promoting production and therefore are playing an increasingly important role as forces of production.

Chairman Mao long ago pointed out that natural science by itself did not belong to one class or another, that whoever worked with it brought to it the ideology of his class. The "gang of four" insisted that science and technology belonged strictly to the realm of ideology. They said that all ideology before the cultural revolution was bourgeois and therefore must be subject to the proletarian dictatorship. They used this as their excuse for attacking scientists and engineers who would not go along with them. This was no different from Nazi Germany under Hitler. Hitler was out to exterminate the Jews and claimed that there were German physics and math and Jewish physics and math. Since Einstein was a Jew, according to Hitler's logic, his theory of relativity was Jewish and should be discredited. Beginning from their idea that all China's past science was bourgeois, the "gang of four" also declared that it was necessary to "create a new system of science", therefore negating all past achievements.

On a related question, Vice-Chairman Teng Hsiao-ping pointed out that brain workers who serve socialism are part of the working people. "In a socialist society," he said, "brain workers trained by the proletariat itself are different from the intellectuals in any exploiting society in history. . . . The 'gang of four' distorted the division of labor between mental and physical work in our society today, and called it class antagonism. Their aim was to attack and persecute the intellectuals, undermine the alliance of workers, peasants and intellectuals, disrupt

social productive forces, and sabotage our socialist revolution and construction." Vice-Chairman Teng's talk was enthusiastically received the country over.

Red and Expert

The overwhelming majority of scientists, engineers and technicians support the Communist Party and socialism. They try hard to integrate with the workers, peasants and soldiers. They do their work with a high sense of responsibility. Even when subjected to ruthless persecution by Lin Piao and the "gang of four" they never wavered in their devotion and carried on their work under extremely difficult conditions. Many showed a high level of political consciousness in resisting the "gang of four". Now that the gang has been removed, they are working with even greater drive.

"There are no evening years for us," the veteran scientists say. "As long as we're being useful we are youthful." Ho Chieh, 90, geologist and former vice-president of the Peking Mining College, decades ago took part in creating the geology department in Peking University and later taught in altogether nine colleges. His students are now in every part of the country, many doing important work. Not long ago Professor Ho wrote a proposal on how to further develop mining in China and pledged to continue doing what he could to train more people as long as he was able.

Tsai Chiao, an 81-year-old physiologist, is deeply moved that he is able to devote his remaining years to research and advising graduate students. Biologist Tung Ti-chou (*China Reconstructs*, January 1978) has decided to be adviser to 20 graduate students in addition to training 12 assistants. Sun Chang-lin, a retired Chekiang Medical College lecturer, and his colleagues, in cooperation with related units, have had striking results in treating schistosomiasis. They cured a patient in the later stage of the disease by diverting his blood through extracorporeal circulation, clearing out the schistosomes from his blood by

Mathematicians Yang Lo (first left) and Chang Kuang-hou (center), who obtained world-level results in the study of the concepts of value distribution in the theory of functions, with other scientists at the conference.



means of a filtering device and returning the blood to the body.

Two-thirds of the young and middle-aged scientific personnel were trained since liberation. They are even more excited at the challenge modernization presents. Tso Hou-tien, technician at an industrial equipment plant in Fukien province, said, "The veterans in their seventies and eighties are giving everything for modernization. We in our forties should shoulder heavier loads and work doubly hard."

Hsu Kuang-wei, a vice-director of the Peking Municipal Cancer Research Institute, has done outstanding work in the diagnosis of stomach and breast cancer and treatment of it with a combination of western and Chinese traditional medicine. He plans to do more in this field, especially in applying modern scientific theory and techniques to learning the full benefit of Chinese medicine.

Cheng Wei-an, beginning as a young carpenter, for years studied on his own the theory of probability in modern mathematics and learned five foreign languages — English, Japanese, German, French and Russian. Not long ago he took an examination and has been accepted as a graduate student at the Shanghai Teachers' College. "I will be still under 50 at the end of the century," he said. "What a tremendous lot of things I can do for my country!"

When the scientific and cultural level of the whole nation is raised, there will be many, many more technical specialists, innovators, inventors and scientists. Already we have people like the peasant cotton specialist Wu Chi-chang (p. 8), the peasant peanut specialist Yao Shih-chang, and worker-specialist in electric light sources Tsai Tsu-chuan. Institutes of higher learning and research units are accepting young people in their early and late teens who have shown special talent or extraordinary IQs and have done outstanding work in their studies.

The Scientific and Technical Association of the People's Republic of China and its affiliated societies, suspended for many years, have resumed activity.

Professor Ho Chieh, 90-year-old geologist attending the National Science Conference by special invitation, puts on a Young Pioneers' scarf sent by schoolchildren in Kiangsu province for the oldest delegate to the meeting.



A get-together of model workers and technical innovators from northeast China to exchange experience.

These groups will play an important role in international exchange, popularization of science, academic discussions and debates. Scientists will have a channel for putting through suggestions for improving education and scientific work and promoting economic growth and defense construction. As a socialist society with public ownership of the means of production and a planned economy, China is able to make plans under a unified leadership and rationally organize her resources for high-speed development. This had been one of the reasons why we were able to complete the first 12-year plan in seven years. With faster growth in all fields we are fully confident of fulfilling our new plan as scheduled.

To learn from the best in the world we will send more scientists and engineers abroad to study or take part in international scientific meetings. We will invite foreign scientists and engineers to lecture in our country, to give academic guidance or carry out research together with Chinese scientists. Our drive for modernization will certainly benefit from such exchanges.

WU CHUNG-HUA:

Outstanding Engineering Thermophysicist

HO HUANG-PIAO

ON a winter day in 1950 Wu Chung-hua, a young Chinese in his early thirties, stepped onto the platform at the annual meeting of the American Society of Mechanical Engineers in New York and read a scientific paper.

Wu was presenting the general theory he had developed concerning three-dimensional subsonic and supersonic flow in turbomachines, a new method for dealing with the internal flow process of the gas turbine engine. All present were impressed by his well-thought-out logic, rigorous derivation and accurate calculation. Some were pleased at his being the first to use an electronic computer to solve such difficult partial differential equations. Some were aware that Wu had created a new basic theory for the design of advanced jet engines.

Building the Country

Wu, the son of an office worker, was in middle school in Shanghai when the Japanese imperialists launched their attack on China on September 18, 1931 and occupied China's northeast without any resistance from the Kuomintang. Thinking he should study something of more use to the country, Wu gave up his plan to major in music and enrolled in the department of mechanical engineering at Tsinghua University in Peiping (now Peking). In July 1937 the Japanese began all-out invasion and the Kuomintang troops retreated hundreds of miles in pell-mell flight. Wu moved with the university to Kunming in Yunnan province. The sight of his schoolmates being wounded, the houses around the school destroyed and many people killed during Japanese air raids strengthened his determination to do a good job at his study of mechanical engineering. He wanted to contribute to building semi-colonial old China into a powerful country that could no longer be bullied by the imperialists.



Wu Chung-hua (center) consults with assistants about work.

With this conviction, Wu passed an examination for graduate study in the United States financed by Tsinghua scholarships. In 1944 he and his wife, Lee Ming-hua, enrolled in Massachusetts Institute of Technology. Both received their doctorates there.

When they graduated, the war of liberation was reaching its climax in China. Since they did not wish to return to the Kuomintang-controlled area, they stayed in the United States and worked in an aviation research laboratory.

The gas turbine had just appeared. It was of great importance to defense and the economy, for it could be used in airplanes, warships, power generation, pipeline pumping, locomotives and tanks. As the then existing theory of two-dimensional flow (on cylindrical surfaces) could be used only in the design of early jet engines of low performance, it was imperative to work out a new theory for three-dimensional flow (in space) suitable for more advanced jet engines. The research laboratory assigned Wu to this problem for which no scientist had yet found a solution. After three years of hard work he became the originator of the new theory.

By then China was liberated. On August 1, 1954 Professor Wu and his family got on a plane and flew home.

Motherland Needed Him

As soon as he stepped onto Chinese soil, he was struck by the thriving scene of socialist revolution and construction, the new things emerging everywhere and the soaring drive of the working people. At a reception soon after his return Premier Chou En-lai, shaking hands with Wu and his wife, said, "You're in the prime of life. I hope you will make contributions to the country."

For the first time Wu realized that the meaning of work in China was entirely different from what it was in the old China or in the United States — he was going to contribute to building socialism, a step toward communist society. Guided by Marxism-Leninism-Mao Tsetung Thought, he would work together with the millions of people who had taken their destiny in their own hands.

In 1956 Wu took part in drawing up a program for national scientific development. On various occasions he explained the great importance of gas turbines and of developing engineering thermophysics in China. His ideas were incorporated into the program. He threw all his energies into teaching and basic research in this field.

Wu Chung-hua was appointed vice-head of the department of heat power engineering at Tsinghua University and founded China's first specialty course in gas turbines, with emphasis on training research engineers. He worked day and night compiling lecture notes on his theory, struggling hard to pass all his knowledge on to the students. He personally trained the first group of graduate students and research workers in engineering thermophysics, men and women who are now the backbone force in this field.

In 1956 when the Power Laboratory was set up jointly by the Chinese Academy of Sciences and Tsinghua University, Wu was appointed its director. (In 1960 when the laboratory became part of the Academy's Institute of Mechanics, he became vice-director of the latter.) In 1958, he began to go to gas turbine factories to combine research with practice as urged by Chairman Mao. Soon he published articles in the *Journal of Mechanical Engineering* and *Scientia Sinica* on the design of turbomachine blades lying on an arbitrary surface of revolution, which attracted great interest among gas turbine engineers. He compiled and published in Chinese and English "Tables of the Thermodynamic Properties of the Products of Combustion of Hydrocarbons in Air".

When electronic computers made their first appearance in China, with cooperation from the Academy's Institute of Computing Technology he worked out the first computer program for turbomachine calculations. It is now widely used in research laboratories and factories.

He succeeded in deriving new fundamental equations for the three-dimensional motion of viscous fluid relative to the rotating blades in turbomachines. These new equations corrected wrong equations and conclusions in some textbooks and research reports published abroad, bringing three-dimensional flow theory to a new level.

To meet the needs of designing still more advanced turbomachines more accurately and conveniently, in 1963 he began research on the solution of three-dimensional flow equations by the use of arbitrary non-orthogonal curvilinear coordinates and corresponding non-orthogonal velocity components.

In 1966 Wu was swept into the tide of the cultural revolution. In 1969, reminded again of Chairman Mao's teaching that intellectuals should integrate themselves with the workers and peasants, he went among the workers in gas turbine factories to learn from them and make firsthand investigations.

After he had come back with fruitful results, a follower of the "gang of four" in the Institute of Mechanics came to his office and tried to force him to give up fundamental research on aircraft engines and take on some other work. Wu was enraged. He looked at the documents and materials on various kinds of engines on the bookshelves, and at the sky outside the window and thought to himself, "The gas turbine is the heart of the aircraft. Without it there would be no planes. Don't we need our own planes in the sky over the motherland? Don't we want to defend our territorial airspace?" He refused.

People's Support

But this was not the end of the matter. He was then branded as a "bourgeois authority". Party leaders and colleagues who had supported his work were accused of depending solely on specialists and not on the masses. His research group was disbanded by having its members transferred to other work. Hearing this, workers in one factory in the northeast objected. "The working class needs specialists like Wu Chung-hua," they told a visitor from the institute. "If he cannot carry on his work there, ask him to come here."

Another source of encouragement was Premier Chou's instructions to strengthen work on aero-engines and to put more emphasis on training people in the basic disciplines. He had heard the Premier deliver them personally at a work report meeting. With new strength Wu went many times with his colleagues to the factory in the northeast to work with engineers and workers there on designing a new-type engine. He spent his evenings with an electronic desk calculator working out a new computer program for

Wu Chung-hua (right) and Lee Ming-hua at a group discussion during the National Science Conference.



the design of turbomachines. When urged not to overwork, Wu would say, "We have to produce the engine." The factory revolutionary committee wrote the Institute of Mechanics a letter commending him.

Evaluation Abroad

Internationally the rapid development of modern technology brings more and more high appraisals of Wu's three-dimensional flow theory. It is now widely used and has become the theoretical basis for the design and analysis of modern turbomachines. A conference on internal aerodynamics (turbomachinery) convened in Britain in 1967 reported how the theory of relative stream surfaces put forward by Wu in 1950 has been put into use.

In 1970 "Computer Solutions of Wu's Equations" was read at an international symposium sponsored by the National Aeronautics and Space Administration in the United States. At a lecture series on advanced compressors held in Belgium and Norway in 1970, the chairman pointed out that "the most sophisticated equations involved had been formulated by Wu in 1950 already". Another scholar referred to the theory as "Wu's general theory" in his lecture.

At the Third International Symposium on Air-breathing Engines held in 1976 in West Germany, Wu presented a paper "Three-dimensional Turbomachine Flow Equations Expressed with Respect to Arbitrary Non-orthogonal Curvilinear Coordinates, and Methods of Solution", a work he had started before the cultural revolution. The reaction was even more moving than 25 years ago when he had read his monograph in the United States. There was protracted applause. Some scientists came up to him and said, "It was a beautiful report! Simply beautiful." He was invited to repeat the presentation at a number of institutes. In a summary of the 1976 symposium his paper was commended as "an extension and generalization of the classical Wu papers of the 1950s and a highlight of the symposium".

Today Wu's theory has been adopted in the design of gas turbine engines for many modern planes, including the Spey engines for the British Trident and Phantom F4K, the newly-developed three-shaft engine, the J69 engine for an American pilotless aircraft, and the JT9D engine for the world's biggest passenger plane, the Boeing 747. It is being used in West Germany, Japan, Switzerland and Belgium as well.

Last March Wu was at the Fifth National People's Congress as a deputy. He and his wife attended the recent National Science Conference. She is doing research work on the mechanics of solids in the Institute of Mechanics. They are excited about the blueprint and goals set forth in the Outline National Plan for the Development of Science and Technology (1978-85), particularly about the all-round arrangement for research tasks set in basic and engineering sciences. Their work will once again be contained in the plan for China's aeronautical progress.



Wu Chi-chang with a sample of cotton with double head.

WU CHI-CHANG:

'I Can't Let Premier Chou Down'

MU FU-PIN

I'M GIVING you the task of finding out how to prevent cotton bolls from falling off. Can you take it on?"

"I can, but I'm old and have had no schooling. . . ."

"How old are you?"

"Fifty-seven."

"You are 57, I, 67. Both of us are much younger than Chairman Mao. In 20 years you will be 77 and I 87. In the next 20 years let both of us try to accomplish the tasks Chairman Mao has given us. How about it?"

"Fine."

The time was January 1966. The place, a meeting room in the State Council offices where dozens of model cotton growers had been invited to meet with Premier Chou En-lai after he had delivered a report at the Fifth National Cotton Production Conference. As Wu Chi-chang, in his black cotton-padded jacket and with a white towel around his head, had entered the hall, Premier Chou had pointed to a chair on his right, and said, "Wu, old comrade, sit here please." "Chairman Mao tells us to walk on two legs—to develop both grain and cotton production at the same time," Premier Chou had told the group. "He asks us to continue to study the problem of falling buds and bolls. Chairman Mao gave me this task and I am depending on all of you." It was in this context that the above exchange between Premier Chou and Wu Chi-chang took place. But neither man could know what lay in the path of accomplishing this pledge.

WU CHI-CHANG is a member of the Suyang brigade in southern Shansi province's Wenhsi county. He had gone in for growing cotton in 1958 after his Tungchen People's Commune was formed. Before that he had already become well-known as a melon grower. An ordinary peasant, stubborn in his pursuit of truth, had made many innovations, including those of breeding young cotton plants in cold-frames and filling in empty spaces in the fields with transplants. For his contributions he had several times been received by Chairman Mao and Premier Chou.

On his return home, Wu Chi-chang told the commune members about Chairman Mao's instructions and Premier Chou's assignment. He and others began experiments and round-the-clock observation of the fields.

Not long afterward the cultural revolution began. Like other mass movements it has its twists and turns, its ups and downs. With the idea "suspect everything and overthrow everyone" Lin Piao and those who later became part of the "gang of four" created confusion in people's minds. They got some misguided individuals to attack cadres and those among the masses who had wanted to further the revolution. Under such influence Wu Chi-chang was declared to be pursuing a revisionist line of putting technique before politics. He was called a counter-revolutionary and beaten up.

As long as he could continue to grow cotton, Wu thought, he could stand any other hardship, but these people forbade him to do so. They confiscated the improved seeds he had cultivated, and ordered him to sweep the village streets. He was not allowed to go to the cotton fields.

But there were others. Many in the village remembered that by following Wu's methods in 1963 the entire county had doubled its average per-*mu* cotton output in one year. And that when the county Communist Party committee had offered him a bicycle as a reward, Wu had politely refused and asked instead for 1,000 poplar saplings to be planted in the village. Now these saplings had become great trees shading the roads. They wondered why a man

who had won such honor for the village should be treated so. Without a word they would come out to sweep the streets beside him.

Under such prolonged stress Wu Chi-chang became seriously ill, but he was sustained by his deep sense of responsibility. He often seemed to hear Premier Chou's words sounding in his ears: "I'm giving you this task."

One day while sweeping the streets he found several cotton seeds on the ground. Joyfully he picked them up and hid them in his pocket. He found a pot, filled it with earth and planted the seeds in it. He kept the pot on his brick *kang* bed where it was warm. Soon the seedlings burst forth and grew taller. Later he transplanted them in his small courtyard behind some taller plants. He had to keep them covered lest someone discover them. At night when everybody was asleep Wu would pace about his yard. Looking at his cotton plants, which failed to develop bolls for lack of sunshine, he would say to himself, "Premier Chou, do you know that I'm not allowed to carry out the task you assigned me?"

His condition grew worse until he was confined to his bed. He was not allowed to go out to see a doctor and doctors were not allowed to come to see him. The villagers secretly brought him medicine and his wife learned how to give him injections. It seemed as though he would not live and his family began to make preparations for his funeral. But he had a strong will. "I'm not going to die," he said. "I'm going to live to fight those devils. I'm going to live till I fulfill the task Premier Chou gave me."

Thus cared for by his family and commune members from his village and elsewhere Wu gradually recovered.

ONE Day in spring 1970 Wu Chi-chang appeared at the edge of the village walking with a cane.

"The old man has stood up again!" The good news traveled quickly among the peasants.

The few who had been persecuting him continued their troublemaking. They ordered him to cut grass outside the village all day long so that he had no chance to go near a cotton field.

One day after walking for three kilometers he came to a cotton field of a neighboring brigade. Seeing the plants ranging all over the place, he wanted very much to tell the peasants to prune them. He hesitated, fearing that his advice might bring trouble on himself again. He went there again the next day and the day after. He gazed at the cotton field, walked around it, debated with himself.

On the third day, seeing some commune members resting under a big tree, he plucked up his courage and went up to them. The peasants gave him sympathetic looks. There was a long silence. Then he observed as if to himself, "The cotton's growing well."

"But with few bolls," the brigade leader answered.

"The plants lack proper care in the late growing period," the old man said.

At this a middle-aged woman asked point-blank, "Model cotton-grower Wu, won't you please give us your advice?"

Wu Chi-chang smiled sadly and waved her away.

"Old Brother," said the woman with tears in her eyes, "we know you're a good man. . . ."

Being called "brother" and the woman's simple words were all Wu Chi-chang needed. He put down his basket and went into the field, caressing the cotton plants as if they were his long-lost children.

The next day when the commune members arrived he was already in the field. He went there every day to teach the commune members his knowledge and do scientific experiments. The peasants helped him cut his grass during the work break. In the evening they carried the grass to the edge of his village to save him from the long walk with the heavy load.

In the fall that 1.3 hectares of cotton yielded 1.5 tons of ginned cotton, a record for this production brigade. The peasants were surprised. The news also reached the ears of the bad elements. They ordered him to work with the melons and forbade him to enter a cotton field again.

One day while nobody was looking he selected two plants in a neighboring cotton field, and nipped the tops off so that they would grow two main branches. His wife was worried. "You're not allowed to play around with cotton but still you do. I beg you to put it aside until your case is cleared up," she said.

"That day will come," Wu Chi-chang replied, "but when the Premier asks me, 'Comrade Wu, how are you getting on with that task?' how can I tell him I've failed him just because of personal grievances? No! Nothing can prevent me from studying how to grow more and better cotton."

THE Lin Piao anti-Party clique was swept away. In February 1973 the charges against Wu Chi-chang were shown to be untrue and he was elected a vice-chairman of the Suyang brigade's revolutionary committee.

Now he could experiment on cotton again, but already seven years had passed since he had received his task from Premier Chou. He hung cotton plants with bolls all around his home, under his eaves, in front of the windows and on the walls and trees in the courtyard in order to study their shape and decide which was the best type of plant. In the sunlight the bolls looked like silvery flowers in full bloom. They reminded him of Premier Chou's trust.

In February of that year it was still cold and snow blanketed the frozen Suyang River. Wu Chi-chang started breeding seedlings early in coldframes for later transplanting into the fields. He built a straw shed beside them and slept in it at night. Chao Fa-chuan, another old peasant, also moved in with his mattress and quilt.

Every night the two old men in their sixties would take lanterns and observe the seedlings. After

they were transplanted into fields from which wheat had been harvested, Wu Chi-chang watched their growth and budding under the sun, and at night knelt beside them to listen for the sound of falling buds. Sometimes he said jokingly to the plants, "You can rest but not I."

Many days and nights had passed. He noted every detail about the relationship between falling buds and bolls and the amount of water, fertilizer, sunshine and temperature. That year his plot yielded 1.4 tons of ginned cotton per hectare. He found that among his best producers were those plants with double heads, achieved by pinching off the tops just after the first two leaves had appeared.

JUST THEN the "gang of four" started their disruption of production and scientific studies. In 1974 their followers held back funds, chemical fertilizers and pumps the provincial science and technology committee had allocated for Wu's experiments. During a dry spell that summer the cotton leaves began to wither. His persecutors cut the supply of water and electricity to the cotton field. Wu Chi-chang, though crippled, with the help of several young girls carried water to save the plants.

The villagers were worried about him. One advised, "You are old enough to retire. Give up your work on cotton."

"That won't do," he answered. "Premier Chou asked me to solve this problem. The country has five million hectares of cotton. If only one boll less per plant falls it would mean 75 more kilograms of ginned cotton per hectare. That's not a little. I'm not going to let anything keep me from my work."

After giving the matter much thought he said to his wife, "If I can't do my experiments here I'll go elsewhere. No matter where we are we can work for the revolution." His wife agreed to go with him.

It was at this time he learned that Premier Chou had been concerned about him. The Premier had asked about him many times. When he was told that Wu was a "counter-revolutionary" he gave instructions for a thorough investigation and a report to him. Later he was told that Wu had given up his experiments. "I don't believe it," the Premier retorted, "Comrade Wu wouldn't do that. He should be allowed to carry on his work." Wu Chi-chang was moved to tears when he heard this.

IN October 1974 two people from the Cotton Research Institute of the Chinese Academy of Agricultural Sciences, despite the obstructions, came to Suyang and invited Wu Chi-chang to attend the National Forum on Technical Cooperation in Cotton Growing to be held in Tali county, Shensi province.

He took four cotton plants as specimens and boarded the train. Many outstanding cotton growers and scientists from all parts of China were gathered together. At last Wu was reunited with colleagues in his field. When Wu mounted the platform with his cotton plants, the audience gave him a big ovation. Those in front crowded around to greet him and those

in the back stood up. He talked for three and a half hours.

At this meeting Wu learned that Premier Chou was ill. He could not sleep for nights for worry at the thought. After the meeting he returned home immediately and, taking some local glutinous rice and a kilogram of dried day lilies, a condiment he had received as a gift, hurried to Peking.

In the reception room of the State Council office when he asked to see Premier Chou he was told that the Premier was in the hospital. He wrote him three letters and left sadly for home. When Premier Chou heard about it he sent Wu Chi-chang his regards with the message, "Keep fit and keep on working."

Wu Chi-chang listened to the radio every day hoping for news of the Premier's recovery. On January 9, 1976, when the funeral music began and the announcement came that the Premier had died, Wu was grief-stricken. He was away from home at the time, and on his way back in his tearful eyes the villages and fields along the road seemed to quiver in sadness. "I can no longer see Premier Chou," he moaned as he staggered into his courtyard. The bolls on the cotton plants hanging around the courtyard seemed transmuted into white flowers of mourning for the beloved Premier. At a memorial meeting held by the commune members Wu talked about the times he had met Premier Chou and his instruction on finding ways to grow more and better cotton.

THE SMASHING of the "gang of four" was like a second liberation for Wu Chi-chang. With full support from the Party Central Committee headed by Chairman Hua Kuo-feng, he stepped up his scientific experimentation. After success with the double-headed cotton plants he experimented with pruning to make the bolls grow in two tiers so that they could get more sunlight and air.

In August 1977 the Chinese Academy of Agricultural Sciences sent a hundred scientists and cotton-growing specialists from 13 provinces and municipalities to visit Suyang. In Wu Chi-chang's experimental plot they counted the number of plants and bolls and measured the space between the stems and knobs. They observed that on these thousands of plants the bolls seemed as if they had been carefully arranged by man.

The plants with bolls in two tiers produced an average of 28.3 bolls, five or six more than those with mere double-head pruning, and 11 more than ordinary single head plants. Also, they lost fewer bolls than ordinary plants. The visitors offered their congratulations, saying, "You're getting close to the problem Chairman Mao set for us."

In March this year Wu Chi-chang was a deputy to the Fifth National People's Congress, and was then invited to attend the National Science Conference. He is now 69. "I still have eight years before the deadline Premier Chou gave me," he said with feeling. "As my share in carrying out the behests of Chairman Mao and Premier Chou I'm aiming to solve the problem five years before that time."



Tuan Yuan-hsing observing the sky through a telescope made himself.

TUAN YUAN-HSING: A Persistent Astronomer

HO PIEN

LATE on the night of March 24 this year, when his fellow delegates to the National Science Conference were asleep after a long day of meetings, a young man was still standing at the window of the Peiwei Hotel in Peking. With the telescope he had brought with him he was observing and making detailed notes on the total eclipse of the moon which occurred between 11 p.m. and one a.m.

He was Tuan Yuan-hsing, the amateur astronomer who three years ago was the first in China to observe with the naked eye the outburst of a nova in the constellation Cygnus (the swan). "The

starry sky is like an old friend," he says. "I miss it if I don't see it for even one night."

ON August 30, 1975 Tuan, a teacher in two village schools outside the town of Ningtu in southern Kiangsi province, had been working in the fields all day. It was hot so he went for a swim in the Meichiang River. When he climbed back onto the bank it was already dark and the stars were out. As usual Tuan began surveying them. Suddenly he noticed something unusual in the 150-star constellation Cygnus. "There's an extra star!" he exclaimed. Further observation convinced him that there was indeed a bright spot to the northeast of the alpha star in the constellation.

"Maybe it's a man-made satellite," he thought. But over a minute passed and the spot didn't move. A variable star perhaps? Tuan rubbed his eyes, trying to pull together in his mind all he had observed about variable stars. No, there was not one so bright in that position. Hurrying back home, he looked through the simple telescope he had made, checked and calculated the star's position and its magnitude, and then marked it on his star map. Careful analysis convinced him that he had sighted a nova.

Though sighting of a nova is popularly referred to as discovering a new star, a nova is really not that. It is the phenomenon that takes place when the brightness of a star suddenly and rapidly (over a period of one or several days) increases by several thousand or several tens of thousands of times. In some 3,000 years of recorded history of astronomy only a little over a hundred novae have been sighted. Research into the reason for such brightening may provide a clue for a new source of energy, and is of great importance for the study of the origin and evolution of stars.

Tuan couldn't keep his excitement to himself. He sat down and penned letters telling of his discovery to the Peking Astronomical Observatory and the Tzuchinshan (Purple Mountain) observatory in Nanking. Then the next morning he decided a letter was not fast enough and sent a telegram to Peking.

On September 2 the Hsinhua News Agency foreign and domestic service carried the news that a nova in the constellation Cygnus had been confirmed at 22:45 Peking time on August 30th by the Peking observatory and that the nova had been sighted at 19:35 on August 30th by Tuan Yuan-hsing, described as a middle school graduate who had settled in the countryside.

The Peking observatory sent Tuan a message of congratulation saying, "You have done a good job. It is significant that you were able to sight this nova so early using only the naked eye."

AS A CHILD Tuan had loved the tales told by his grandmother — about Wu Kang in the moon who keeps cutting down a cassia tree and the tragic love story of the cowherd and the spinning maid, two stars

forever separated by the Milky Way. In the third grade he took a fancy to geography and studied geography textbooks of the higher grades by himself. The knowledge of the immensity of the earth stirred his imagination. What was still bigger than the earth? Was there a boundary to the sky?

In the fourth grade he began to read books on astronomy for young people such as *Stories About the Sun*. He yearned for more knowledge about the universe. Often in the evenings he would study the stars. Soon he could recognize some of the main constellations.

Many questions rose in his mind. Why can't the stars be seen in the daytime? Why are some stars brighter than others? Can the stars move? Sometimes, watching the stars as he walked along the road at night, he would run into a telephone pole.

After he entered middle school he began to get books on astronomy from the library. He eagerly gulped down all he could get from volumes such as *The Concise History of Astronomy and Scientists of Ancient China*. He saved up his pocket money to buy 32 books on astronomy in his six years of middle school. When he had a question he couldn't answer he wrote the Peking observatory.

READING Engels' *Dialectics of Nature* and Chairman Mao's *On Contradiction* and *On Practice* helped him understand that without practice it is impossible to grasp the essence of things. So in addition to reading, he observed the stars the year round.

One autumn a fierce storm raged for five days and nights. The Meichiang breached its banks and flooded his home. On the sixth day when the weather cleared up, while the floor was still covered with water, Tuan resumed his observations again from the window. That very night he saw an unusual sight — two meteors flashing in the direction of the constellation Equuleus (the little horse).

At four a.m. on July 6, 1962 young Tuan saw the brightest star he had ever seen over the lightening eastern sky. Through his telescope it appeared a dazzle of color. Mercury! Tuan was beside himself with joy. Mercury is the smallest planet and the one closest to the sun. It is very rarely in a position when it can be viewed clearly, because it is a planet of low-magnitude brightness and the sunlight makes it hard to see. Tuan had read that the astronomer Copernicus had regretted that he had never been able to observe the planet Mercury.

In his second year in junior middle school, by himself Tuan studied the section on optics in the senior middle school physics textbook. He borrowed a convex lens from the school and fitted it to a section of bamboo to make a 15-power telescope. He started to study spherical trigonometry in order to be able to calculate the position of the constellation.

During his six years in middle school he read 91 books on astronomy with a total of 540,000 characters

—and made 500,000 characters of notes. He made 642 observations on starry nights. Of these 127 were made in the predawn hours. He recorded 391 meteors, 15 variable stars, sunspots, a variable star in the constellation Cetus (the whale), and made notes on the planets Uranus, Neptune and Jupiter. He also drew a star map for the twelve months and familiarized himself with 80 constellations.

TUAN'S sister was sympathetic to his study of astronomy. She bought him a convex lens and reference books from other places. But his mother complained that he was neglecting his household chores. Once she told him to fetch two buckets of water, but when she began cooking she found the jar still empty and Tuan with his head buried in his books and papers. Furious, she grabbed a handful of papers from the table and threw them onto the roof of the house next door. With a helpless sigh he got a ladder and climbed up on the roof to collect them.

One winter day a neighbor's house caught fire. Tongues of flame were threatening the Tuan family house. The young man ran home from school to help. The others, who were moving out household goods, were surprised to see him emerge, hair scorched and clothing torn, clutching two baskets full of books and instruments.

YOUR SON is moonstruck," someone told his mother. "You'd better do something to get his spirit back." Unable to understand her son, the mother thought of a simple way to cure him. The next day she threw the notebooks he left on the table into the stove. At the sight of his painstaking records of several months of observations in ashes the young man wept bitterly. After that he was careful to lock his precious notes up when he left the house.

After a period of observation Tuan thought that he was seeing a lot of meteors shooting out from the constellation Ophiuchus (the serpent tender) and felt he had made a discovery. After two months' further observation and recording he sent a report entitled "Meteor Groups of Ophiuchus" to the Peking observatory. Several months later he received a letter from them stating that their observations had found no meteors.

Tuan only studied and worked harder. In his diary he wrote, "Not a single day has passed without my thinking of problems of astronomy. The more I think about them the closer astronomy seems to me and the wider the universe seems to open before me."

Tuan graduated from senior middle school in 1964 and wanted to enter the astronomy department of Nanking University. Unfortunately the area from which the department was allowed to take students did not include southern Kiangsi. Friends advised him to major in some other subject. His father wanted him to study medicine. "Doctors are always needed," he said. "What's the use of learning such an obscure thing as astronomy?"



As a teacher he was always eager to give his astronomical knowledge to children in his mountain village school where he taught.

Some people also made snide remarks like, "Look at young Tuan, he wants to order the affairs of the sky when he can't even do things well on earth."

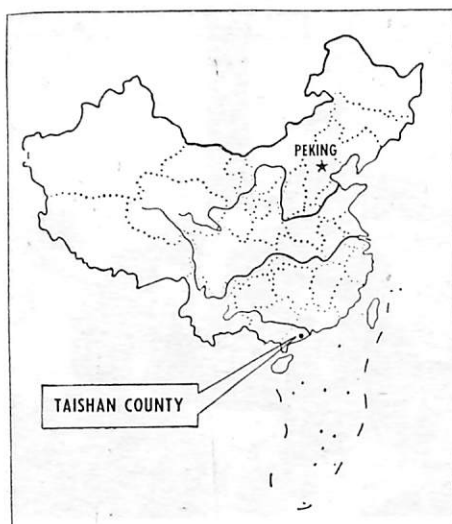
The pressure of public opinion was heavy, but as soon as Tuan looked into the sky he forgot all about his problems. Recalling the remark of Dante quoted by Marx in his preface to the first German edition of *Capital*, "*Segui il tuo corso, e lascia dir le genti* — Stick to your course and let people talk", he decided to stay with astronomy, even though as an amateur. The work of amateurs could complement that of professional researchers, he thought.

At the end of 1968 Tuan, then 21, following Chairman Mao's call, went to live and work in the Chingshih production team in a commune in Ningtu county. The next year the commune members asked him to become a teacher. He taught in two village schools, one on top of a mountain and another at its foot, walking five kilometers up and down the steep path in all weather.

IN the winter of 1972 the brigade was preparing to level its fields and build water conservation projects. They needed a topographical map and asked Tuan to draw it. The two-square-kilometer terrain had many hills and gullies. He had no surveying instruments. He used his home-made telescope to do the work of a theodolite. Having no compass, he used the sun by day and the North Star by night to tell his direction. For a month he traveled over mountains, across gullies, beside ponds and paddy fields of six production teams and drew up a fairly accurate map.

He remained working as a teacher, taking every opportunity he could to give the people in the remote mountain villages a scientific explanation of meteors, comets, eclipses and other natural phenomena. In November 1976 he was invited to attend a conference on astronomical work sponsored by the Chinese Academy of Sciences.

Taishan, Home of Overseas Chinese



Staff Reporter

THE land stood green and fresh in the fine rain of early spring as I arrived in Taishan county in Kwangtung province. Everything was green — the wheat, vegetables and sugarcane in the fields, orchards and pine forests on the hills, palm trees, tangerine and banana trees along the roads. Entering the town of Taicheng, the county seat, I was impressed by its neat streets and the rippling water of a 12-hectare lake in the south-eastern part. The local people dug the lake from a swamp in seven months in 1958. Today it is a beautiful holiday resort. Many new buildings have been erected along its shores.

With a population of 900,000, Taishan county covers a rich and beautiful 3,200 square kilometers on the coast of the South China Sea near the fertile Pearl River Delta. In the old society it was hit by natural disasters almost every year. Peasants suffered from the cruel exploitation and oppression of the ruling classes. Beginning a hundred years ago, such conditions drove large numbers of the peasants to seek to make a living abroad. More than 300,000 people from Taishan migrated to 78 countries in different parts of the world, most of them to North America.

With liberation in 1949 such miserable conditions began to change. Land reform gave the peasants their own land. The first agricultural cooperative in the county was set up in the village of Tienmei in 1954. Relying on their

new united strength the members reclaimed land from wasteland 20 kilometers away, opening up four and a half hectares of rice fields in two months and getting a good harvest that same year. Chairman Mao noted their good experience and urged them to organize better and increase production through self-reliance and hard work.

Premier Chou En-lai, on an inspection tour in July 1958, also encouraged them to work together to speed up socialist construction. "Taishan is a good place. There is great potential to be tapped here," he said.

"It's the home of many overseas Chinese. Also 'the home of volleyball'," he added.

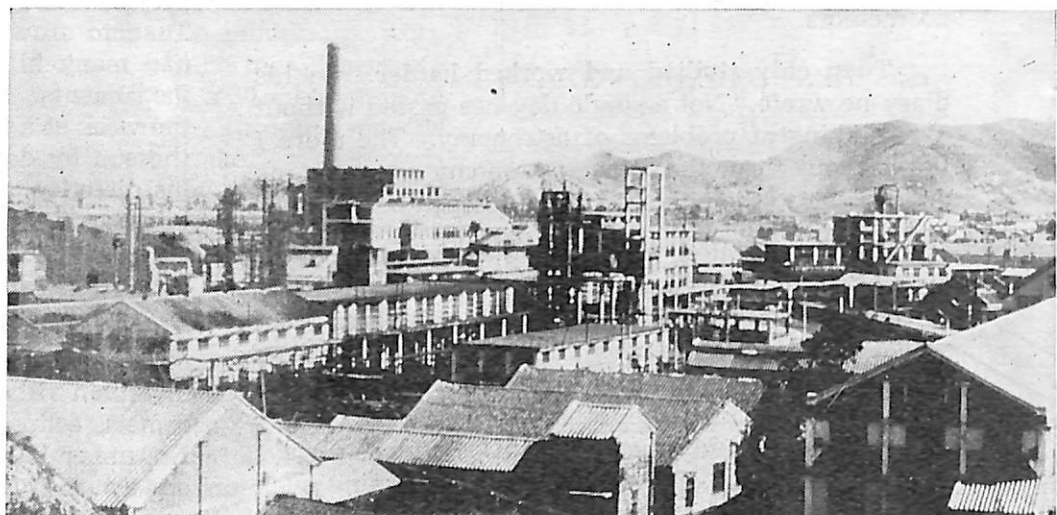
Over the past 20 years the people in Tienmei have planted a seven-kilometer shelter belt on the

hillsides and 60 hectares of tea-oil, bamboo, tangerine and pine trees. They have built two reservoirs, one medium-size and one small, and channels winding over the hillsides. They have opened up 130 hectares of new irrigated land that yields good harvests in spite of drought or heavy rain. Grain output has gone up from 3.75 tons to 7.5 tons per hectare. In the early days of the co-op there wasn't enough grain to eat and the state had to supply 30 tons a year. Today the Tienmei brigade sells over 377 tons to the state every year.

'Water from Home'

Taishan oldtimers say that in the old society when people left for other countries they used to take a bottle of water from their village with them. Those who lived abroad for a long time always

Taishan county enriches its soil, impoverished by centuries of floods and tidewater, with the product of its own 10,000-ton nitrogen fertilizer plant.



tried to have a bottle of Taishan water brought to them. Important as it was to the people of Taishan, water from home was more significant to those far away from their motherland.

Before liberation drought plagued the county. Local annals record that here just several days with no rain would amount to a drought. With such highly variable weather, the peasants could only support themselves for three or four months with the grain they produced. But even in a normal year the harvest only fed the population for six months. The other six months they either had to buy rice from outside or go hungry. In 1943 Taishan's crops dried up and 150,000 people died in the resulting famine. Thousands fled their villages to become beggars. Bodies of those dead of starvation lay everywhere. Even today the survivors shudder at the memory.

Recently an old overseas Chinese who came back to see his relatives in the Tuanfen commune requested to stay overnight at the Talungtung Reservoir. Asked why, he told a story. Thirty years ago he had returned from abroad to Taishan to visit his family. One day he was kidnapped by bandits and held for three months at Talungtung, then an out-of-the-way place in the desolate mountains. One of his ears was cut off and a ransom of 1,000 silver dollars had to be paid before he was released. Now at Talungtung he saw a large res-

ervoir built on the very spot where he had been held. How could he forget his painful recollections?

Talungtung, in the southwestern mountains of the county, was a bandits' lair in the old days. They held up people, robbed and killed them, and looted villages. Kidnapping overseas Chinese for ransom was their specialty. They had the local landlords and tyrants behind them.

A small river originating in the mountains near Talungtung flows southward to the sea. It often dried up in sunny weather. In the rainy time it would swell with mountain torrents. With only 100 mm. of rain the river would breach its banks. To the people, the name of Talungtung meant calamity.

Water Conservation Projects

In 1958 the county Party committee organized the people to transform the area. In 13 months they completed a 290 million-cubic-meter reservoir. A 150-km. network of channels irrigates 16,600 hectares in the southeastern part of the county. Drought is no longer a threat. Alkali in the soil, caused by sea water, is being washed away. In 1965 a 2,000-kw. hydropower station began putting out 10 million kw.-hours a year.

For more flood control the people built a sluice in 1960 at Fenghuochiao on the county's southeastern coast. It benefits an area

of 787 sq. km., including 18,000 hectares of cropland in six communes. The 230-meter-long sluice contains 48 gates, and carries a seven-meter highway on top. A lock 260 meters long and 10 meters wide passes the boats. The sluice holds back salt water, stores fresh water for irrigation and drains floods.

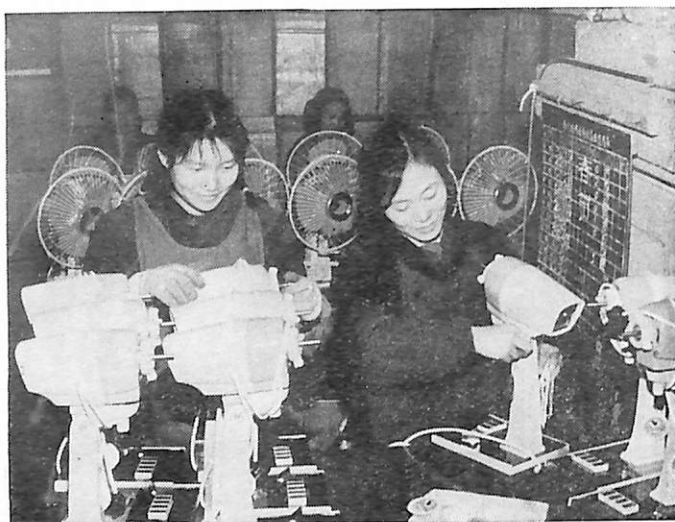
This has radically changed agriculture. A dyke encloses 3,300 hectares of low lying flats, now fertile fields. Over 13,000 hectares of originally poor land are today high-yield fields. The southeastern part of Taishan, calamity-ridden before the liberation, is now a granary.

The Shangko brigade of the Toushan commune is surrounded by sea on three sides. Formerly, drought wrecked harvests nine out of ten years. In 1943 nothing at all grew on the land of 29 villages. One third of the population, 3,240 people, died of hunger or fled the famine. In Tsengpien village 75 of the 90 families died out, ten fled, only five survived.

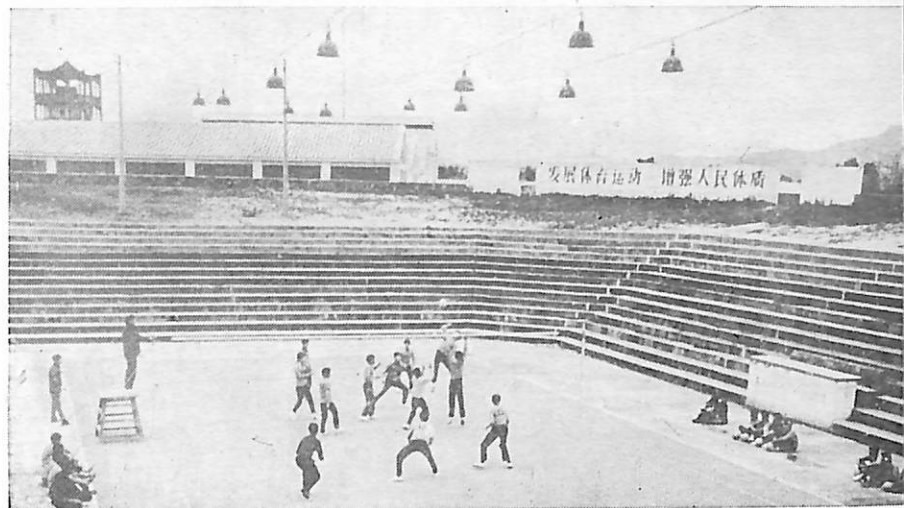
After the Talungtung Reservoir was completed, 90 percent of this brigade's land was irrigated with water from a 25-km. canal. The brigade also benefits from the Fenghuochiao sluice and is free of drought, flood and salt water. It has become a grain base in the county.

Over the past 20 years the Taishan people have built 550 storage ponds and reservoirs of all sizes

Swan Brand fans, marketed in China and internationally, are made at the Taicheng Fan Factory in Taishan.



A better life has meant more leisure and funds for sports. A 2,000-seat stadium in Shuipu commune.





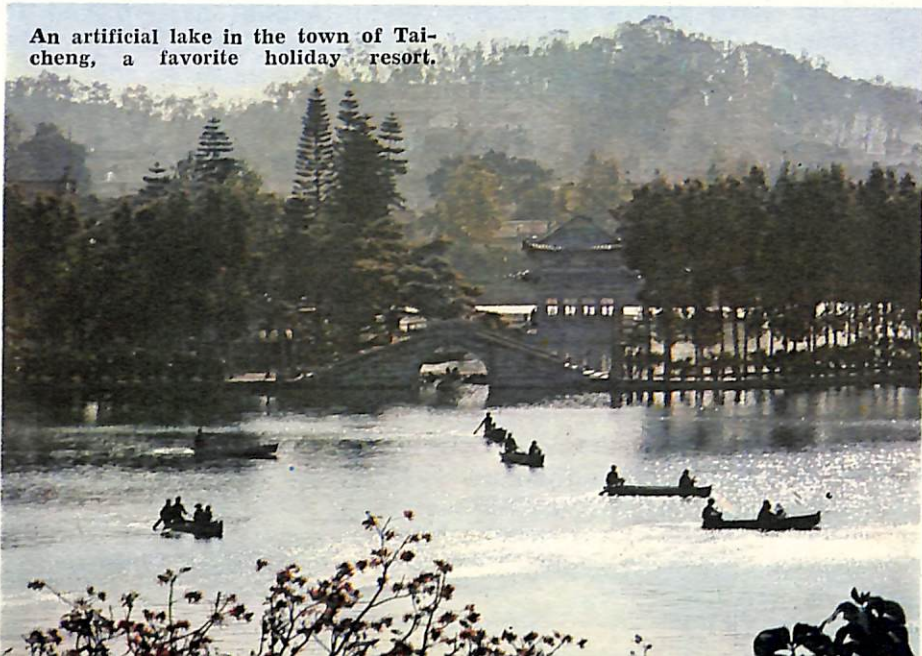


The 48-gate Fenghuochiao sluice.

Oranges harvested in the summer, recently introduced in the Tuanfen commune.



The Talungtung Reservoir.



An artificial lake in the town of Tai-cheng, a favorite holiday resort.

with a total capacity of 550 million cubic meters. Dykes and power-operated drainage and irrigation stations have greatly improved farming conditions. In 1961, for the first time in its history, the county fed all its people—and sold 30,000 tons of grain to the state. In 1976 it supplied over 100,000 tons of rice to the state.

In 1977 the worst drought in a hundred years hit Taishan. In eight months rain was only 570 mm. The people fought back and, with harder work and their collective strength, got a record bumper harvest of grain 19 percent higher than 1974, their past peak year. They got 5,600 tons more of sugarcane than in 1976. Orange and tangerine trees introduced into Taishan only a few years ago had record crops. The fruit is sold in Hongkong and Macao.

Concrete Roads

In the downtown section of the county seat five big characters inlaid with pebbles in the surface of a street read: "First Street in Taishan Paved with Local Concrete". Most of the streets in the town were sand and clay, only a few of the main ones were paved with concrete. In 1958 the county built a cement plant using local raw materials. All its equipment was China-made, much of it by Taishan workers themselves. It produces 100,000 tons of cement a year. All the Taicheng streets are paved with it. There are also three commune-run cement plants in the county.

Industry was very backward in old Taishan. Since liberation local industries have grown by leaps and bounds. Taishan today boasts more than 40 different factories. These include power, coal, machinery, chemical fertilizer, ceramics, cement, insecticide, textile, sugar, glass, shipbuilding, wines and metal products. They turn out 400 kinds of products with a total value more than 42 times what it was in 1950.

The Taishan Agricultural Machinery Plant No. 1 was built in 1957. It made only simple farm tools. But in 1975 it began produc-

ing two types of tractors, the Taishan 20 and the Pearl River 60 to help speed up the mechanization of farming. The county has two sugar refineries, one county-run, the other by a commune. Each processes 500 tons of sugarcane a day. Taishan has much clay and a ceramics factory set up a few years ago now turns out over 10 million pieces of porcelain a year. Many of its products are sold abroad.

Last year an overseas Chinese came from the United States to visit his relatives. During his stopover at Hongkong he saw in a store a nice Swan Brand electric fan made in Taishan. He doubted his eyes. "Could my native place make such things?" he asked himself. He couldn't believe it until he returned home and visited the factory. He bought one to take back to show his relatives and friends.

New Fishing Village

Taishan is famous for its Kuang-hai salted fish. One of the places that prepares them is the Nanwan commune, a kilometer from Kuanghai, the second biggest town in Taishan. Nanwan has 7,100 people. The only fishing commune in the county, it lies on a beautiful bay. The village consists of rows of new houses on the seashore, 500 altogether.

Fishing has developed rapidly. In 1977 the commune had basically mechanized the work and the biggest haul of fish in its history was brought in, 14,800 tons, 9.6 percent more than the year before. Fishermen averaged 600 yuan income, a 12-percent increase. All 1,400 families have moved from their boats into the permanent homes.

The sight of men and women repairing boats, drying and mending nets in front of two- and three-story buildings along the paved street and children playing on the sidewalks after school, makes it hard to believe that this place used to be a tidal swamp.

Two of the village families are typical examples. One is that of Lin Kuang-yao, 58, a veteran fisherman and now vice-secretary

of the Kunpeng brigade Party branch. "Our past life was miserable," he said. "There used to be a ballad, 'Sky for a quilt, the sea a bed. We float on the sea, seaweed is our food and burlap our clothes. We never know when our old boats will sink and the angry sea swallow us.' Life since liberation is a hundred times better than the past." The other is the family of Chang Fu, Party secretary of the same brigade. His brother is a vice-head of the commune's fishing scientific and technical station. The seven in the family live in a two-story house with 70 sq. m. of floor space. Chang's mother, well over 80, her face wrinkled with age, leads a life she never dreamed could be possible in the old society.

On a hill facing the sea are many houses where people who used to live in boats now live. A park is nearby and a club is being built by the commune. From the top of this hill the whole village can be seen. Fishing boats dot the blue sea to the south. Volleyball matches go on below in the playground. Taishan people are great volleyball enthusiasts. They can be seen playing it on the sidewalks, in playgrounds, even on grain-drying and fish-drying grounds in every commune. The county lives up to its name in China as "the home of volleyball". For fishermen, an additional advantage to moving from boats to land homes is the proximity to a volleyball court.

Return of the Native

In Fucheng commune now lives a 106-year-old overseas Chinese who returned from Australia two and a half years ago. Li Li-tung lives with his family in a new house. The people's government has taken good care of him since he came back. County leaders often come to see him and doctors give him regular checkups. In a firm voice, Li Li-tung told his own story.

He left China with his two brothers in 1898 when the country was in ruin and people in misery. The poor sold their children and many fled the famines. Li's three brothers went to Hongkong. There they were



Members of the Tienmei brigade sow rice seeds to get ready for spring planting.



The tractor-assembly shop at the Tai-shan Agricultural Machinery Plant No. 1.

The Nanwan commune's new fishing village.





Tseng Kuo-huan, head of the Chilo brigade's orchard and an advanced worker in the county, prunes fruit saplings.

put in the hold of a ship bound for Australia — to become laborers in an alien country. Australia was called "The New Golden Mountain" by the overseas Chinese (the United States was the original "Golden Mountain"), but it took the Li brothers many years to amass any of that gold. After several decades of hard labor, Li Hsiu-tsung, the eldest brother, then already past 70, had saved the sum he thought he needed to go back to China to spend his later years. But China was still under the Kuomintang regime. Before he could get home his money had been by one way or another stolen, tricked and robbed away from him. When he reached Taishan, he didn't have a penny. Depressed that his countrymen were still living in misery and poverty, he left his native place again and went to Hongkong. There he died of hunger and illness.

Li Li-tsung and the other brother made a living growing vegetables in Australia but longed to go back to China. The news of the liberation of their motherland filled them with great excitement. They tried every way they could to find out how to return. Nobody would listen or help them. Finally in 1974 when diplomatic relations were established between China and Australia, Chinese embassy

officials went to visit them. In July 1975 the two Li remaining brothers, now 77 years away from home and both over 100, left for their motherland.

"Before liberation," he said, "an overseas Chinese like me had only two choices, to remain abroad and die there or come back. But even if I could have come back home, nobody would have paid any attention to me. Only in the new society can we returned overseas Chinese have a happy old age."

Tan Wei, nearly 80, returned to China in 1950 from the United States. He lives in a two-story building on a quiet street in Taicheng. Three generations of his



Tan Wei, chairman of the county association of returned overseas Chinese, enjoys his life after retirement.

family had worked as laborers in the States, exploited and discriminated against. He has seen great changes in Taishan. He was a vice-head of the county government, and is now a committee member of the Kwangtung Province Association of Returned Overseas Chinese and chairman of its Taishan branch.

"The overseas Chinese cannot be separated from their motherland," Tan Wei said. "They have a long tradition of struggle for the Chinese revolution. Many supported and took part in the peasant revolutionary war (1851-64) led by

Hung Hsiu-chuan, the Revolution of 1911 led by Dr. Sun Yat-sen, the war against Japanese imperialism and the war of liberation against the reactionary rule of the Kuomintang. Among these was quite a number from Taishan."

Overseas Chinese long wanted to see China prosperous and strong. The founding of the People's Republic of China in 1949 was a great inspiration to them. Many came back to take part in socialist construction, proud of their thriving motherland. "Since the 'gang of four' was smashed," Tan Wei pointed out, "the Party Central Committee under Chairman Hua Kuo-feng has reinstated and carried out the policies concerning overseas Chinese worked out by Chairman Mao and Premier Chou. We overseas Chinese warmly support this."

Li Lung-chan, 78, who returned to Taishan from Canada in 1956 and is now a deputy to the Fifth Kwangtung Province People's Congress, said, "Taishan has changed beyond all recognition. As strangers abroad the overseas Chinese often compare themselves to leaves detached from a tree. Now we drifting leaves have come to rest at our roots. Everything here is new to us, even the grass and the trees. We feel the warmth of the motherland."

Mr. and Mrs. Chen Tien-lin who recently came from the United States for a home visit had a lot to say. Chen left China in 1929. After working 18 years he managed to come back in 1947 and got married with the small sum of money he had saved. He found the reactionaries still riding roughshod over the people. Prostitution, gambling, drinking and smoking opium were wrecking society. But on this present visit he said he felt as if he had entered another world.

"Most overseas Chinese live by hard work and are patriotic," Chen Tien-lin said. "They support the People's Republic of China because they have waited for the day when their motherland would become prosperous and strong. When I return to the United States I will show color slides and tell other overseas Chinese about Taishan's new look."

Asian Badminton Moves Ahead

KEENLY-CONTESTED games and wide exchange of experience marked the Third Asian Badminton Invitation Championships held in Peking in April. Sixteen countries — Bangladesh, Burma, Democratic Kampuchea, India, Laos, Malaysia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand, the Democratic People's Republic of Korea, Japan, Indonesia and China — and Hongkong sent either teams or non-playing delegations.

In seven days 94 players from 11 countries and Hongkong competed in eight events. The men's singles with 43 entrants was the most fiercely contested event. Many well-known players demonstrated superior techniques and tactics. Saw Swee Leong, national men's singles champion from Malaysia, an all-round player, swept through the preliminaries and defeated Lin Shih-chuan, one of China's top players, to qualify for the semi-finals. Padukone Prakash, India's national champion, had defeated strong Chinese players in past matches. This time, pitted against defending champion Yu Yao-tung of China in the quarter-finals, he dropped the first set but took the second. In the third set Prakash tied the score at 13:13 before finally yielding the set 14:18 and the match 1:2.

The women entrants showed courage, stamina and a new high

level of skill. China took the first four places in the singles event. Ami Ghia of India and Ismet Saeed of Pakistan both played outstanding games to enter the quarter-finals. Thailand's 37-year-old veteran Thongkam Kingmanee, eight times national champion, was in excellent form. Her steady game and firm control of the shuttle combined with the bold attacks of youthful Patama Sirisriro won them the doubles title.

For the first time the invitational championships held events for junior players. Twenty-six boys and girls from eight countries

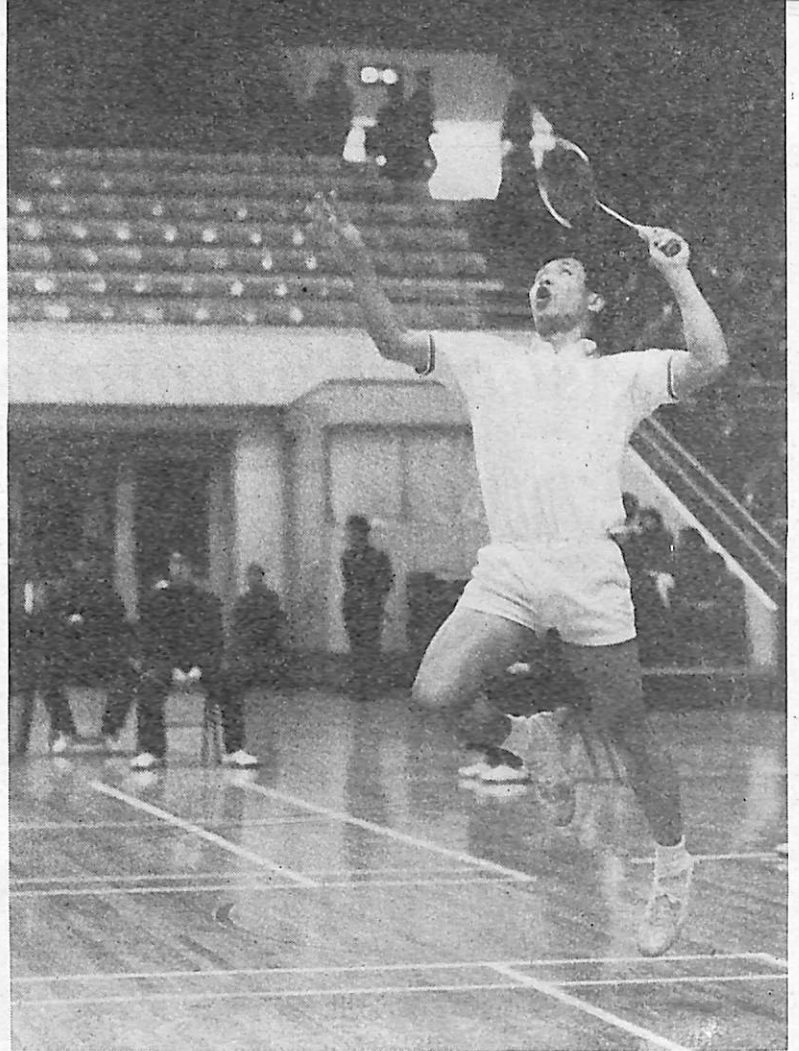
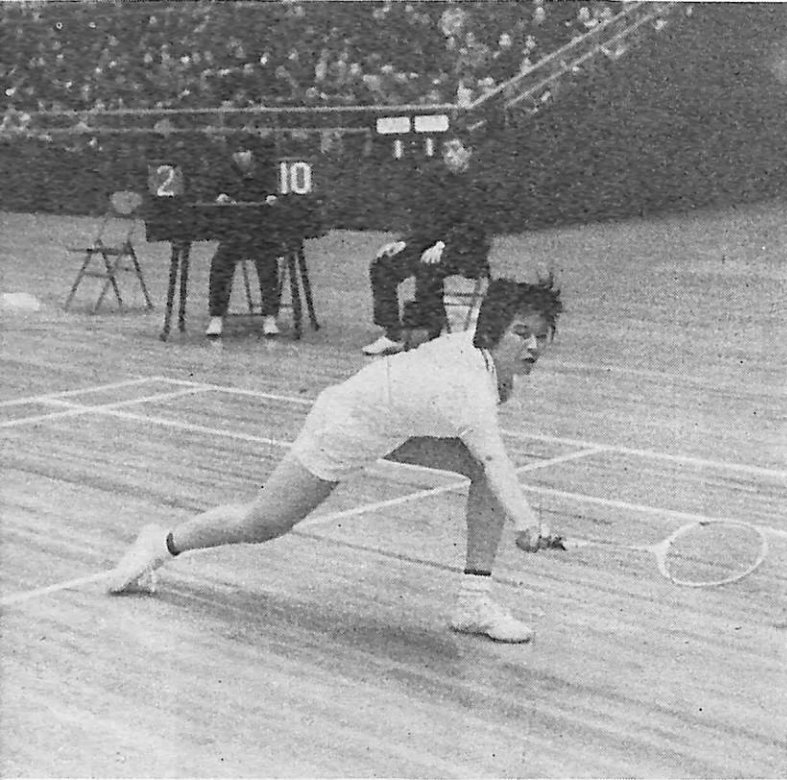
Players learning from one another.



Off to a splashing beginning: Thai, Burmese and Chinese players and coaches honor the traditional water-splashing festival which came during the meet.

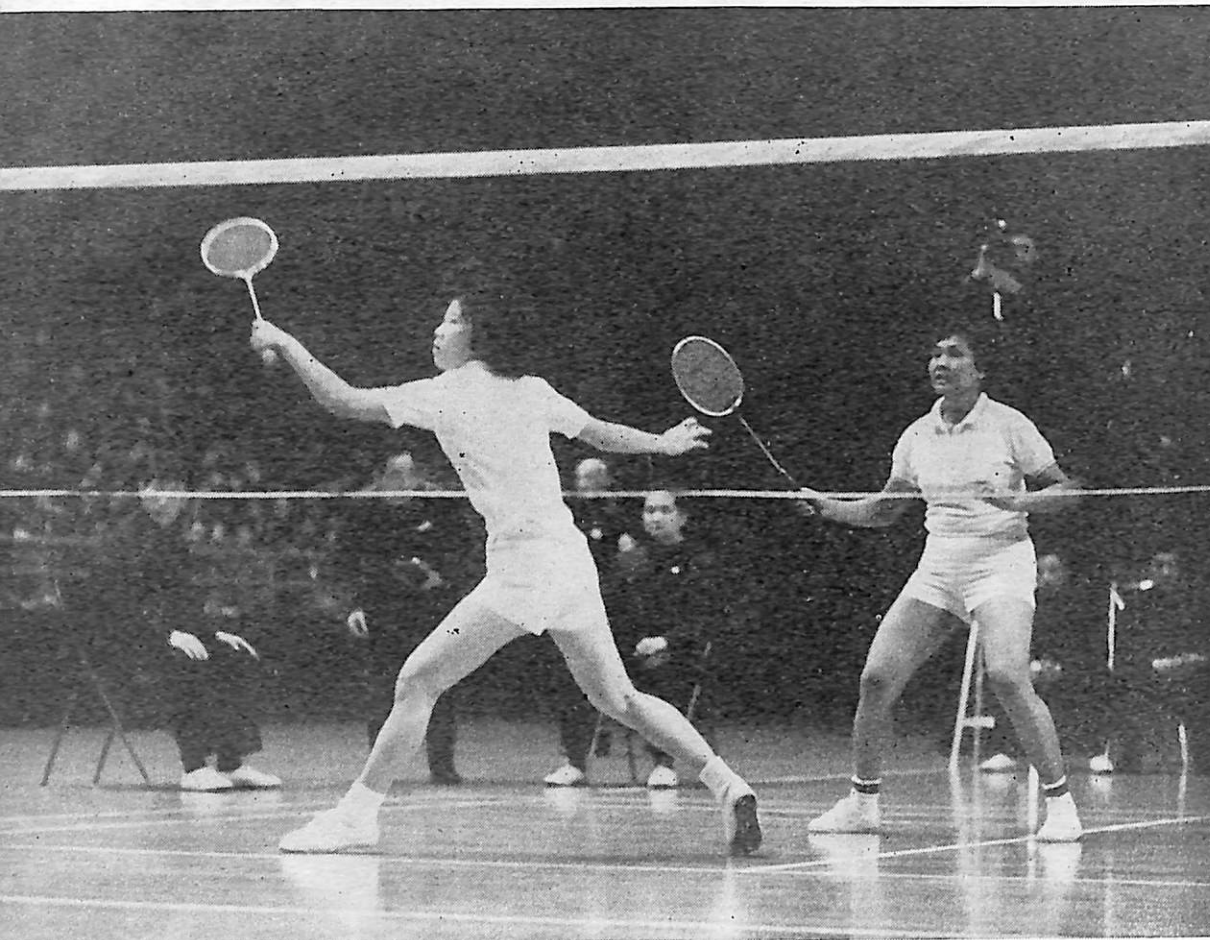


Liu Hsia, women's singles winner.



Yu Yao-tung, men's singles champion.

Thongkam (right) and Patama, women's doubles champions.



India's P. Prakash and S. Modi during a match.

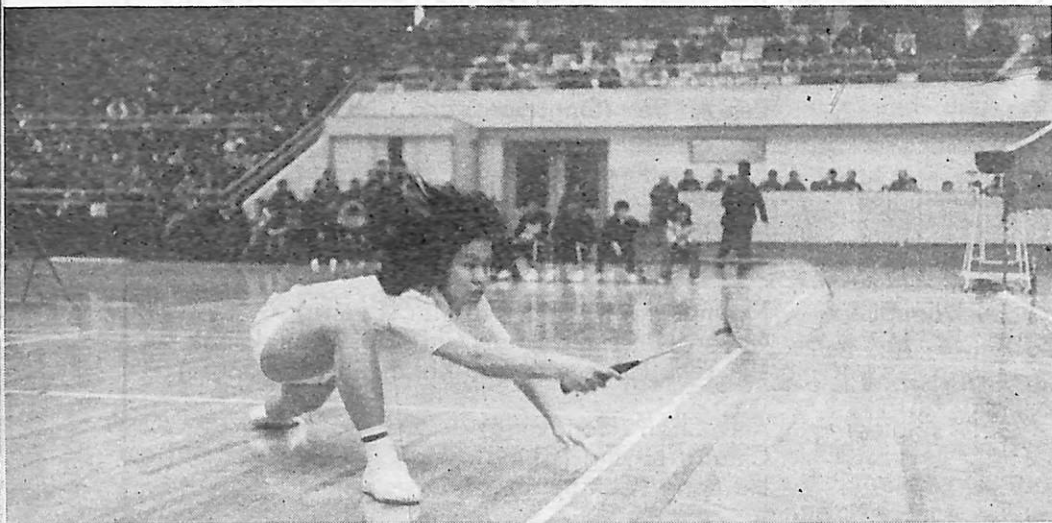




Tay Hoe See and Lee Joo Peng, winners of the girls' doubles title.



J. Iqbal, Pakistan.

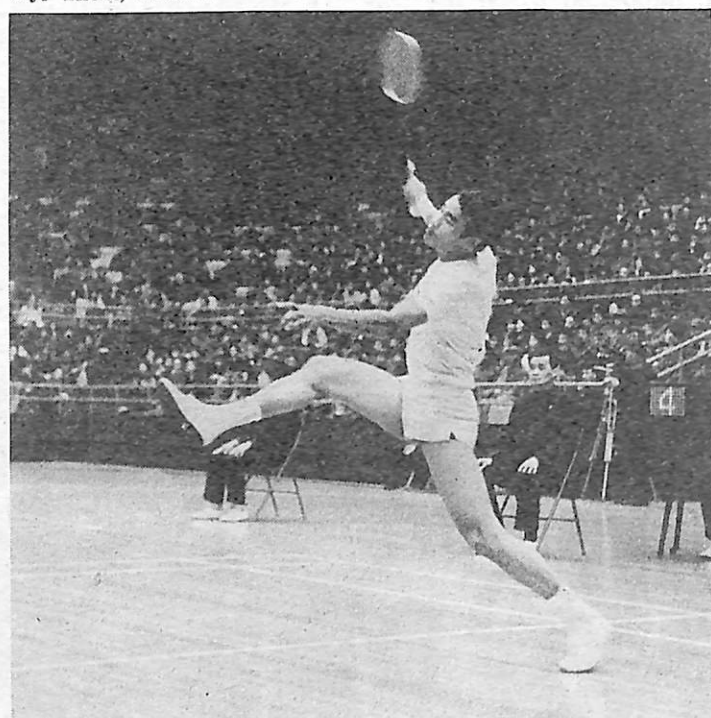


Amy Chan, winner of the girl's singles title.



E. Fernando, a junior player from Sri Lanka.

Kyi Thein, Burma.



and Hongkong competed. Their styles were characterized by daring attacks. In the boys' doubles finals, Burma's Maung Maung and Win Mar faced Hongkong's Chung Ning and Chan Chi Choi. All four of almost exactly the same height played with speed and hard smashes, showing themselves to be promising newcomers at the attacking game.

HALFWAY through the tournament the organizing committee arranged a two-hour training session during which coaches and players exchanged experience and pointers on technique. Tang Hsien-hu, one of China's best players, gave demonstrations of a variety of services, including sending a spinning shuttlecock that tumbled low over the net. Players from the Philippines, Malaysia, Sri Lanka and Hongkong gathered to watch as Tang explained the finer points and how to execute the service.

Kok Peng Hon of Singapore demonstrated his specialty of forehand and backhand level shots and push shots. Under Kok's coaching China's junior player Ho Shang-chuan tried out the technique again and again until he mastered it.

The day before the competitions, April 14, happened to be the tra-

WINNERS OF THE FIRST THREE PLACES IN THE EIGHT EVENTS

- Men's singles: Yu Yao-tung (China)
Chen Tien-lung (China)
Luan Ching (China)
- Men's doubles: Tang Hsien-hu and Lin Shih-chuan (China)
Padukone Prakash and Syed Modi (India)
Tariq Wadood and Javed Iqbal (Pakistan)
- Women's singles: Liu Hsia (China)
Chang Ai-ling (China)
Hsu Jung (China)
- Women's doubles: Thongkam Kingmanee and Patama Sirisriro (Thailand)
Hsu Jung and Yu Chiang-hung (China)
Peh Ah Bee (Singapore) and Chang Ai-ling (China)
- Boys' singles: Ho Shang-chuan (China)
Chang Keng (China)
Syed Modi (India)
- Boys' doubles: Maung Maung and Win Mar (Burma)
Chung Ning and Chan Chi Choi (Hongkong)
Lim Teck Heng and Foo Khian Jin (Singapore)
- Girls' singles: Amy Chan (Hongkong)
Chiang Li-ying (China)
Liu Feng (China)
- Girls' doubles: Tay Hoe See and Lee Joo Peng (Singapore)
Chiang Li-ying and Liu Feng (China)
Amy Chan and Li Kam Wah (Hongkong)

On an excursion to the Great Wall.



ditional water-splashing festival of Burma and Thailand and New Year's Day for Sri Lanka. Chinese players and coaches came to the stadium where players of these countries were practicing to offer holiday greetings. The Chinese brought bowls of water to splash on the Thai and Burmese players, who returned the gesture. The friendly atmosphere at the opening deepened throughout the seven-day competitions. Before parting, players expressed the hope of seeing one another again this coming October in Bangkok where the first world badminton championships to be sponsored by the newly-founded World Badminton Federation will be held.



Kwangtung province carver Huang Hsien working on an ivory ball.

Cultural Notes

IVORY CARVING

IVORY CARVING is an ancient craft in China. The earliest carved pieces were mostly articles of practical use. Among the objects unearthed at the 3,000-year-old Yin-Shang dynasty ruins in Anyang in Honan province, for example, were combs, hairpins and wine vessels of ivory, but only one ornamental item. As the centuries went by, ivory carving was influenced by painting and sculp-

ture and more and more works were made for pure appreciation.

The main ivory-carving centers are Peking, Shanghai and the provinces of Kwangtung, Kiangsu and Fukien. Each specializes in forms of treatment that give its works their own style.

Kwangtung craftsmen are known for their openwork carving, particularly on models of

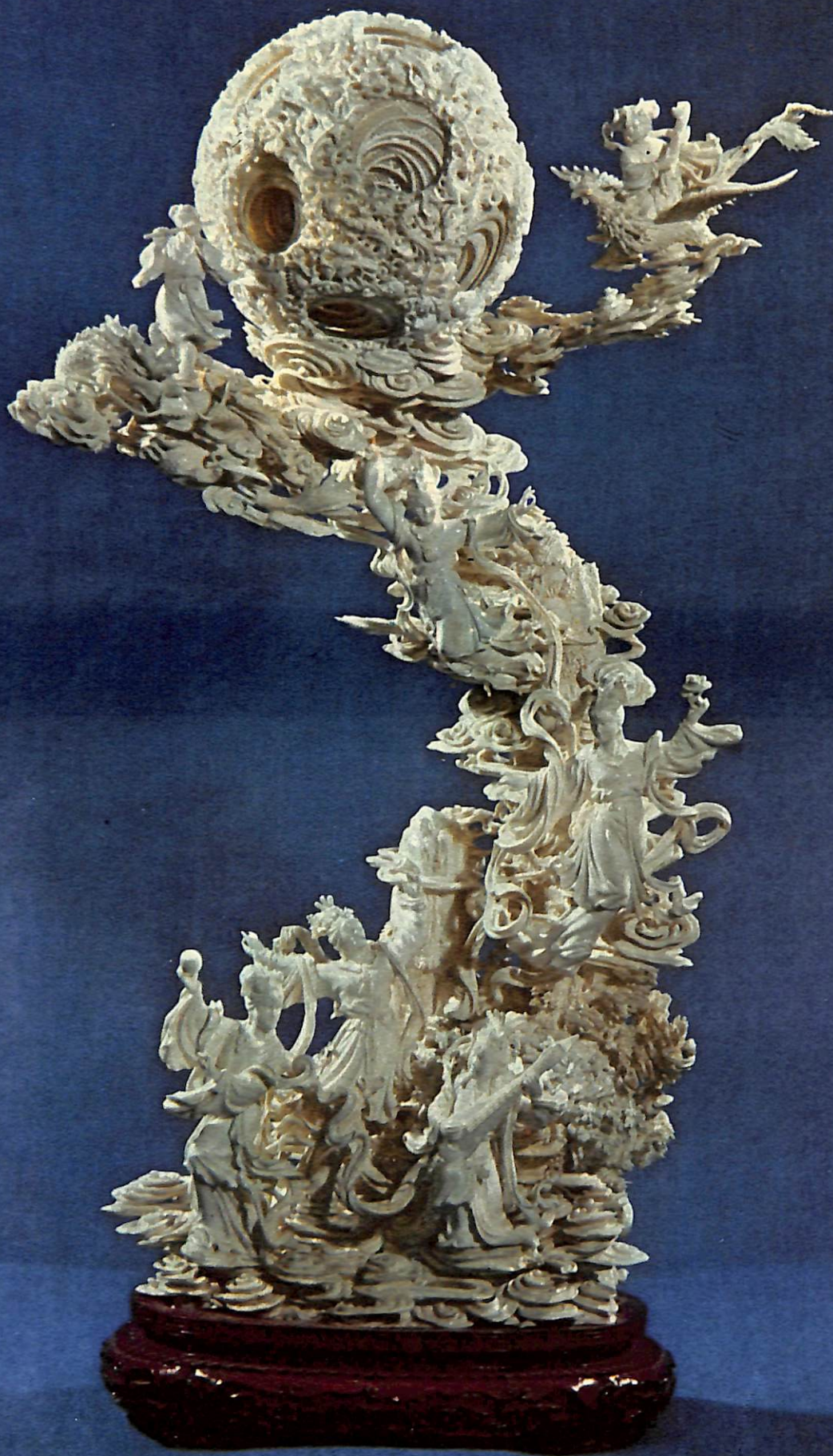
pleasure boats and elaborately carved balls one within another. In 1915 a 25-layer ivory ball carved by Weng Wu-chang and his son of Kwangchow (Canton) won a gold medal at the Panama-Pacific International Exposition. Since then Kwangtung ivory workmen have raised the number of layers to more than 40 and incorporated the balls into a general design, often embodying a story. They have turned what were once marvels of pure technical ingenuity into works of artistic merit.

A 41-layer ball set amid related scenery entitled "Chang-o Descends to Earth" is an example of changing a classical theme to praise the present. The traditional legend has Chang-o flying to the moon in search of immortality. This carving shows the lady and fairy maidens, attracted by the new happenings on earth, leaving the moon to return to the human world.

Kwangtung carvers have been quite successful at figures. One example is "Catching a Fish", a fisherwoman in rain hat delighted at catching a fish almost as big as herself. Simplicity of composition and slight artistic exaggeration enhance the girl's feeling of joy.

PEKING artists have long specialized in traditional figurines, flowers and insects, either in the round or in low relief. A new work done in Ming dynasty style — characterized by economy of lines — is "The Venerable One". Carved from the tip of a tusk, it is an old man in ancient hairstyle and costume holding a lotus flower in one hand. The slightly tilted head and the flowing beard and garment folds give the figure an extraordinary grace and animation.

Another Peking specialty is painted carved ivory. Among the finer new examples is "Green Cricket" showing the insect, painted in green, its long feelers



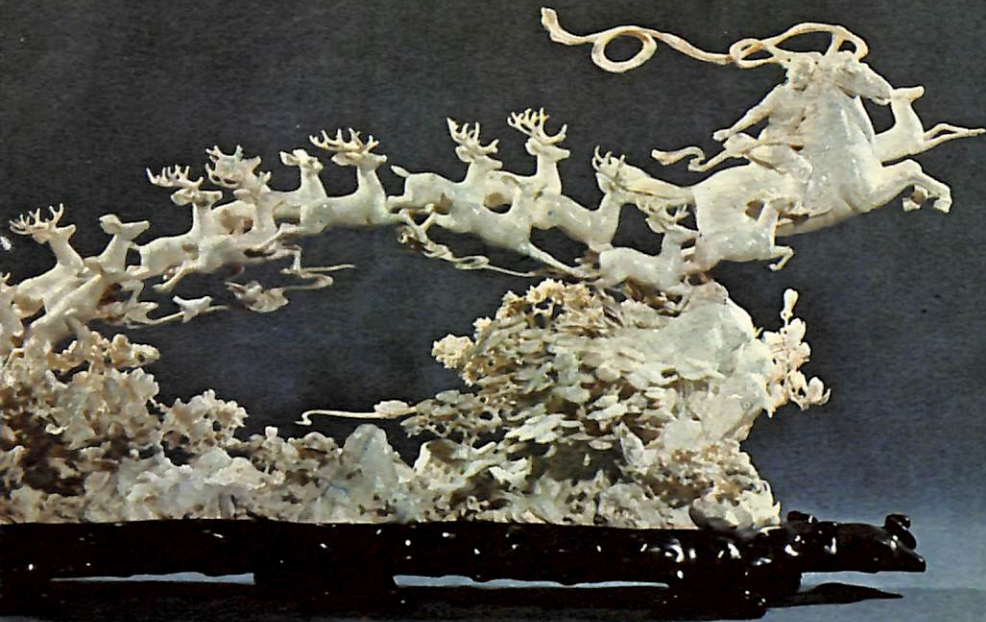
Chang-o Descends to Earth (Kwangtung province)



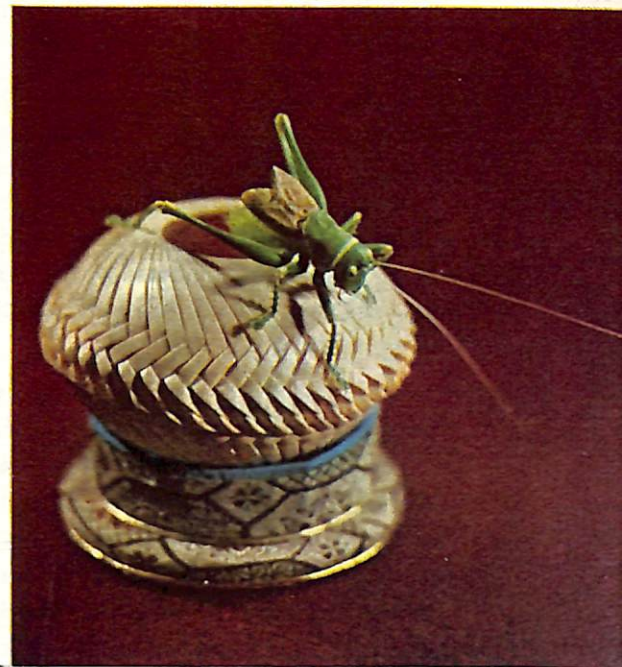
Taming Reindeer (Kiangsu province)



The Venerable



vince)



Green Cricket (Peking)

Fishing Boy (Shanghai)



One (Peking)



The Sky Clears (Fukien province)



pointing, coming out of an open bamboo cage. Skillful carving gives the woven bamboo a realistic texture. The cricket seems about to hop off.

Shanghai works are distinguished by their delicate workmanship. "Fishing Boy" captures the moment the boy hooks a goldfish, an incident from a folk legend. His joy is expressed through his posture, based on folk dance movements.

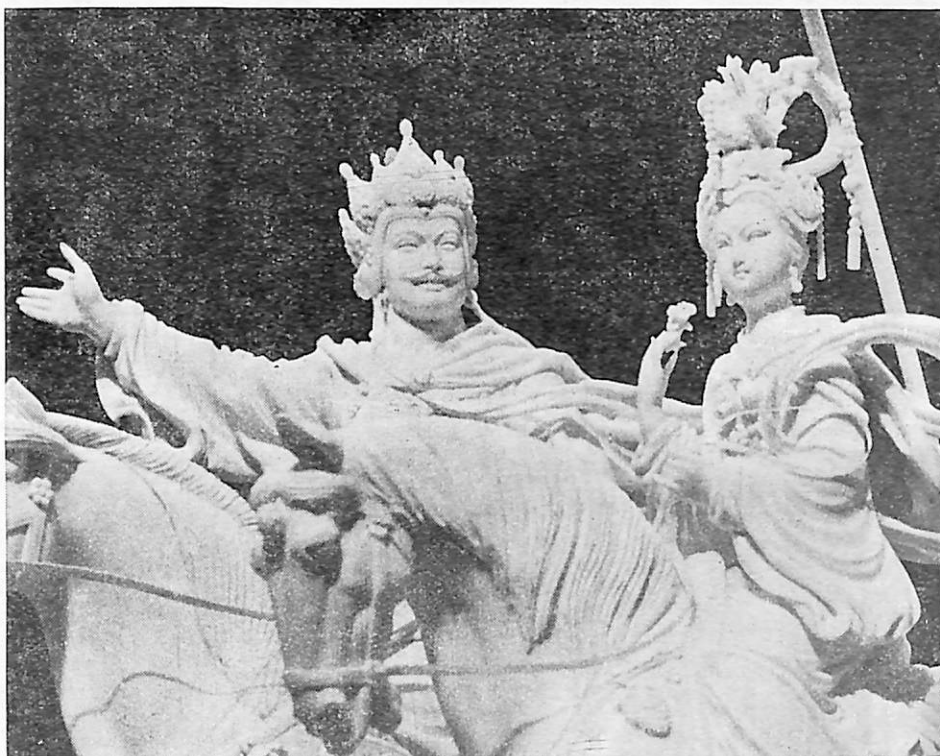
A major item from Kiangsu province, known for works of traditional themes, is "Princess Wencheng", which depicts an event in the Tang dynasty. In 641 Emperor Tai Tsung sent a daughter of the imperial house to marry the Tibetan king, Songtsan Gambo. The carving shows Songtsan Gambo welcoming the princess at the middle gate of his palace. Each of the 49 accompanying figures is an individual character and each of the 14 horses has a different stance. The imposing gate, the guard of honor, the state umbrellas and the camels with uplifted heads create a scene of pomp and circumstance whose movement can almost be heard and seen. The king's outstretched hand and the

princess's gracious smile accent the new relationship between the Hans and Tibetans.

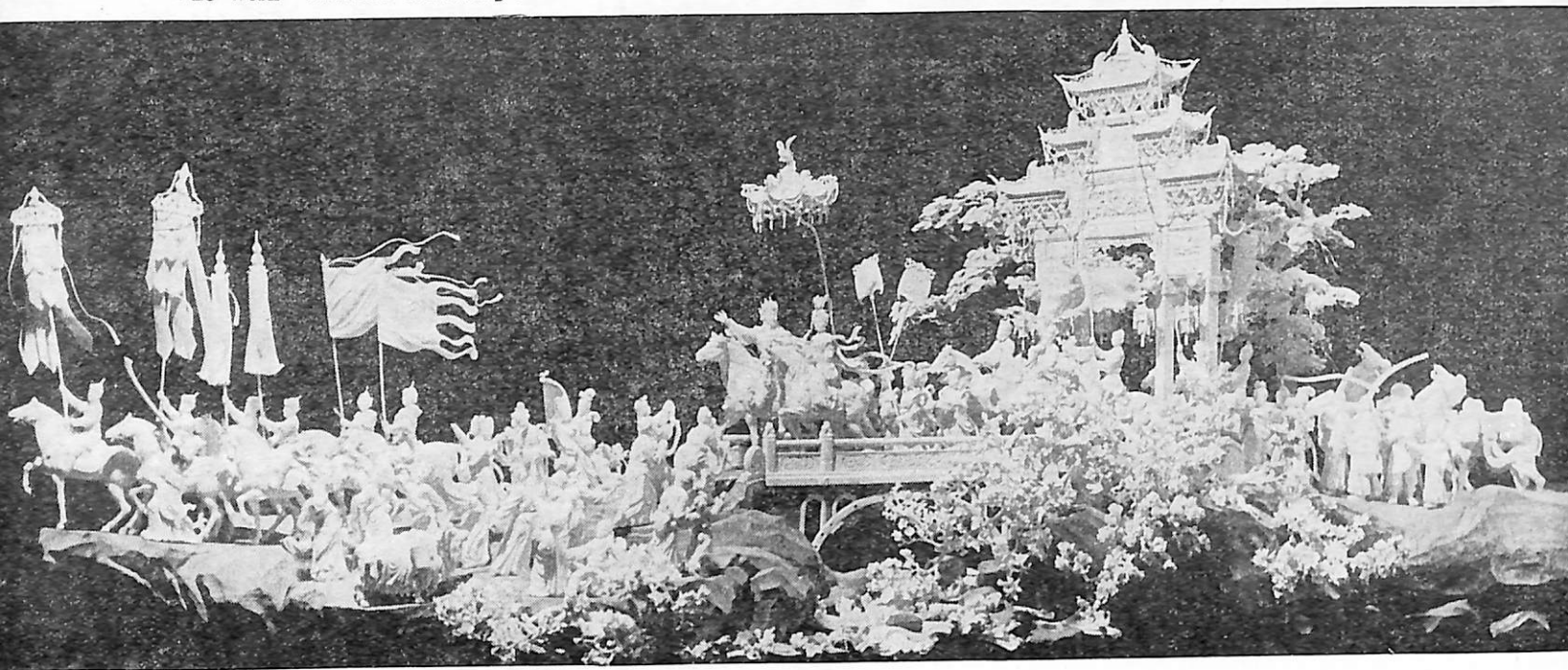
"Taming Reindeer" is a decorative piece made by Nanking artists. The girl tamer galloping on horseback and the leaping reindeer following her are carved from a single tusk. They exhibit a strong feeling of movement.

"The Sky Clears" by a veteran Fukien province artist is the graceful figure of a girl, a smile on her face, about to close her umbrella. It is a companion piece to the artist's "Walking in the Rain" made a dozen years ago, showing a young woman, caught in the rain, opening her umbrella and walking carefully on tiptoe.

Songtsan Gambo and Princess Wencheng, detail from "Princess Wencheng".



The work "Princess Wencheng".



Women's and Children's Health Work

MU CHENG

WOMEN and child care receives great attention in China. The Constitution and labor regulations contain special provisions protecting women's and children's health. The work has always been guided by Chairman Mao's principles regarding health work — to serve the workers, peasants and soldiers, to put prevention first, to give full scope to both western and Chinese traditional medicine, and to move medical work forward with mass movements. Today the number of beds in children's hospitals is over 20 times that of 1949 and women and child care clinics over 100 times.

Safer Childbirth

"When a newborn struggles to live, its mother lies on the brink of death, only a paper-thin distance from the King of Hell." This is an old Chinese proverb describing the danger of childbirth for rural women in old China. Before liberation there were less than 15,000 midwives in the entire country and most of them were in the cities.

Rural women at delivery time were assisted by relatives or old-style midwives. These people had little knowledge of hygiene, worked with unwashed hands and generally cut the umbilical cord with rusty scissors, a broken bowl or a scrap of metal. Infants often died of tetanus and mothers of childbed fever.

In the Peking city districts at the time of liberation, only 58.2 percent of the newborn were delivered with modern scientific methods. Infant mortality was 11.76 percent, tetanus incidence 0.72 percent and mothers' death rate 0.7 percent, more than half from childbed fever.

Today all expectant mothers in cities give birth in hospitals. In

1976 infant mortality was 1.035 percent — none from tetanus — and mothers' death rate was 0.015 percent.

Efforts that led to this progress began right after liberation when in 1950 the first national forum on the work of mother and child care decided to make the universal adoption of modern childbirth methods its central task. Old-style midwives were taught modern medical knowledge and delivery methods, and new midwives were trained.

Today, nearly three decades later, rural women are served by a million trained personnel — 400,000 barefoot doctors and 700,000 modern midwives. They all belong to a four-level women and child care network system — at the production team, brigade cooperative medical station, commune hospital and county maternity center levels. At each level there are personnel specially responsible for this work. Commune hospitals train and manage the women barefoot doctors and midwives. Sterilized cutting of umbilical cord, prenatal and postnatal examinations and follow-up checkups for infants have all but eliminated tetanus and childbed fever in most areas.

More and more rural women have their babies in lying-in hospitals. In Paoshan, Chuansha and several other counties outside Shanghai, for example, 85 percent of the expectant mothers deliver in the commune hospital. In some places lying-in rooms have been set up in brigade clinics. In Yingcheng county, Hupeh province more than 90 percent of the brigades have lying-in rooms. By steadily promoting modern childbirth methods for 18 years the county has eliminated infant tetanus and childbed fever. Ying-

cheng's experience is being publicized throughout the rural and pastoral areas.

Protecting Women's Health

The percentage of working women is very high in China. They get equal pay for equal work. The government has laid down many specific regulations to take care of the special physical problems of women.

In cities labor insurance regulations guarantee special care for women workers during pregnancy, childbirth and nursing. Factories have hygiene rooms staffed by trained personnel to counsel women workers on menstrual problems. Proper and regular care helps discover pregnancy early and regular checkups help cut down the rate of difficult birth, miscarriage, premature birth and their complications. From their seventh month, pregnant workers are given light work and an extra hour of rest during a shift. Maternity leave is from 56 to 70 days. During the nursing period they have two half-hour breaks to feed their babies.

In the countryside women do not work in wet paddy fields during menstruation. Pregnant women do only light work and nursing mothers work near their homes.

Periodic and universal examination and treatment of women is carried out in the countryside. This has been made possible by the cooperative medical care system, the barefoot-doctor service and increased use of mobile medical teams of city hospital doctors.

In Kiangsu province this work has been carried out for seven years in a row with a total of 17,000,000 examinations. In Jutung

county, eight years of checkup and treatment has cut down the incidence of women's diseases almost by half and women's work attendance has risen from 70 percent to 95 percent. In the Kwangsi Chuang Autonomous Region, in 1976 alone 1,200,000 examinations and treatments were given. A second universal checkup has already begun.

Cancer surveys are increasing in the rural areas, centering on



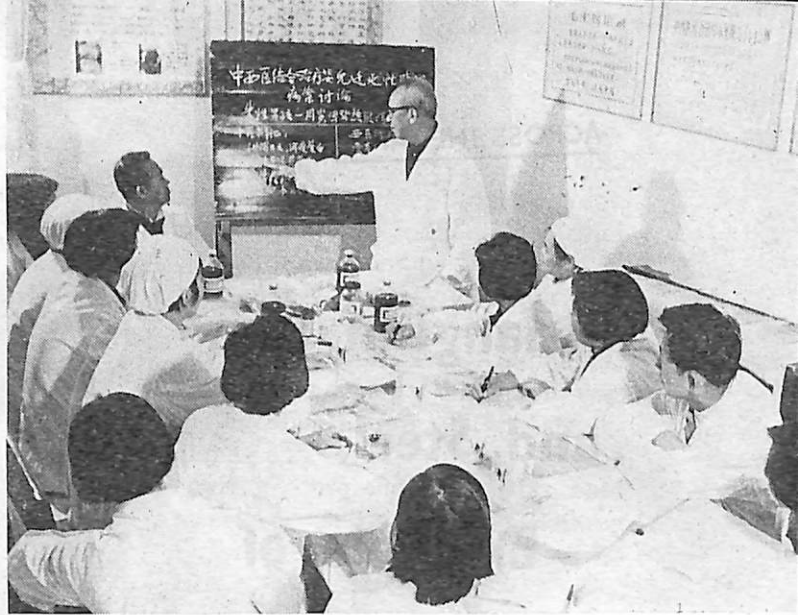
Explaining the importance of cancer survey and prevention to women textile workers, Shanghai.

A barefoot doctor gives children vaccinations in a Tai nationality village in Yunnan province.





Teaching kindergarten children how to protect their teeth.



Pediatricians at Fukien Provincial Hospital No. 1 discuss treatment of infant diseases with a combination of western and Chinese medicine.

cervical cancer and making early detection and treatment possible. Both preventive checkups and treatment are free.

Child Care

The guiding principle in child care is prevention first. All children in town and country are given regularly and without charge inoculations of BCG, vaccinations of diphtheria, pertussis, smallpox and combined diphtheria, pertussis and tetanus. Vaccines to prevent measles, polio and Japanese B encephalitis are widely administered. With prevention, vaccination and mass hygiene movements, contagious diseases are now under control. Smallpox, cholera and the plague have long been eradicated. Incidence of other infectious diseases has dropped greatly. In pre-liberation Peking, infant tetanus and some other acute infectious diseases used to be the biggest killers. But now the first three are congenital malformation, premature birth and respiratory ailments.

Good nutrition is among the first on the list of child care methods. Rising living standards have generally eliminated nutritional edema, once a common disease among working people's children. While light cases of malnutrition still exist, most of

them are the result of bad eating habits, wrong feeding methods or children newly-recovered from illnesses.

Eighty-five percent of infants in China are breast fed, an important factor for healthy growth. Medical personnel make it a point to teach rural mothers scientific knowledge and methods of nursing. A film *Infant Feeding* is shown widely in the countryside. Medical workers also teach mothers the correct way to knead a child's spinal area, a traditional home treatment to relieve indigestion and improve appetite.

More milk substitutes are improving the diet of infants. While there is a good supply of dairy products in cities and pastoral areas, they are far from universal in the rural areas. Research personnel have made the production of milk substitutes a major project, usually working closely with local medical and foodstuff factories to come up with prescriptions suitable for particular localities. Some counties are now producing good, inexpensive substitutes locally.

Better care has resulted in stronger physique. A height and weight test of 14-year-olds in Nanking showed that the average height in 1975 averaged 8 centimeters more than in 1956 and weight 4 kg. more. In Harbin

tests of 22 age groups ranging from three months to 17 years showed that boys of 1975 are 3.8 cm. taller and 0.78 kg. heavier, girls 3.7 cm. taller and 0.20 kg. heavier, than those in 1955.

Nurseries and kindergartens are widespread in the cities and the countryside. These give children good care and enable mothers to take an active part in production, political and cultural activities. They are equipped to keep children physically fit. They arrange outdoor activities such as hill climbing and swimming. Children often help with gleaning at harvest time, a good way to improve health and develop devotion to the collective good.

Family Planning

Family planning combines state guidance with voluntariness. It involves more than cutting down the birthrate. In densely-populated areas with a high birthrate, late marriage and birth control are encouraged. Sterile husbands and wives who wish to have children are given treatment. In minority nationality areas and others where population is sparse, measures are taken to encourage the increase of the population. At the same time guidance and help are given to couples who wish birth control. All contraceptives and related services are free.

Hsiangtan Iron and Steel

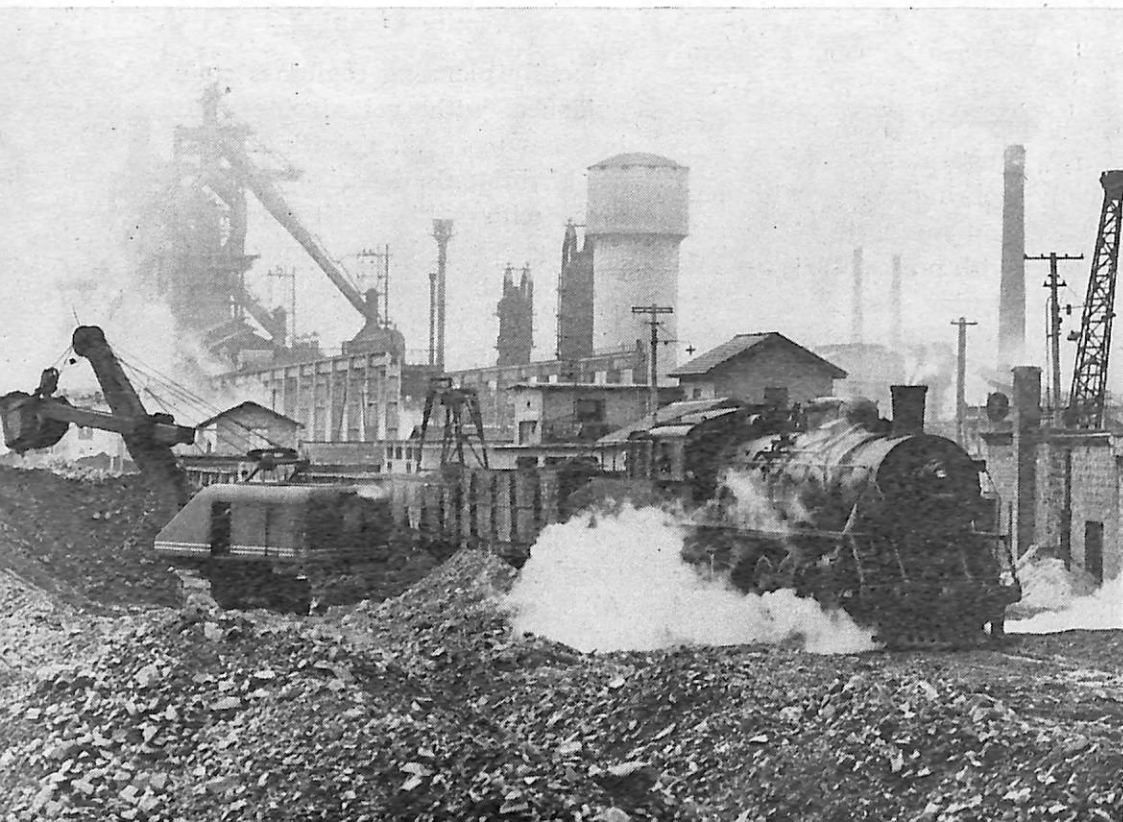
— Example of Steel Recovery

THE Hsiangtan Iron and Steel Works, an integrated complex of medium size on the bank of the Hsiang River in Hunan province, is outstanding for its rapid recovery despite serious damage to production caused by the "gang of four". Its workers brought about a rapid rise in production through socialist labor emulation and technical innovations. Output of pig iron, steel and rolled steel in the first quarter of 1978 surpassed that for the same quarter in its peak year.

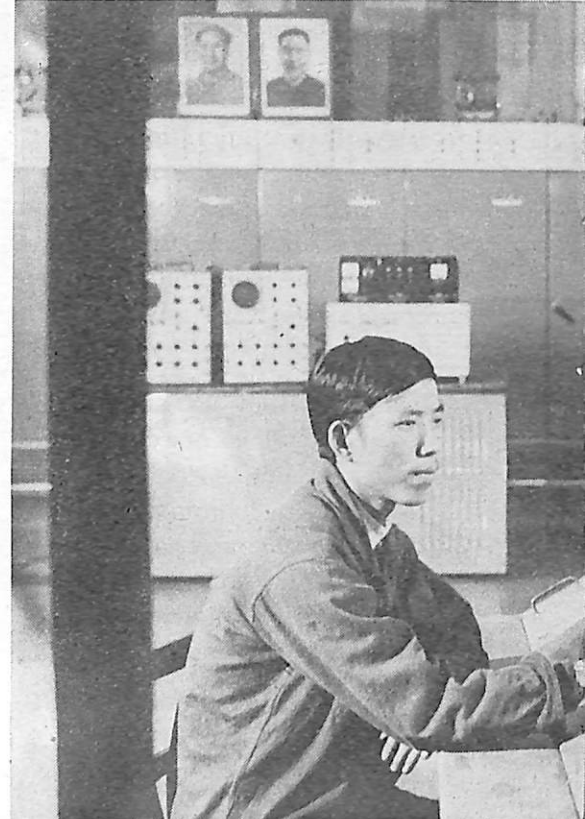


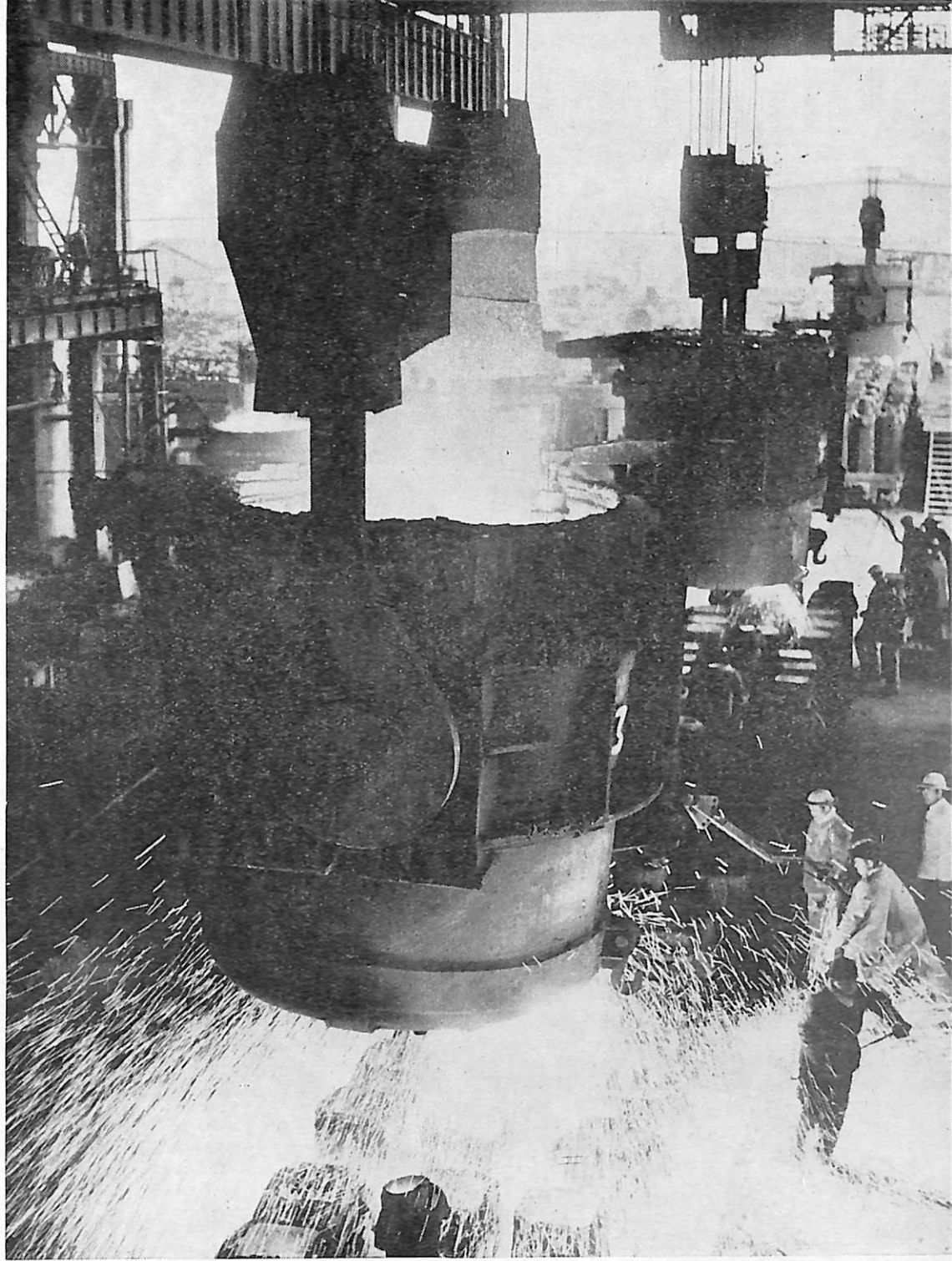
Chang Fu-tsai, deputy director of the coking plant, is an example of the leaders who regularly take part in work in the shop.

Hsiangtan Iron and Steel Works.

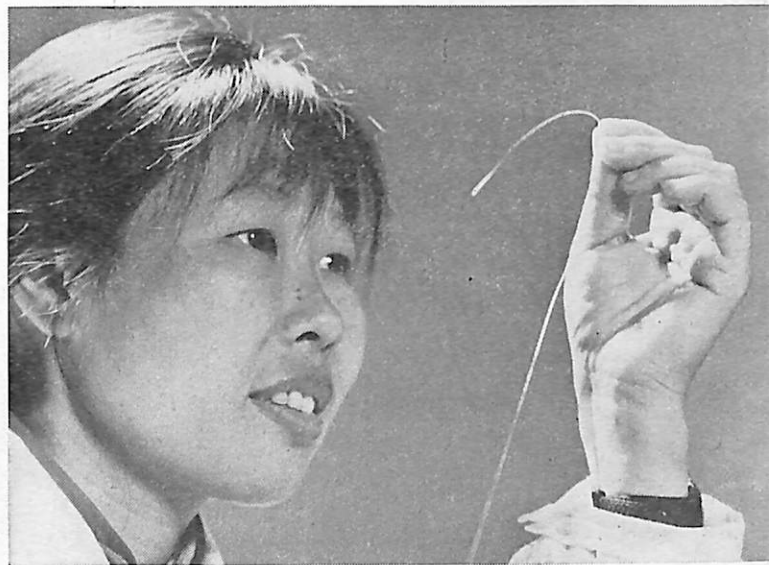


The electronic control room of the blast furnace.





Casting ingots at the open hearth furnace.



Steel strings of 0.09 mm. diameter for musical instruments are a new product of the Hsiang-tan Iron and Steel Works.



Celebrating the 20th anniversary of the Tuchia-Miao Autonomous Prefecture.



The Tuchia-Miao

Autonomous Prefecture

Staff Reporter

LAST autumn at Chishou in the Wuling Mountains in western Hunan province, two minority nationality peoples — the Tuchias and the Miaos — celebrated the 20th anniversary of their autonomous prefecture. Dressed in their best, the people paraded with red flags, silk scarves and flowers. The Tuchias danced and played a string instrument called the *tung tung kuei* and the Miaos pounded drums and blew on reed horns.

The Tuchias began to settle in the western parts of Hunan and Hupeh provinces over a thousand years ago. They called themselves "pitzukas", just meaning "local people". But in the 18th century the government of the Ching dynasty, replacing local chieftains with its own officials, forbade the Tuchias to reveal their true national identity, speak their own language, wear their own costumes and practice their own customs. They were now "extinct".

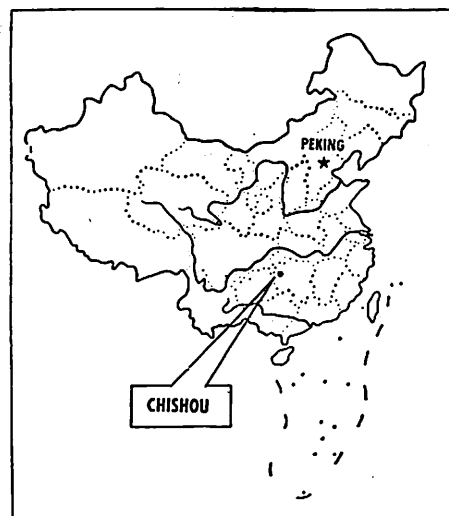
The "rebirth" of the Tuchias, who now number 590,000, came as the result of the great attention new China paid to identifying the different nationalities. Part of this was finding out whether the Tuchias still existed.

In 1950 a team investigating nationalities visited Huayuan county in western Hunan. A student in the county normal school insisted that he was a Tuchia and that the Tuchias were a separate nationality. This sent the team on a wider search. As knowledge of the Party's policy of equality for all nationalities spread, more and more people began to say that they were Tuchias.

Meanwhile a Miao from western Hunan taking part in the National Day celebrations in Peking talked with members of the Nationalities Affairs Commission and began to feel that his native tongue was not entirely like the Miaos'. Was he another nationality? The Commission recorded his voice for study. There were strong clues in his speech. He was later identified as Tuchia, his family during Ching times having undoubtedly merged with Miaos instead of Hans.

Five times teams went to western Hunan to investigate language, culture and economy. The conclusion was finally reached that the Tuchias were a separate nationality. Therefore, on September 20, 1957 the Tuchia-Miao Autonomous Prefecture was set up where the two nationalities could administer their affairs together. The Constitution of the People's Republic of China guaranteed them this right. Moreover, the Tuchias and Miaos lived side by side in the same area. Their economy and culture were not too different nor did the two peoples wish to separate them. The new society and autonomy brought the Tuchias and Miaos true equality and freedom for the first time.

In May 1970 Hua Kuo-feng, then Party Secretary of Hunan province, walked 15 kilometers over mountain roads to investigate the work in Lota commune, a predominantly Tuchia area 1,400 meters above sea level. In the old society crops here had been grown with the primitive slash-and-burn method. There were few fields and little water. In 1964 when Chairman Mao had



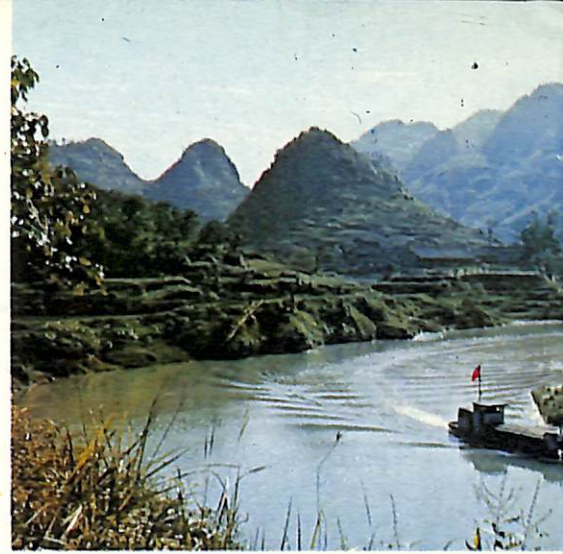
called on agriculture to learn from Tachai, Lota's members began to level hills to make fields, dig wells and cut canals through the mountains. Today water flows down the slopes to irrigate terraced fields. Rice fields are 80 percent irrigated. Within five years grain output increased one and a half times.

Hua Kuo-feng stayed three days in the Lota commune's Nanchu brigade, talked with members and leaders in their homes and held meetings with them.

Representing the interest of Chairman Mao and the Party in the Tuchia people, Hua praised their revolutionary spirit in taming nature and named the Lota commune as a pacesetter in Hunan province in learning from Tachai. With this kind of encouragement from the Party and government, every year since 1970 over 600,000 people in the Tuchia-Miao Autonomous Prefecture have taken part in basic farmland improvement.

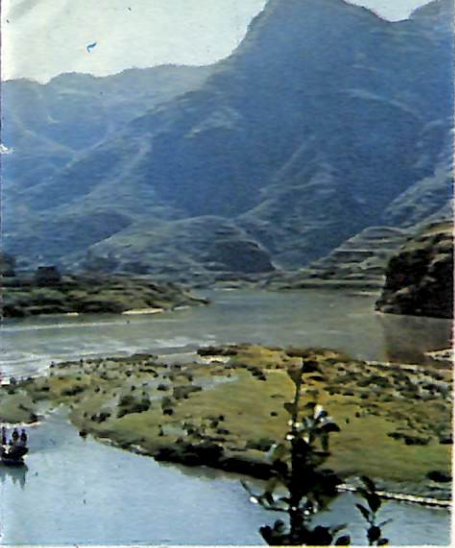


Students at the Chishou University making laboratory tests.

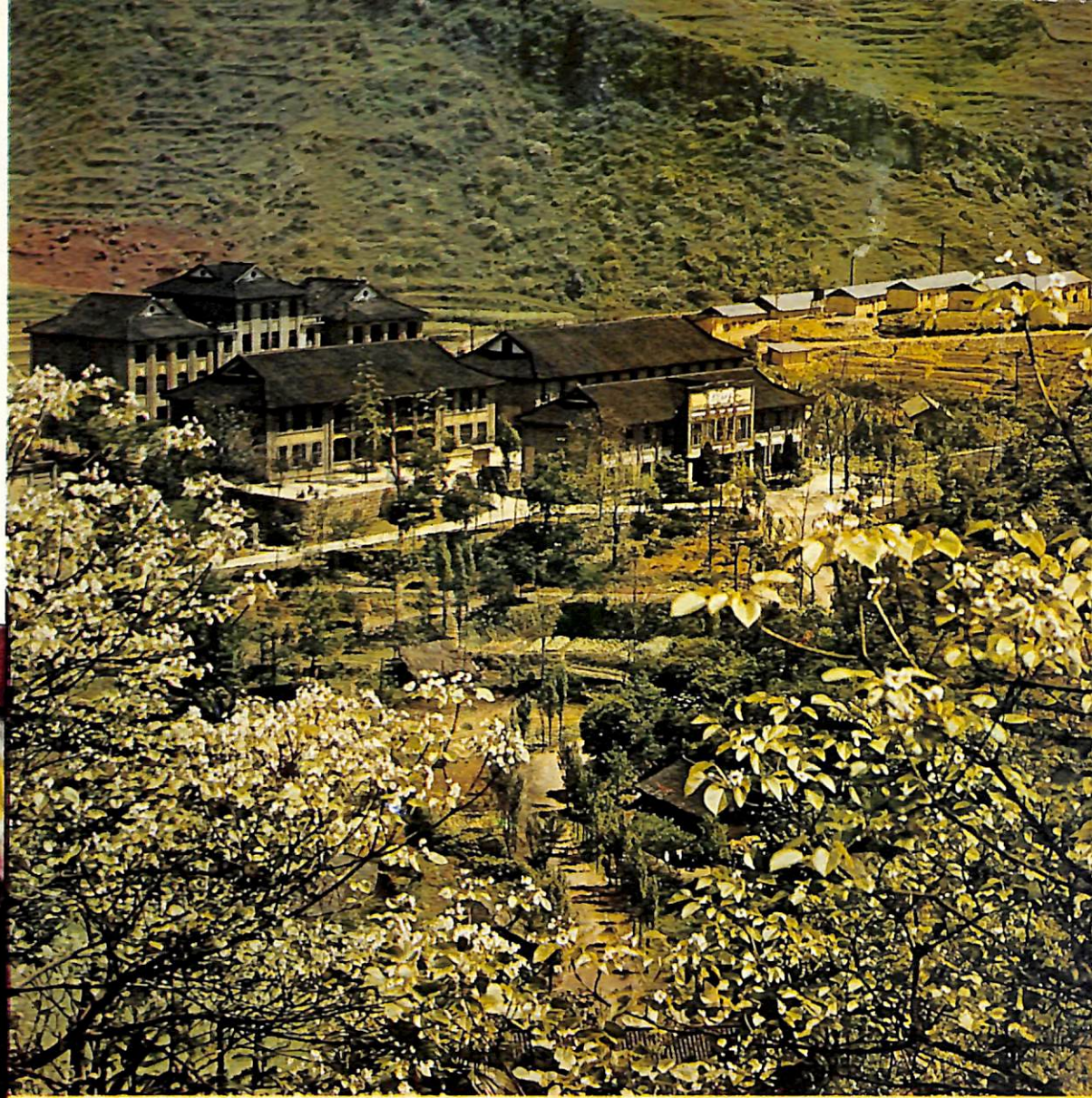


Minority women selecting silks.





The "Linking-Hearts Boat" symbolizing the unity between the people of the different nationalities along the Chatung River.



A new Tuchia village in the mountains.

The remotest mountain villages can now be reached by highway.





A good harvest of rice.



A dance performed for commune members by a spare-time cultural team.

The prefecture's biggest department store is in Chishou, the capital. Customers are constant, clerks always busy and shelves well stocked. In addition to products from all over the country there are special items for the Tuchia and Miao people. The color and variety reflect the rapid growth of the prefecture's arts and crafts industry — woven or embroidered trimming, woven belts, satin quilt covers, woven baskets, bamboo furniture. Such articles are also popular in other parts of China and abroad.

Help for Handicrafts

In the old China craftsmen were exploited and impoverished. During Kuomintang rule the art of the Tuchias and Miaos almost died out. From the beginning the people's government has allotted funds to help these handicrafts develop. Shops originally set up in the prefecture have expanded into twenty factories making such items as embroidered articles, cotton knitwear, silver jewelry, nanmu chests and bamboo ware. Most communes and brigades in the Wuling Mountains also make them. The government supplies the special raw materials needed. Silver, for example, for the ornaments the Tuchias and Miaos like: 42,000 ounces in the past ten years.

The Phoenix Nationalities Handicrafts Factory on the Tochiang River is an example of how handicraft industry has developed. It has 200 workers. Just after liberation it was a production co-op of a dozen members doing all the work of making trimming and waist-

bands by hand. The government has allotted funds several times for expanding buildings and equipment. Today everything is mechanized. The factory produces over 200 varieties of trimming, waistbands, kerchiefs, tablecloths, material for local-style turbans and clothes, and satin or rayon-silk quilt covers. Output in 1976 is thirty times higher than in 1965.

Recently the factory sent a group to a Miao village to study and collect handicraft designs. An old Miao woman told them, "Before liberation we had to give 80 catties (40 kg.) of rice for one ounce of silk thread. We Miaos liked to embroider but we just couldn't afford it. Today you make such nice things and they cost so little. And you even come to ask our opinions and collect our designs!" She gave the group designs she had treasured for years.

Linking Hearts

Such names as "Fraternal River", "Harmony Forest", "Unity Bridge" and "Friendship Road" are often heard in the autonomous prefecture.

In Huayuan county is a huge water conservation project on the Chatung River. This river borders the provinces of Hunan, Szechuan and Kweichow. Tuchias, Miaos and Hans from two communes in Huayuan county in Hunan and one in Hsiushan county in Szechuan began to build it in 1969. A stone dam five meters high and 100 meters long cuts the river. High tension wires from their power station

take electricity to remote Tuchia and Miao villages. Huge pumps lift water 45 meters to a canal winding through the mountains to irrigate 1,000 hectares of terraced fields. To express their unity, the three nationalities named the dam Linking-Hearts Dam.

For generations before liberation, the ruling class provoked deep antagonisms between the different nationalities in the area. The Miaos, for example, called the Hans "Ah Dzah". When a child cried they would frighten it into stopping by saying, "Ah Dzah will get you!" A folk saying reflected the hostility: "We live in the same mountains but don't use the same road; we drink from the same river but don't use the same boat."

In 1946 a serious clash broke out between the Hans on one side of the Chatung River and the Miaos on the other over the ownership of some fields. Provoked by Han landlords, the two fought fierce armed battles. Hatred burned and contacts stopped altogether. After liberation, gradually equality replaced national oppression, friendship replaced discrimination. The people of the two nationalities who had hated and killed each other so vehemently in the past are today all members of the Melao and Wansen brigades. Their children go to the Unity Primary School which they built together.

The new dam raised the level of the Chatung River and made passenger and freight navigation possible. The government built a station. Winter and summer, wind

and storm, the six Hans who man the motorized passenger boat serve the different nationalities living along the river on the borders of the three provinces. The boat was called "Linking-Hearts Boat".

Late one winter night a Miao woman in the Melao brigade was having a difficult birth and it was necessary to send her to the commune hospital right away. The boatmen volunteered, though they had no night navigation equipment. They piloted with lanterns and flashlights. Beyond the end of their route the water was too shallow so they put the woman into a rowboat and took her on to the hospital themselves.

A New Day

In the old society Huangmaoping in Phoenix county was called "The Hell in the Miao Mountains". The local tyrant was Lung Yun-fei, a big landlord connected with the Chiang Kai-shek clique. He suppressed the Miaos in the most barbaric and ruthless ways. He built a mansion surrounded by watch towers with battlements. He killed people as he pleased, sometimes a dozen or more in one day, and threw the bodies into a huge hole a hundred meters deep. Sometimes he threw people in alive.

In 1928, because 28-year-old Tien Shih-hung, an embroidery artist, was not willing to embroider Lung a "dragon robe", he was nailed to a tree where the landlord's men skinned him, hamstrung him and finally ripped out his stomach and heart. Such atrocities left the area barren for dozens of miles around. By 1947, among the 200 families in the village, 14 had been wiped out, 34 driven away, 12 forced to sell their children and 57 gone to other villages to beg.

In 1949 the People's Liberation Army entered the area to clean out the landlords and bandits. A new day dawned for the village. In the following years the villagers opened up land and built fields, canals, a reservoir and hydropower station. Poverty and backwardness have rapidly disappeared. Today the brigade's 73 hectares of fields give good crops no matter what the

weather. They raise 20 times more grain now than at liberation. Lung's mansion has been turned into a hall of vivid exhibits on class struggle.

The Party secretary of the village, Wu Wen-teh, now 72, had just been born when his father, forced to help build Lung's mansion, was beaten to death. His mother, carrying him in her arms, went around begging. Once a dog was set on them, its bites leaving deep scars. As soon as Wu was old enough to

do some work, Lung seized him as a slave on the pretext that his father had owed him land rent.

After liberation Wu became head of the peasants' association, later joined the Communist Party and became its branch secretary in the village. He has always led the people on the socialist road and has been honored in Peking three times. An ordinary Miao farmer, a slave in the old society, is today a master of the new socialist society.

STAMPS OF NEW CHINA

National Science Conference Issues

THE National Science Conference held in Peking from March 18 to 31 this year was marked by a set of three stamps issued by the Ministry of Posts and Telecommunications.

Stamp 1 features the emblem of the conference—the symbol for atomic energy, a satellite circling the earth and a red flag—above a drawing of Tien An Men on yellow floral background. Vermilion, gold and light yellow.

Stamp 2 bears four colored banners representing agriculture, industry, defense, and science and technology to symbolize the mass movement to modernize science and technology, Rose, greenish yellow, light blue, yellow-green, reddish purple and gold.

Stamp 3 includes a red banner, the atomic symbol and the globe, to indicate that Chinese scientific and technical workers are striving to scale the heights of science and technology. Ultramarine, orange-red, cobalt and light yellow.

All stamps bear a legend in gold reading "National Science Conference". They are of 8 fen denomination and measure 30 × 40 mm. Perf. 11.5. Color photogravured. Serial numbers: J. 25 (3-1 to 3-3).

The ministry also issued a contiguous sheet of the three stamps 140 × 106 mm. in size worth 24 fen (3 × 8 fen).

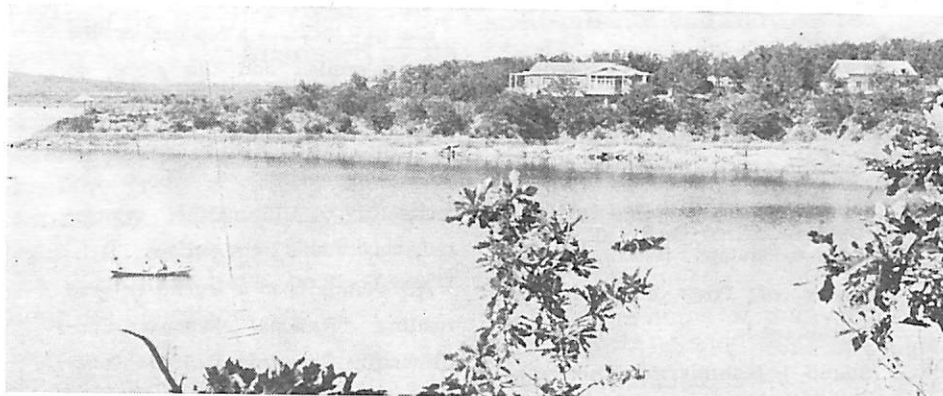


Lake

Chingpo



Villas on the hills around Lake Chingpo.



THE irregular shoreline of Lake Chingpo turns it into seven connected bodies of water. Its mirror-smooth surface on calm days gives it the name Chingpo (Mirror). The reflection of the blue sky, white clouds and green mountains during the day and the moon and stars at night give the surroundings a fairyland atmosphere.

At the southeastern tip of Heilungkiang province, the lake was formed 10,000 years ago when a volcano northwest of it erupted and black basalt lava blocked the upper Mutan River. Today the lake is still fed by the river. It is 45 kilometers long and 6 km. at its widest, with a total area of 90 square kilometers. The southern

part is only a few meters deep while in the north it averages 45 meters.

A unique part of the landscape around the lake are the flat tops of the numerous mountains, worn by eons of weathering. There are many cliffs, one a 30-meter smooth white rock rising straight from the bottom of the lake. Water birds wheel over it, but few people dare look down from its top. In the 1930s resistance fighters fought the Japanese invaders there. Remnants of trenches can still be seen on top of the rock.

The uneven lake bed rises above the water in many places to form rocky islets of various shapes. Two of them close together, a big and a small one both covered with

trees and flowers, look like a baby nestling against its mother. There are no animals and few people go there so the islets are a world of birds. Another two islets about the same size face each other like two joining doors. In low-water season a sand bar appears between them like a doorsill. Oysters are plentiful here. There is a legend about a fisherman approaching the islets at night who saw a pearl glistening in the dark. The islets are called "Pearl Gate".

At the outlet of the lake on the north the water drops with a thunderous roar 12 meters into an oval-shaped pool that is itself dozens of meters deep. The fountains of white spray that arise often cause rainbows in the sunlight.

LAKE CHINGPO has many resources. Luxuriant forests around it contain over a hundred species of trees. Among the wildlife are tiger, leopard, deer and sable. On the lake's northwest shore are seven craters, the largest 500 meters in diameter and 100 meters deep, the smallest 20 meters in diameter. These ancient volcanoes consist of layers of porous and lavic basalt. The crater walls are mostly steep cliffs. In fine weather one can look down into the craters and see heavy



The waterfall at Lake Chingpo.

virgin forests rising from the bottom along the sides to where the crowns are on a level with the upper rim of the crater, or even higher.

Lake Chingpo is a natural reservoir with a high hydropower potential and fish of many kinds, including the common carp, culter, golden carp and the Mongolian culter. After liberation, fish from the south such as the grass carp, black carp, silver carp and bighead were transplanted into the lake. The most famous is the golden carp, with pinkish fins, tail and scales, weighing about two kilograms each. Its meat is tender and delicious. Once the catch was small and used mainly as tribute to the court. After liberation, fish farms were set up around the lake area to breed the golden carp and the people now enjoy this delicacy.

IN OUR SOCIETY

Finding the Owner

NOT LONG AGO a Shanghai newspaper received a letter from Wu Yu-wei who works in the Shanghai Textile Engineering College. It read:

A month ago my 90-year-old grandmother walked with her cane to the Chaoyang Bamboo and Woodenware Store to buy a bamboo basket and some clothespins. She gave the shop assistant a 10-yuan bill. When the clerk handed her the change of nine yuan, she thought she put it in her pocket.

On her way back she passed by a cake and candy store and wanted to buy something. When she put her hand into her pocket, she was surprised to find that her money was not there. With a heavy heart she returned to the store and asked the clerks' help, but she was afraid she would never get the money back.

A month later when my grandmother was again walking on the street, a woman in her 40s approached her and asked, "Old Mother, did you lose some money a month ago?" "Yes, yes," replied my grandmother with surprise. "I lost nine yuan."

The woman was Liu Li-chuan, a worker in the store. She had been searching for my grandmother for a month. My grandmother had forgotten to tell the store her name and address, so the only thing the clerks had to go on was that the owner of the nine yuan was an old woman with a cane. They inquired round about the store, but with no result. Liu Li-chuan had continued the search. She approached every old woman with a cane that she met. Finally she found my grandmother.

This incident deeply moved my grandmother. She said, "I've lived in three historical periods—the Ching dynasty, old China under the Kuomintang and the new China of today. Such a thing can only happen in our new China today."



Industrial Tangshan Recovers

Staff Reporter

TANGSHAN, a city of a million people, was suddenly leveled on July 28, 1976 by the most violent earthquake in centuries. It was a major industrial center in north China.

Yet only a year and half later, in spite of debris still in great piles here and there, people celebrated the 1978 Spring Festival with great zest. Entrances to rebuilt factories, offices, stores and schools were hung with lights and red lanterns. One factory club put on an elaborate exhibition of traditional lanterns. Amateur cultural troupes performed everywhere to big audiences.

As always, the downtown area was the busiest, with people crowding movie houses, theaters, photo studios, bookstores, restaurants, department stores and parks. But in the city's famous coal mines and in the steel, porcelain, cement and machinery factories, the holiday did not stop production.

The city of Tangshan originally grew up above one of the six Kailuan mines — the century-old Tangshan mine. This mine was on the exact center of the epicenter in the 1976 earthquake.

"All our buildings were destroyed," Keng Fu-an, head of the mine administration office, told reporters. "The pit-head frames tipped and collapsed. Roads disappeared

under the rubble. Rails were twisted, coal cars heaved over, tunnels and machinery flooded."

None of this can be found today. From the mine's skybridge one sees smoking chimneys, the giant pit-head gears turning, new factories and miners' housing — all built to withstand quakes stronger than "the big one". A little more than a year after the quake, the mine recovered its pre-quake levels in daily and annual output. The mine's extraction section No. 6, which had many times scaled world levels in daily output before the quake, set a new monthly high of 190,760 tons last March.

The 1976 quake smashed almost everything above and below the Kailuan Coal Mines' 3.5 square kilometers of surface area — industries, living areas and over 30,000 pieces of equipment. The survivors began rebuilding as soon as they had buried their dead. Pacesetting teams led a three-stage effort — pumping out the flooded mines, salvaging equipment and restoring production. One of these was the Tangshan mine's high-speed tunneling team originally led by Meng Chao-yi. Meng was killed in the quake. Deputy leader Kuo Hsiang-wen, whose two children were killed and his wife seriously injured, took Meng's place and the team went to work with its famous drive.

Shanghai and the provinces of Shensi, Liaoning, Kirin and Heilungkiang and army engineer units were assigned to help restore the Kailuan Coal Mines. With this massive aid, in eight months Kailuan was able to pump out 160 million tons of water (enough to fill a major reservoir), reconstruct 375 kilometers of tunnels and recondition all its equipment. The coalfield began producing again.

The year before the quake, Kailuan succeeded in doubling its designed capacity in annual coal output. Only a year after its destruction, Kailuan was turning out 35,000 tons a day, the original designed capacity. How to regain the doubled figure? On the initiative of Linhsi mine's labor model Wang Huan-ming, 103 model workers and 37 others who had distinguished themselves in rescue and relief work put up a joint proposal for all work units to map out detailed plans to make up for the 75 days lost because of the quake. Nearly 5,500 teams responded. Wang's own youth shock team led the way by fulfilling its 1980 quotas this year. On the last day of 1977, Kailuan announced the year's total as 12,720,000 tons — over its quota.

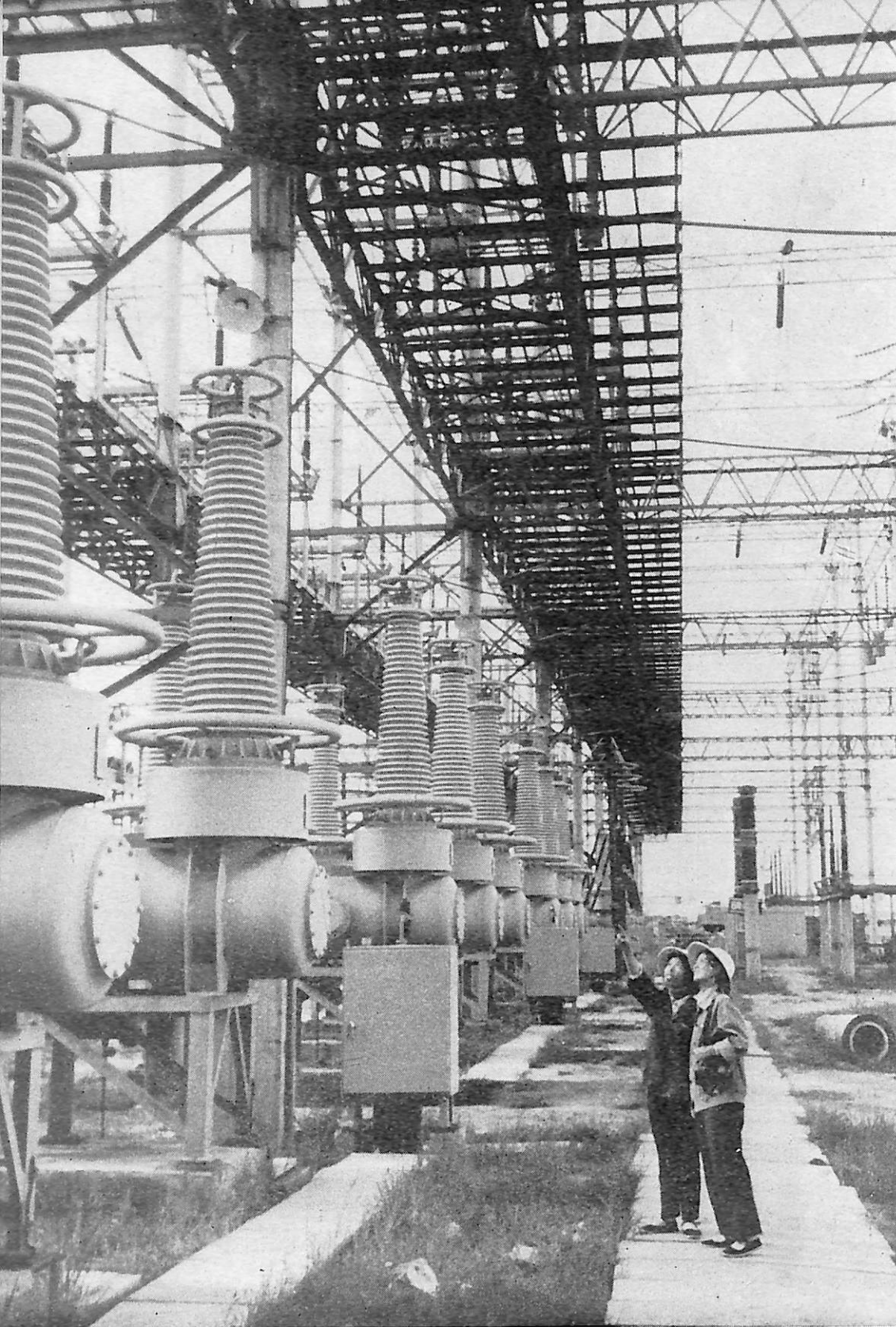
KAILUAN'S astonishing drive was equaled by other industries in the smashed city. A year after the quake, the 30-year-old



Wang Huan-ming (left), pacesetting Kailuan miner.

Coal being shipped out from Kailuan's Luchiato mine, one of those badly damaged in the 1976 quake.





The 220,000-volt step-up transformer station at the Touho Power Station, rebuilt from ruins.

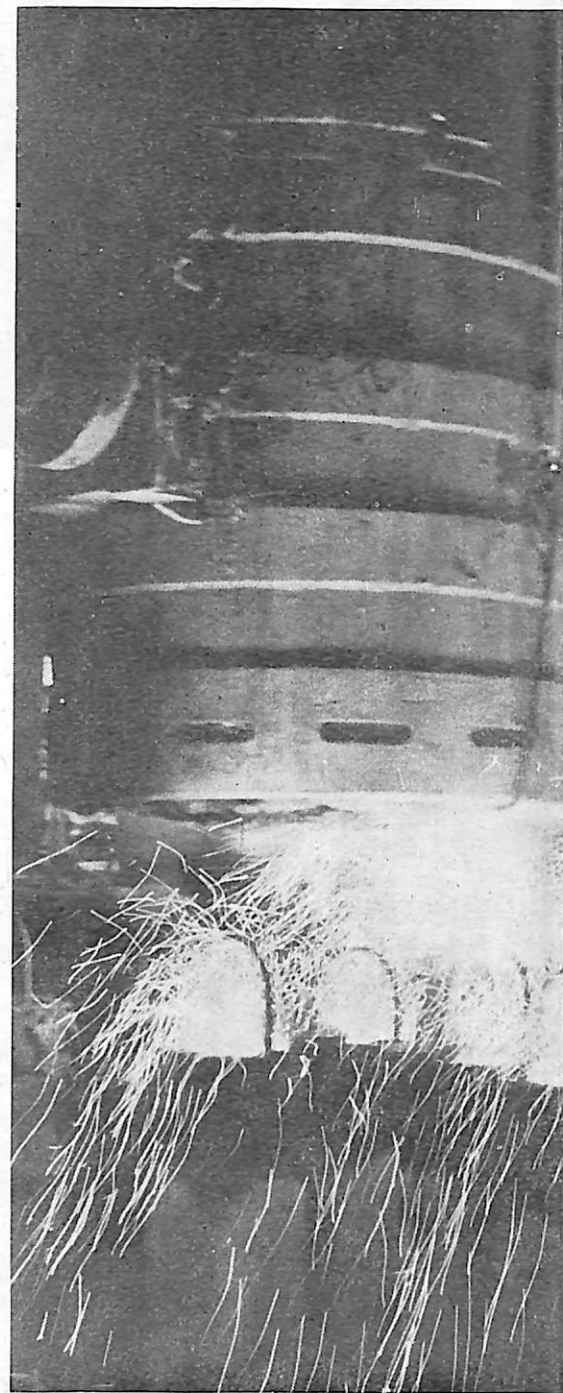
Tangshan Steel Works not only regained its pre-quake production but set a national record for side-blown oxygen converter life span — 1,402 heats of steel between repairs, with output topping 10,000 tons, up-to-standard rate 99.9 percent, cost down 3 percent. Its rolling mill put out a new E-shaped steel for use in coal mines. When

its converter life-span record was broken by Peking's Capital Steel and Shantung province's Tsinan Steel, the Tangshan Steel Works promptly challenged these two plants to an emulation campaign.

Tangshan is also a ceramics center, built up after liberation. Its white porcelain is well liked on both domestic and world markets.

The earthquake wiped out the industry. To rebuild quickly, surviving workers of the Tangshan Ceramics Factory No. 1 dug into the rubble to salvage steel bars and beams, bricks, wood, electrical equipment and other things. In the first few months they recovered 500 tons of rolled steel, 350 cubic meters of timber, and scrap material worth over a half million yuan. These they used in constructing new buildings totaling 29,500 square meters of floor space. This started a

Steel being poured into ingots at the Tangshan Steel Works.



citywide movement to salvage material and machinery from the debris. Over 1,000 million bricks, 23,000 tons of rolled steel and 22,000 cubic meters of timber were recovered this way. More than 50,000 pieces of dug-out equipment were repaired and put to use again.

At the Tangshan Ceramics Research Institute, a group under engineer Wang Kang developed a new product called "magnolia white" which won high praise at the last two trade fairs in Kwangchow.



Painting designs on "magnolia white", a new product at the Tangshan Ceramics Factory since the quake.

In the new ceramics factories there is more mechanization and automation than before. The "Tangshan pace" is set by workers like Su Yu-chen, a young woman in the color pattern shop who applies printed patterns on porcelain nearly three times as fast as the average worker.

The Touho Power Station, rebuilt from the ruins, began supplying electricity to the Peking-Tientsin-Tangshan grid a year and half after the quake. East Wind diesel locomotives from the hundred-year-old Tangshan Rolling Stock Plant are again being added to China's rail system.

A GREAT DEAL of encouragement came to the people of Tangshan with the prompt visit of Premier Hua Kuo-feng to the city after the 1976 calamity. He inspected the damage, comforted the people and directed the relief and rehabilitation work. On New Year's Day 1978 Chairman Hua came again. He spent most of the day with the miners in the pit. He gave specific instructions for building a new Tangshan according to the most modern standards.

Aid came to Tangshan at once after the quake, all organized efficiently. The Shanhaikuan Bridge Girder Plant in Hopei province, for example, rushed out a consignment of huge steel frames for reconstructing the transport corridor of the Luchiato Ore Dressing Plant. The railroads shipped them in special cars on time. A high-pressure valve factory in Kansu province delivered 20 heavy valves by plane so that mine pumps could start removing the water as soon as possible. Within five days Peking's Capital Steel completed a furnace for a cupola and delivered it to the Tangshan Steel Works.

While the Touho Power Station was being rebuilt, Li Yi-pin, an electrical engineer from Shensi, proposed righting the entire frame of the station's main building, which had been thrown 77.5 cm. out of line, instead of tearing it down and constructing a new one. With meticulous preparation, the workers succeeded in righting the frame on the first try, cutting costs by two million yuan and saving nine months of time.

The rebirth of Tangshan embodies the care and work of the entire country.



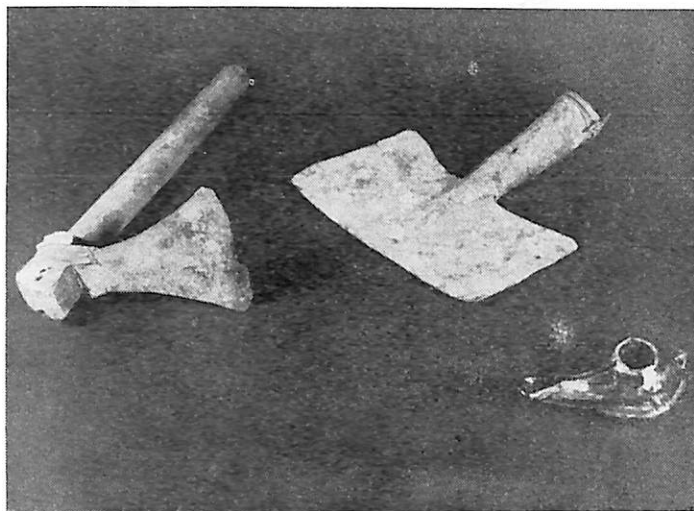


Photo 1.

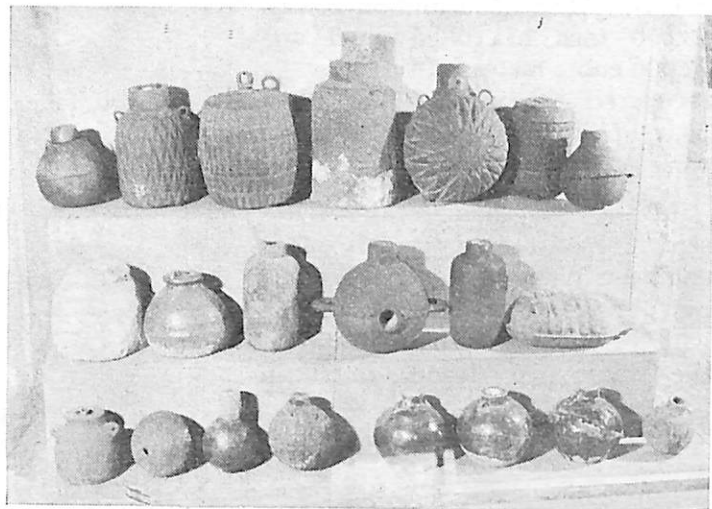


Photo 2.

The Power of Guerrilla Warfare

AFTER Japan's invasion of China on July 7, 1937, the Communist-led Eighth Route and New Fourth armies moved into the enemy-occupied areas. They were following Chairman Mao's strategy: "Guerrilla warfare is basic, but lose no chance for mobile warfare under favorable conditions." Behind enemy lines they organized the local people for guerrilla warfare and built up democratically-run anti-Japanese bases. With land mines and simple arms, from tunnels and along waterways they struck back hard at the enemy.

Photo 1 shows a pick, a mattock and a shovel the peasants of Jan village in Hopei province used to dig tunnels. In the beginning each family dug its own hole under the house or in the courtyard to hide

in. But when the enemy discovered these, they killed the people and took their possessions. The peasants began connecting their shelters with tunnels and gradually extended them into a network. There were two kinds of tunnels in Jan village, one for protecting people and supplies, and the other to use in battle against the marauding Japanese. The network consisted of four trunk tunnels, with 11 east-west and 13 north-south branches, a total length of 25 kilometers. Every entrance to a tunnel had a hidden door, a trap pit and a secret exit. The trap pits were to frustrate the enemy's attempts to destroy them with fire, water or poison gas.

On May 5, 1945, two regiments of Japanese and puppet troops

approached the village. The people and militiamen went underground. As the enemy entered the village they exploded mines and fired at them from the holes in tunnel walls. Confused and frightened, the enemy beat a hasty retreat, the hundred carts that were supposed to carry loot now hauling away 70 dead soldiers.

Photo 2. Land mines were a favorite weapon of the people's militia. They were easy to make and handle and very destructive. Iron was scarce so stone was often used. A hole was drilled in a large stone, filled with explosives and a fuse added. The militia buried these in roads and paths where the enemy would pass and carefully camouflaged them. The enemy often sent soldiers ahead to detect the mines but just as often they would pass through a fake mine field only to walk into a real one.

Photo 3. A boat of the guerrillas of Paiyangtien in Hopei province. The lakes and waterways of the area contained abundant fish and shrimp and the surrounding land grew much rice. This attracted the Japanese plunderers but stretches of tall reeds and lotus leaves gave the guerrillas ideal cover for am-



Photo 3.

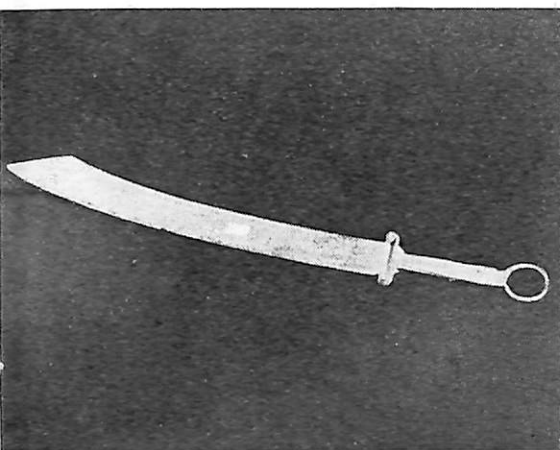


Photo 4.



Photo 5.

bushing them. In 1941 guerrillas on this boat and others ambushed an enemy motor boat and wiped out the enemy soldiers in it.

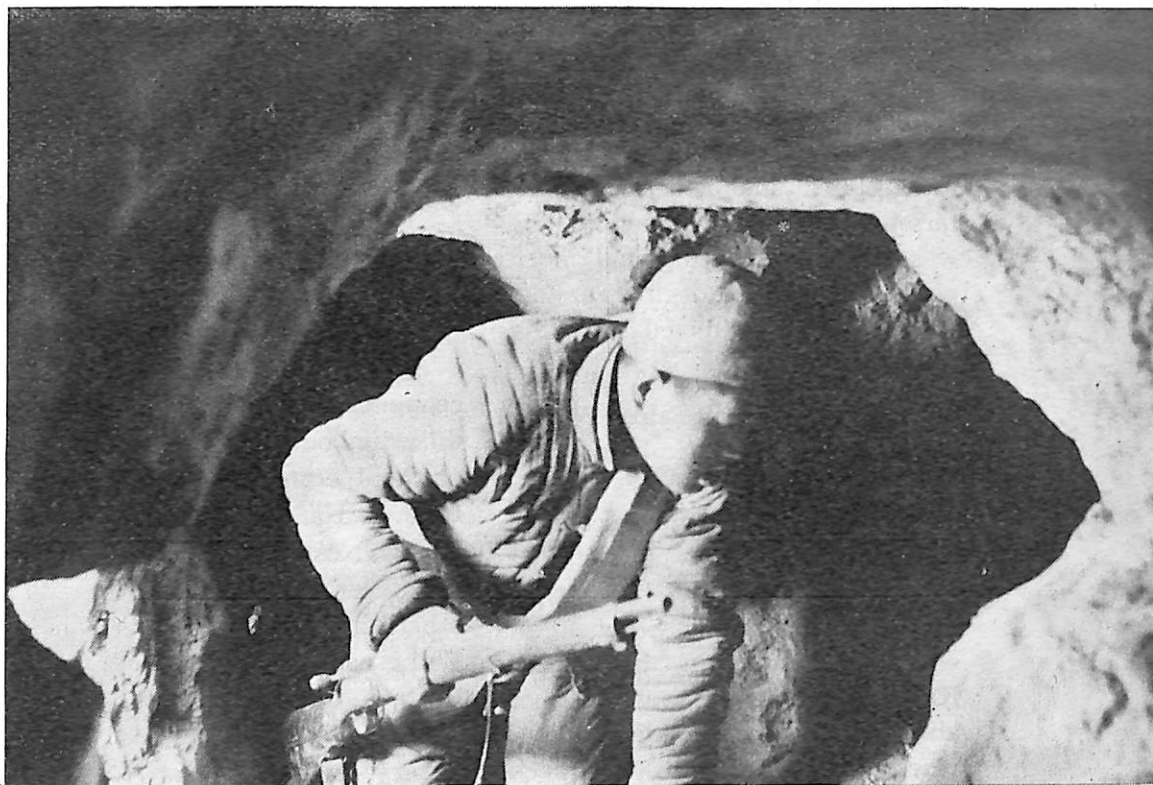
Photo 4. Broadsword used by the guerrillas. A Communist-led guerrilla unit of town workers was active along a railway line in southern Shantung province from 1939 to 1945. To get more weapons, 17 members with five rifles divided into three groups, broke into a secret agents' office by digging a hole in the wall and killed everyone inside. Nearby Japanese rushed to help, but the men had already gotten away with the weapons. In their six years of hard fighting, the railway guerrillas gave great support to the regular troops by destroying Japanese-held railroads, bridges and trains, and capturing weapons and materiel.

The guerrillas also struck the enemy inside their own defenses. One of them was Hao Ching-shan, a militia hero in Tinghsien county, Hopei province. Once he learned

that most of the Japanese in a blockhouse had gone to town for a bath. He and three comrades, disguised as friends of the enemy, boldly marched toward the 26-meter tower. When the sentry challenged them, they cursed him and began peppering him with questions to put him off his guard as they approached. They grabbed his gun and occupied the tower. Photo 5 shows Hao Ching-shan's long gown, glasses, pistol and captured bullets.

Chairman Mao once said, "The mobilization of the common people throughout the country will create a vast sea in which to drown the enemy, create the conditions that will make up for our inferiority in arms and other things, and create the prerequisites for overcoming every difficulty in the war." Led by the Chinese Communist Party and Chairman Mao, China's guerrillas played an absolutely necessary role in the victory of the people's war against Japanese aggressors.

An Eighth Route armyman going to battle position in a central Hopei tunnel.



Why I Returned to the Mainland

WU CHIN



Wu Chin at work.

AFTER the Chiang Kai-shek clique was overthrown by the people, my father, now a major-general and divisional commander in the Kuomintang army, took our family and fled to Taiwan. I was only three. In Taiwan I grew up and went to school. I moved mainly in the circles of Kuomintang government and military personnel and was familiar with their lavish lifestyle. But occasionally I also came into contact with life at the lowest stratum of society. The contrast between rich and poor made me feel that there was grave injustice in that society.

Once I went to a party at a U.S. army club. It was a gathering of Kuomintang officials, influential intellectuals and American military advisers and clergymen. There was drinking, dancing and much polite talk and subtle ingratiation. It was all very affected and I did not enjoy it at all.

On the streets of Taipei I often saw scenes of another kind. Once on a street corner I saw a woman with a dirty face and uncombed hair seated on a straw mat staring into space in front of her with a look of hopelessness. She held an emaciated baby in her arms. Kneeling beside her was a girl of about seven or eight, with a placard hanging from her neck

which read: "Father seriously ill, family starving. Kind sirs, have pity and give us alms." I felt so sorry for them that tears blurred my sight. I put ten dollars in the girl's hand and walked away quickly. What an unjust society we have in Taiwan, I thought. Why were a few so rich and some so poor? The question tormented me.

Once at the Hsinchu bus depot I saw two beggars holding out their hands to the passengers. A foreign woman came by. She opened her handbag, took out four bills and threw two to each of them. She walked away holding a handkerchief to her nose. This act stung my sense of national dignity. I felt humiliated. I wanted to seize those bills and throw them in the woman's face, but I lacked the courage to do so.

At Taiwan University I studied economics, but not one professor talked about how to protect our national economic interests. The Chiang Kai-shek clique allowed foreign capitalists all kinds of privileges to operate factories and other enterprises in Taiwan, hiring Chinese at low wages and raking in huge profits. But the people continued to live in poverty and misery.

Was not Taiwan a cannibalistic society under the rule of the Chiang clique? I myself lived a comfortable life, but as a Chinese I felt humiliated. I was depressed and wanted to leave the place and find a new world and a new life elsewhere.

Seeking Truth

In my junior year in college I joined a school club called the University Tribune. Its members were interested in reforming the society. We heard many speeches lauding western freedom and democracy and thought that if only the Kuomintang would give the people freedom of speech and stop its fraudulent election practices and surveillance by secret agents, if, instead of suppressing people with ability, it would give free rein to them to develop their individuality, and allow free competition in all fields of endeavor, the society would make progress.

But reality dealt these democratic individualists and reformists a harsh blow. Those in the University Tribune who had advocated western freedom and democracy were either persecuted, wore themselves out with frustration, were thrown into jail and never heard from again or turned into

lackeys of the Chiang clique. The rigged elections were strictly a farce. Once during an election in Taipei the Chiang clique, seeing that its candidates were going to lose, sent in a whole unit of troops to cast ballots for their men, who then naturally got elected. Switching ballot boxes and buying votes were common practices. Such was the freedom and democracy in Taiwan!

As I witnessed such things I came more and more to the conclusion that the root cause of all this misery — unemployment, peasant bankruptcy, child labor, persecution of patriotic youth — was the reactionary rule of the Chiang clique and the social system they upheld, which was one of oppression and exploitation.

In the spring of 1970 I went to the U.S. to continue my studies. Shortly after I arrived the news broke that mainland China had launched its first man-made satellite. Almost all the papers put out extras. The news agencies, radio and TV stations carried special articles and programs commenting on China's success. Everywhere people were talking about China, China, the new China! Students from Asia, Africa and Latin America gave us the thumb-up sign. From American schoolmates and professors came expressions like, "Great! Terrific!" I had never felt such exhilaration or pride in my nationality. We Chinese students all walked with our heads held high.

In my second year in the U.S. the Chinese students studying abroad launched a patriotic movement to defend the Tiaoyu Islands. It influenced many people, including myself. I saw more clearly than ever how the Chiang clique, so ruthless toward its own people, was weak in the face of foreign claims.

This tide of patriotic feeling moved every one of us who loved

his country to think of its future. Who was it that was building China into a strong, developing country? Who had made the Chinese people able to stand up among the other nations of the world? Their interest in the Tiaoyu Islands made the Chinese students from Taiwan in the U.S. more and more interested in understanding the motherland. In spite of surveillance by Kuomintang secret agents, we avidly read Chairman Mao's works and other publications from the mainland. We attended meetings discussing current events in China and heard talks and saw films and slides made by people who had been to the mainland. Thus we gained some idea of what was going on there. We began more and more to feel that only when Taiwan was reunited with the motherland and became part of socialist China could the people of Taiwan be proud and happy to be Chinese. My husband Ni I-wei and I had many discussions and finally made up our minds to go back to China to do our part in socialist

construction and liberating Taiwan. In September 1974 we flew to Peking.

A. New World

We were welcomed by representatives of the Communist Party and the people's government. We saw the warmth in the faces around us and rejoiced to hear the familiar language. We felt we had really come home.

We arrived on the eve of the 25th anniversary of the people's republic. My husband and I were invited to the National Day banquet in the Great Hall of the People. When Premier Chou En-lai appeared in the banquet hall he was greeted with a standing ovation from the foreign guests and others and long and thunderous cheering and applause. I was deeply moved. Already while abroad we had felt that the name of Chou En-lai represented the pride and dignity of the Chinese nation. I wanted so much to get a better look at him that I forgot all decorum

The author in a volleyball game at the petrochemical plant.



and stood on my chair and clapped my hands until they hurt.

I had heard that Premier Chou had been ill and had come straight from the hospital, but how strong his voice sounded when he spoke! When he said that 25 years ago the Chinese people's great leader Chairman Mao Tsetung had proclaimed to the world the birth of the People's Republic of China and that "The Chinese people have stood up", the listeners broke into applause again. I could no longer hold back my feeling. Tears rolled down my cheeks. Yes, the Chinese people had stood up! I who grew up in Taiwan and had lived for five years on the other side of the earth too could well appreciate these words.

After the celebrations we made a tour of the country, visiting many factories, rural communes, colleges and places of historical interest. There were no foreign-owned factories, banks or enterprises anywhere, no signboards advertising foreign-made goods, no prostitutes or lines of unemployed. The Chinese people, for centuries viewed as ignorant, backward and poverty-stricken, no longer presented such a picture.

At Yangchow, an ancient city in Kiangsu province just north of the Yangtze River, we visited a water project under construction. It will divert the abundant water of the Yangtze River to the dry lands north of the Yellow River. Abroad we had heard of work begun to tame the Yangtze, Yellow, Huai, Haiho and other big rivers. Now how impressed we were when we saw with our own eyes how China's two great river systems would be linked!

Both my husband and I wanted to work in industry so that we could get to know the working class. Since I-wei had studied engineering, a place was found for him doing metal work at the Peking General Petrochemical Works. I was given a job dealing with petrochemical information in the plant's technical department. Like the other enterprises in the new China, this factory was constructed by the Chinese people, led by the Com-

munist Party and Chairman Mao, without foreign loans or foreign capital. What made me even prouder was that the crude oil it processed was drilled in our own country. Taching, then Takang and now Shengli — and we are opening up still more fields. What a contrast to Taiwan, where the Chiang clique maintains its rule through fascist dictatorship and selling out the people's interests to the imperialists.

Masters of the Country

Not long after we came to the plant, the workers discussed a document of the Communist Party Central Committee in their political study meetings. My husband and I participated too in our respective study groups and were surprised that ordinary citizens were asked to offer opinions on a decision of the Central Committee. When my husband mentioned this his co-workers laughed. Our country belongs to the people, they said, and the people take part in running it, and in carrying out the Party's decisions and policies. How can they do this well if they don't discuss these and understand them? It was a simple, natural answer, but to my husband and me it was something entirely new.

Once our meetings discussed the Central Committee's decision to release those former Kuomintang officials of county level and above and army personnel of regiment commander level and above who had been held under detention. We had some heated discussions. Some said this was being too lenient, others pointed out that the decision showed that our proletarian dictatorship was solid and that the country was stable and united. Others said that if these people had really given a good account of themselves while being reeducated and had shown willingness to work for the good of the country, they should be given a chance to do so. Some reminded the group that it was the Party's policy to unite with as many people as possible. The more we talked it over, the more we realized the correctness of the decision. A few days later it was announced formally in the

newspapers. In Taiwan the people long to have a just and democratic society, one in which they are not bullied and oppressed. Isn't mainland China just such a society?

It has been a tremendous achievement for a country as big as China to provide everyone with a job and enough to eat. I remember when I got ill in the U.S. I seldom went to a doctor because medical charges were too high. Now I do not need to worry about them. With free medical care all the workers need to pay, even for a big operation, is ten cents' registration fee. They continue to receive pay during sick leave. Neither in Taiwan or the U.S. can people dream of such benefits.

Prices on the mainland are generally stable. The cost of basic necessities is low. My husband and I together get 156 yuan a month. We spend 40 yuan on food and it is quite good. We lived in a two-room apartment with a balcony in the plant's residential quarters. For rent, plus charges for rental of furniture, and water, electricity, gas and heating we paid altogether only 2.71 yuan a month. We were able to save something every payday.

It is three years since we returned to mainland China. We have seen that socialist China is a new world and has a promising future. We ourselves have made progress in study and in remolding our ideology, and are doing well in our work. After a period in the factory I was transferred to work in a scientific research unit and my husband to Tsinghua University where he teaches and does experiments. This March I attended the National Science Conference by special invitation.

When I was studying in Taiwan I often wondered about my future and the future of our country. Now I have found the answer. My husband and I wish to dedicate ourselves to making our socialist motherland strong and modern, and to unifying the country by liberating Taiwan.

Lesson 17

Concert

A. 今天晚上有音乐会, 你去吗?

Jīntiān wǎnshàng yǒu yīnyuèhuì, nǐ qù ma?
Today evening has (a) concert, (are) you going?

B. 哪个乐团演的? 演什么节目?

Nǎ ge yuètuán yǎn de? Yǎn shénme jiémù?
Which concert troupe perform? Perform what program?

A. 北京乐团演的, 有女高音
Béijīng yuètuán yǎn de, yǒu nǚ gāoyīn
(The) Peking Concert Troupe (will) perform, has soprano

独唱, 男女声二重唱, 钢琴,
dúchàng, nán nǚ shēng èrchóngchàng, gāngqín,
solo, man (and) woman voice duet, piano (and)

小提琴独奏。其中有一些是你最喜欢的民族乐曲。听说节目
xiǎotíqín dúzòu. Qìzhōng yǒu yìxiē shì nǐ zuì
violin solo. Among them some are your most

喜欢的民族乐曲。听说节目
xǐhuan de mínzú yuèqǔ. Tīngshuō jiémù
liked national music. (I) hear tell (that) program

很精采。今天上午预售票, 我
hěn jīngcǎi. Jīntiān shàngwǔ yùshòu piào, wǒ
very excellent. Today morning book tickets, I

买了两张。你有时间吗?
mǎile liǎng zhāng. Nǐ yǒu shíjiān ma?
bought two. (Do) you have time?

B. 好极了, 我一定去。几点开演?

Hǎo jíe, wǒ yíding qù. Jǐ diǎn kāiyǎn?
Wonderful, I certainly go. What time begin?

A. 七点半。

Qī diǎn bàn.
Seven-thirty.

B. 你现在到哪儿去?

Nǐ xiànzài dào nǎr qù?
You now go where?

A. 我回家去。

Wǒ huí jiā qu.
I go home.

B. 我还有事要办, 时间不多了。

Wǒ hái yǒu shì yào bàn, shíjiān bù duō le.
I still have things must do, time (is) not much.

晚饭以后你来找我, 我们一起去
Wǎnfàn yǐhòu nǐ lái zhǎo wǒ, wǒmen yìqǐ
Supper after you come (to) me, we (will) together

去吧。

qù ba.
go.

A. 好吧! 一会儿见!

Hǎo ba! Yīhuìr jiàn!
Fine! Later see (you)!

B. 一会儿见!

Yīhuìr jiàn!
Later see (you)!

Concert

- A. There is a concert tonight, do you want to go?
B. Which concert troupe is performing? What is the program?
A. It's the Peking Concert Troupe. There will be soprano solos, duets of male and female voices, piano and violin solos. It will include some of your favorite Chinese compositions. I'm told the program is excellent. I booked two tickets this morning. Are you free?
B. Wonderful. I will certainly go. What time does it begin?
A. Seven-thirty.
B. Where are you going now?
A. I'm going home.
B. I still have something to do and there is not much time. Please call for me after supper and we'll go together.
A. Fine. See you later!
B. See you later!

Notes

1. The verbs, lái 来 (to come) and qù 去 (to go).

If an action is toward the speaker, lái 来 is used, and if away from the speaker, qù 去 is used. For example, Wǒ lái bàngōngshì 我来办公室 (I have come to the office), shows that the speaker has already arrived at the office. But Wǒ qù bàngōngshì 我去办公室 (I will go to the office) means that the speaker is still on the way to the office.

2. The simple directional complement.

When lái 来 and qù 去 are used after another verb, they are called simple complements of direction. For example: jìnlai 进来, huílai 回来, chūqu 出去, jìnqu 进去.

a. When the object is a noun indicating location, it must be placed between the verb and the complement of direction, as in Tā jìn bàngōngshì lai 他进办公室来 (He comes to the office) or Tā jìn bàngōngshì qu 他进办公室去 (He goes to the office). Here jìn 进 is the verb, and bàngōngshì 办公室 the object indicating location. The latter must be placed between 进 and 来. To say 他进来办公室 or 他进去办公室 is wrong.

b. When the location of the object is changed as a result of an action, the object is placed either between the verb and the complement of direction or after the complement of direction. For example, Wǒ jiè jǐzhāng chàngpiàn

lai 我借几张唱片来 (I have borrowed some gramophone records) or Wǒ jiè lai jǐzhāng chàngpiàn 我借来几张唱片。

For Advanced Students:

我最喜爱的一张邮票

在我的集邮簿 (jìyóubù stamp album) 里, 有成千张世界各国的邮票。而我最爱的一张却是印刷 (yìnshuā print) 质量 (zhìliàng quality) 很差 (chà not up to standard) 图案 (tú'àn design) 比较简单的一张。画面 (huàmiàn picture) 是延安 (Yán'ān Yenan) 的宝塔 (bǎotǎ pagoda)。在革命战争 (zhànzhēng war) 的岁月 (suìyuè years) 里, 我一直珍藏 (zhēncáng treasure) 着它。

三十多年前, 蒋介石 (Jiǎng Jièshí Chiang Kai-shek) 封锁 (fēngsuǒ blockade) 了革命根据地 (gēnjùdì base area) 延安, 妄想 (wàngxiǎng vainly attempt) 困死 (kùnsǐ strand to death) 我们延安的军民。毛主席号召 (hàozhào call on) 开展 (kāizhǎn develop) 大生产运动。没有纸, 我们就上山寻找 (xúnzhǎo look for) 原料

(yuánliào raw material) 自己造 (zào make) 纸, 没有机器, 就炼 (liàn smelt) 些废铁 (fèitiě scrap iron) 制造 (zhìzào make) 机器。这张邮票就是在那种困难情况下印制 (yìnzhì print and make) 出来的。它虽然不象现在的邮票那样有着美丽的花纹 (huāwén design) 和漂亮 (piàoliang good-looking) 的颜色 (yánsè color), 但是我喜爱它。我喜爱它, 因为它反映 (fǎnying reflect) 了我国人民的革命精神 (jīngshén spirit) 和艰苦 (jiānkǔ hard) 奋斗 (fèndòu struggle) 的传统 (chuántǒng tradition)。

The Stamp I Like Best

In my stamp album, there are thousands of stamps from countries all over the world. But the one I like best is printed rather poorly. Its design is simple, picturing the pagoda in Yenan. All through the years of the revolutionary war, I treasured it.

Thirty years ago, Chiang Kai-shek blockaded Yenan, our revolutionary base, trying in vain to exterminate our army and people. Chairman Mao called on us to launch a great production campaign. We went into the mountains to search for materials to make paper. We smelted scrap iron to make machines. It was under such difficult conditions that the stamp was printed. Though it is not like today's stamps which are beautifully designed and printed in rich colors, I value it because it reflects the revolutionary spirit and the tradition of hard struggle of the Chinese people.



More Articles on Science

I am a student of science and a reader of *China Reconstructs* since 1975. I'm always interested to know the past and recent scientific events of China through *China Reconstructs*. In the past few years I have acquired a good knowledge about that subject and hope that your future issues will convey more news of scientific improvements in China.

M.S.H.

Rajshahi, Bangladesh

Many of your readers are interested in science. We hope you will consider our interest. I have a special interest in marine and submarine biology and oceanography. The article "New Research in Cell Genetics" in January 1978 issue is very good.

J.A.M.

Porlamar, Venezuela

Women Revolutionaries

I like very much the articles about Chinese women revolutionaries, especially the one about Hsiang Ching-yu. It shows me there are a great many things we can do for the revolution.

R.J.

Torreón Coahuila, Mexico

Reports on Cities Welcomed

I have been reading your magazine since my visit to China two years ago, and have

been enjoying it very much. We visited Wusih on our trip so the article on that city in a recent issue was especially absorbing. We also visited Yangchow on that trip, and I found it one of the most interesting places we went to, and would welcome a write-up on that city and area.

Coming as we did from a country with only a very short history behind it, the impact of a country with centuries of civilization behind it is tremendous.

E.A.

Ontario, Canada

I read the whole issue of February 1978. I'm very interested in it, especially the article "Wusih—Scenic Lake City".

I hope you will publish articles describing big cities of your country. I want to know their social and cultural condition.

R.K.P.

Kathmandu, Nepal

Sports and Friendship

China is a country where sports are well developed. She has done well in some international competitions. We have read about China's gymnastics in your magazine and watched the performances of her gymnasts on television. Their movements were graceful. Last year I saw the Chinese basketball team play at the fourth Asian youth basketball competitions in Kuwait. The Chinese men's and women's teams both won second place. My letter is a bit long, but I write with friendship for you.

H.M.F.

Basrah, Iraq

Comments on a Recent Issue

April *China Reconstructs* has just arrived.

The article on China's education is most informative and thank you. The article on Turfan basin has a small outline map which is greatly appreciated.

More such outline maps would make other articles more valuable.

P.G.H.

Minneapolis, U.S.A.

I find the articles in the April issue very interesting and stimulating, especially the articles "Women Revolutionaries I Have Known—II", "The Making of an Electronics Researcher", "Yenshou Post Office Does It Themselves", "Modernizing Postal-Telecommunications" and "Science Day in a Primary School". The rest of the articles are good too. One thing I notice about *China Reconstructs* is that it is improving its coverage and quality issue by issue. I hope that *China Reconstructs* would continue this excellent trend with a broader and broader coverage of things and events in contemporary Chinese society. The cover photograph is good too, because the picture is so natural and full of meaning.

C.W.C.

Cuelph, Canada

It is so far superior in content in recent issues that I must compliment you greatly! The photographs showing more natural faces, some in beautiful thoughtful repose as on cover and on page 7.

The Turfan excavations are of great importance. The color photographs are superb. What other country in the world made such fine and beautiful objects. And no country has these preserved so carefully in the past as China.

E.B.W.

Seattle, U.S.A.



