China Reconstructs

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- Soong Ching Ling: Anniversary Message
- People's Congress
- Acupuncture Anesthesia

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Li Kuchan

China Reconstructs

中国建设

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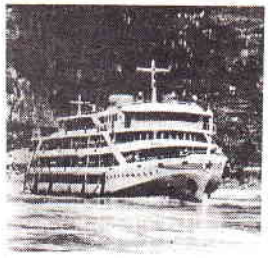

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To the Readers of 'China Reconstructs'

Soong Ching Ling

ON the occasion of the 30th anniversary of our People's Republic of China, I greet you all, wherever you are.

Our 30 years have been a vast new birth. World historic were the victories with which it began. One was the final overthrow of the feudal social system which had oppressed and exploited our people, a fifth of all humanity, for over 2,000 years. Another was the final smashing of the imperialist control, by practically every foreign power, severally or jointly, under which we had labored for a century. Finally, because the long revolution was brought to triumph by the Communist Party, our people were able to uproot China's bureaucrat-capitalist monopolies which were linked to both feudalism and imperialism, and take the road to socialism.

The national and social liberation struggles of the Chinese people have been inseparably intertwined with those of the rest of the world. We have been helped forward by the ideas and examples of the democratic revolutions in America and France, of the October Socialist Revolution in Russia, and of battles for freedom in all oppressed countries. Many foreign friends genuinely inspired by those ideas have fought shoulder to shoulder with us on our own soil, some laying down their lives, as well as in mass support movements abroad. We shall never forget them.

For three decades now our people have been building socialism, a new system. Their accomplishments are recognized everywhere. There have also been setbacks, halts and errors. And we still face immense problems of material and cultural growth, of utilizing to the full the unprecedented potentials of socialism, in transforming society, nature and man himself.

"The elevation of China to a position of freedom and equality among the nations," that was how in 1925, in his last Testament, Sun Yat-sen summed up the aim of his 40 years of leadership of China's democratic revolution. In 1949, under the leadership of the Chinese Communist Party, that goal was reached. Chairman Mao Zedong proclaimed at the founding of the People's Republic of China, "Ours will no longer be a nation subject to insult and humiliation. We have stood up." Since then we have established new relations with over 100 other countries, large and small. They are equal relations. No other kind, with China, is now possible. Only in equality can different countries help each other, learn from each other what they truly need, work together for world peace and progress.

Politically we won equality by our revolution. But economically, educationally and scientifically, we are still behind the advanced nations. Our new Long March, our socialist "four modernizations" are aimed at filling the gap. In this effort, we look for cooperation with all willing to work with us for mutual benefit.

Among our oldest and best friends have been the readers of *China Reconstructs*, itself now 27 years old. I trust their numbers will multiply. We, on our part, shall continue to perform, better and more fully, the task set for us by the late Premier Zhou Enlai: "Spread further and wider the Chinese people's wish for friendship with all the peoples of the world, and strengthen our unity with them. ▣

CRUCIAL STEPS IN CHINA'S MODERNIZATION

WEN ZONG

THIS 30th anniversary of the People's Republic of China finds its 900 million people taking a key step in their advance toward socialist modernization by the century's end.

Three years, beginning with 1979, are being devoted to readjusting, restructuring, consolidating and improving the national economy — in order to lay the foundation for well-proportioned and high speed development from then on.

Concurrently socialist democracy is being promoted and the socialist legal system strengthened to release and protect the initiative and creativeness of China's people of all nationalities for the immense task.

Both programs, the economic and the political and social, were outlined and analyzed with clear-cut facts and figures at the two-week long Second Session of the Fifth National People's Congress held in June — by Premier Hua Guofeng in his report on government work and in speeches by other leaders. The Congress, China's highest organ of state power, discussed and approved the report and adopted the required decisions and laws.

What is China's economic situation at present?

Three factors enter into it — the great progress made between the liberation in 1949 and the early 1960s, the grave harm done in the decade 1966-1976 by the sabotage of Lin Biao and the gang of four which brought the economy to the brink of ruin, and the recovery since 1976 when sound policies, enjoying general support, again prevailed.

In the year 1978, the third since the fall of the gang, China's economy began a rapid turn for the better. In agriculture, despite inclemencies of nature, grain output per capita topped past records. In industry, the output of steel, coal, crude oil, power, chemical fertilizers and synthetic fibers increased substantially — as did freight carried on the railways. The average income of the peasants — the great majority of the population — from their collective work was 17.7 percent higher than in 1976. Sixty percent of China's wage and salary earners, in industry and other fields, got increases in pay.

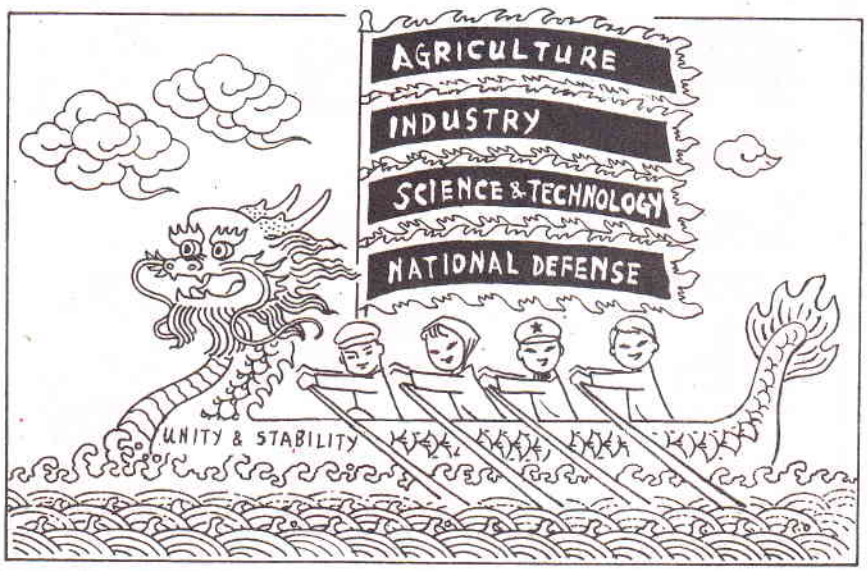
In view of the preceding circumstances, such gains in a developing country with a fifth of the world's population can be termed rapid and impressive.

Yet, viewed from the standpoint of what has to be done in the nationwide striving for modernization, the economy still has maladjustments and difficulties, some very grave.

Hence the need for "readjustment, restructuring, consolidation and improvement."

Four Initial Tasks

Readjustment: The purpose is to correct major disproportions. Through it, within three years, China hopes to achieve:



Unity and Stability — *Li Binsheng and Sun Yizeng*

WEN ZONG is a staff reporter for China Reconstructs.

China's National Economy in 1978

	1978	Percentage Increase over 1977
Total Agricultural Output	145,900 million yuan	8.9 %
Grain	304.75 million tons	7.8 %
Cotton	2.167 million tons	5.8 %
Oilseed Crops	5.218 million tons	30 %
Total Industrial Output	423,100 million yuan	13.5 %
Steel	31.78 million tons	33.9 %
Coal	618 million tons	12.4 %
Crude Oil	104.05 million tons	11.1 %
Electricity	256,550 million kwh	14.8 %
Chemical Fertilizer	8.693 million tons	20.1 %

	1978	Percentage Increase over 1977
Chemical Fibers	284,600 tons	49.9 %
Tractors	113,500	14.3 %
Rail Freight	1,070 million tons	30.5 %
Retail sales	152,750 million yuan	8.3 %
Import and Export Value	35,500 million yuan	30.3 %

Investment in Capital Construction

National	39,500 million yuan	34 %
Local	8,400 million yuan	20 %

Completed Projects

99 **Large and Medium Size**

297 **Partial Units**

• Growth of grain and other production by agriculture and its sidelines corresponding to the growth of population and of industry.

Agriculture is the foundation of China's national economy. Only if it is well developed can there be abundant food for the cities and industrial population, and enough raw materials for expanding the light and textile industries for both home use and export. And only when the 800 million peasants are well off can the domestic market expand, both for consumer goods and for the machines and other production aids which modern farming requires.

• Development of the light and textile industries at a pace equal to, or somewhat faster than, that of heavy industry to provide more goods for the people to buy with their rising purchasing power and for a considerable growth of exports — to accumulate funds for the four modernizations.

• Closing the gap between available fuels (coal and petroleum), power, modern building materials, transport and communications and needs of the economy in these basic respects.

• Heavy industry to advance not only in the quantity but in the variety and quality of its output.

• Better quality, lower costs and a shortening of construction time for capital projects. These will be temporarily curtailed in scale and scope and aim at getting the best returns for investment.

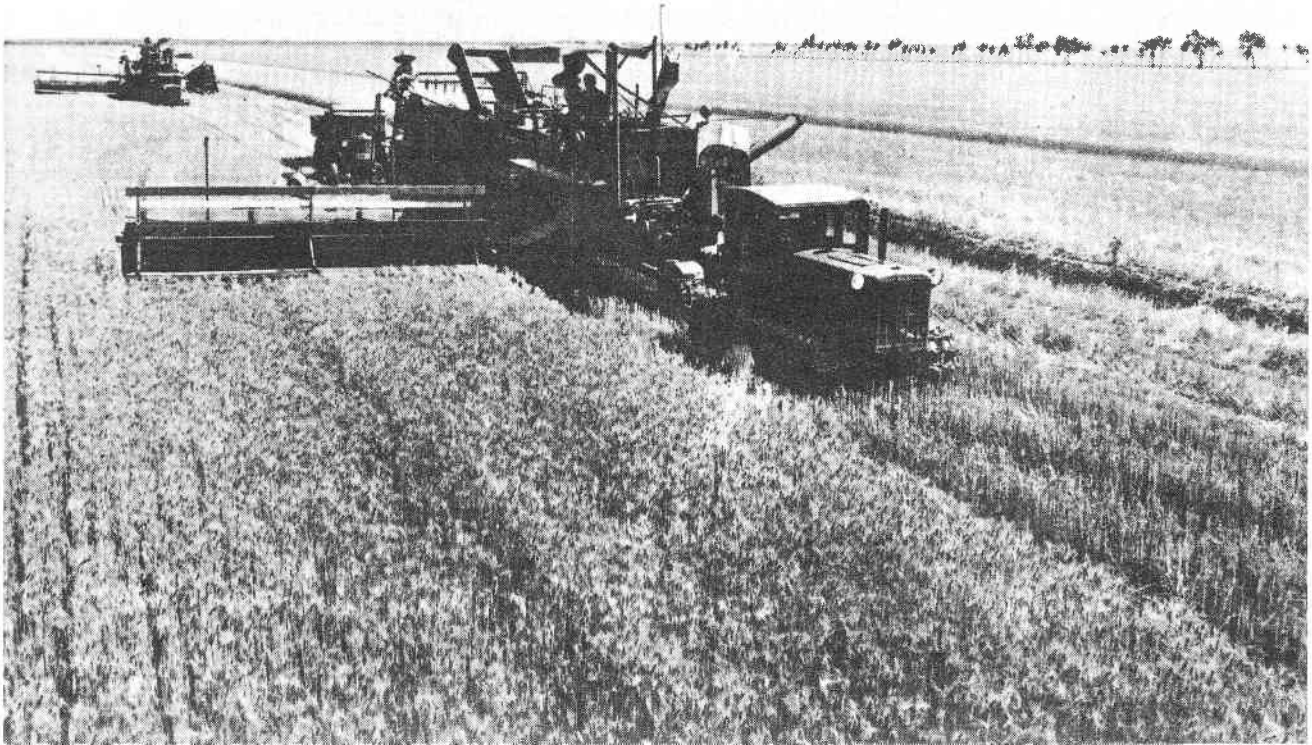
• A continued rise in the incomes of workers and peasants.

At present, this involves some further wage increases on the one hand, and substantially upped state purchase prices for farm and sideline products on the other. Total rural income, including that of the communes and of their members from individual sidelines, is to increase by 13,000 million yuan this year.

The city people, besides their wage hikes, are to have over 30

After renovating its old equipment, this unit of the Anshan Iron and Steel Works produces more and better chains. *Xinhua*

Anhui province reaped a good wheat harvest this year. *Xinhua*

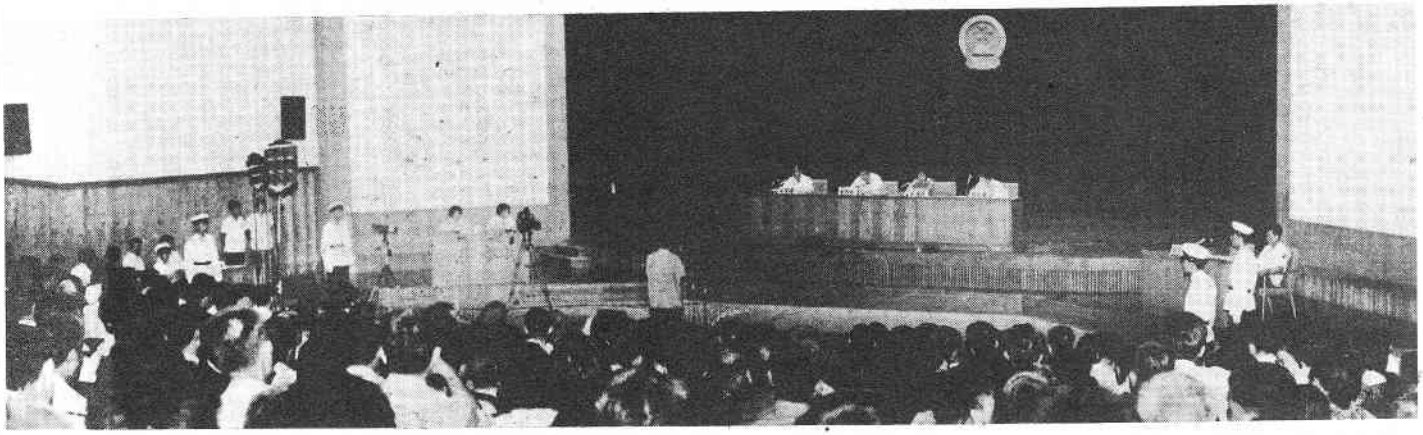


Workers of the Dongfanghong Silk Filature Mill in Wuxi share their know-how. *Xinhua*

million square meters of housing space built for them. And over seven million young people, now awaiting job assignments, will take jobs in enterprises owned by the state or by collectives.

Restructuring: Firm reform, step by step, of the management of the economy. The state will give individual units engaged in industry, agriculture, trade, transport and communications greater powers of decision and initiative in production and management. The socialist principle "from each according to his ability and to each according to his work" will be fully applied. The income of enterprises, as well as of workers and staff, will be commensurate with the quantity and quality of their production. Administrative organs will be reformed for greater economic efficacy. Local authori-

Public trial of a criminal case in Beijing's Intermediate Court. *Zhang Jingde*



ties will have greater power to decide on how to work for the national economy in their own areas, in accordance with conditions on the spot.

Consolidation: The running of existing enterprises, especially those whose management is in a tangle, will be shaken up. Their leading bodies will be strengthened both politically and professionally, and include technical specialists really fit for the job. Production and operation must be more rational and efficient.

Improvement: All enterprises should improve in production, technology and management. People in economic work should raise their ability and skills. A number of major enterprises are to adopt the most advanced technology by learning from foreign countries, importing technology and their own inventive and innovative efforts.

In carrying out these measures, it is the policy of the state to keep the market prices of things for people's basic needs stable. Some individual prices, at present irrational, will be adjusted. Price control will be strengthened.

Another policy to be energetically pursued is the accelerated development of science, education and culture, and of the training of personnel for modernization.

Import of technology will continue. How can China pay? Expanded foreign trade must provide the main means. Another will be tourism, to be vigorously expanded. And some foreign investment will be encouraged. A Law on Joint Ventures with Chinese and Foreign Investments, passed by the Congress session, lays the ground for this on the basis of China's sovereignty and economic independence. Relevant regulations are being drawn up in detail.

Important both economically and socially is promotion of family planning to control population rise. This work will continue and be improved. This is particularly necessary now that young people born in the late 1950s and 1960s,

(Continued on p. 53)

A Democratic Congress

ACTIVE socialist democracy was strongly manifested in the work of the National People's Congress session itself and that of the National Committee of the Chinese People's Political Consultative Conference held at the same time. Members of the latter attended the former, hearing the main reports. The C.P.P.C.C. is a united front body with members drawn from many sectors of society. The present session has the broadest representation ever.

At the National People's Congress, the 3,312 deputies participating submitted 1,890 motions. More than half concerned issues of China's economic construction. The rest related to law, national defense, foreign affairs, science, education, medicine and other subjects. All were referred to appropriate bodies for consideration, the results to be reported to the next Congress session.

Deputies meeting in regional panels as well as in full session pressed for many improvements in government work. They spoke out against abuses by some functionaries — including pursuit of privilege, "back-door" approaches, suppression of others' democratic rights, bureaucratic attitudes and inefficiency. Three women deputies, an actress, a model worker and a teacher submitted a joint motion asking that a code of discipline govern state personnel at various levels. This should stipulate their living standards, spending and housing, and forbid the use of position and power for personal or family advantage.

To strengthen the work of the National People's Congress, more vice-chairmen were elected to its Standing Committee, which acts for it between sessions. They are Peng Zhen, former mayor of Beijing, Xiao Jingguang, commander of China's navy, and two leaders of parties other than the Communist, Zhu Yunshan of the Revolutionary Committee of the Kuomintang and Shi Liang of the Democratic League. Ngapoi Ngawang Jigmi, a Tibetan already a vice-chairman, was chosen to head the Nationalities Committee of the Congress, composed of 81 deputies from every nationality in China.

To bring more efficacy and experience to the leadership of the economy, three new vice-premiers of the government were appointed on Premier Hua Guofeng's recommendation. They are Chen Yun, Po Yipo and Yao Yilin, revolutionary veterans who before the cultural revolution had been prominent in economic work. Chen Yun is Chairman, Li Xiannian Vice-Chairman, and Yao Yilin Secretary-General of the new Financial and Economic Commission under the State Council.

Like the Congress, the National Committee of the C.P.P.C.C. has been broadened and strengthened.

Among its 1,734 members, 110 are new. They include the 85-year-old Luo Zhanglong, a founding member of the Communist Party of China, the patriot Miao Yuntai of the same age, former high official of the Kuomintang government who has just returned from the U.S.A. to settle in China, Wang Guangmei, widow of Liu Shaoqi (Liu Shao-chi), Ding Ling, a well-known writer and Wang Renmei, a noted film actress. All had been out of public life for a long time.

Elected as additional vice-chairman of the united front body was Banqen Erdini (Panchen Erdeni) Quoigyi Gyancan, a traditional notable in religious and other life in Tibet. ▣

Self-Reliance and Imported Technology

—How Shanghai's Petrochemical Complex Relates the Two

BIAN HUI

ARE China's self-reliance and her import of technology in contradiction? Some friends abroad have asked this question.

The two are harmoniously combined in the Shanghai General Petrochemical Complex. Devoted mainly to making and processing synthetic fibers, it is the biggest construction project ever undertaken in China's textile industry. It is also the fruit of the cooperative effort of tens of thousands of workers and peasants, and of different areas of China.

Start from Self-Reliance

Twenty-five provinces, autonomous regions and municipalities in China were involved in the first stage of construction, which has already created what is virtually a new industrial city at a once-desolate spot on Hangzhou Bay south of Shanghai.

Some 50,000 local peasants and Shanghai workers converged there in the winter of 1972 to erect a sea wall to protect the 670-hectare plant site. Despite snow and rain, they completed the dam in 32 days and nights, having moved 1.2 million cubic meters of earth.

Also built was an offshore dock for 25,000-ton tankers to bring crude oil, the main raw material. Because of Hangzhou Bay's sharply dropping tides, swift waves and strong winds some doubted whether one could be built there. A research team spent three months investigating the question and concluded the dock could be built. Construction workers anchored it with 50-meter-long piles driven into the sea bed. At first they could only drive one pile a day, but later they got so that they could install 13 a day. The dock was finished in a little over a year, half the allotted time.

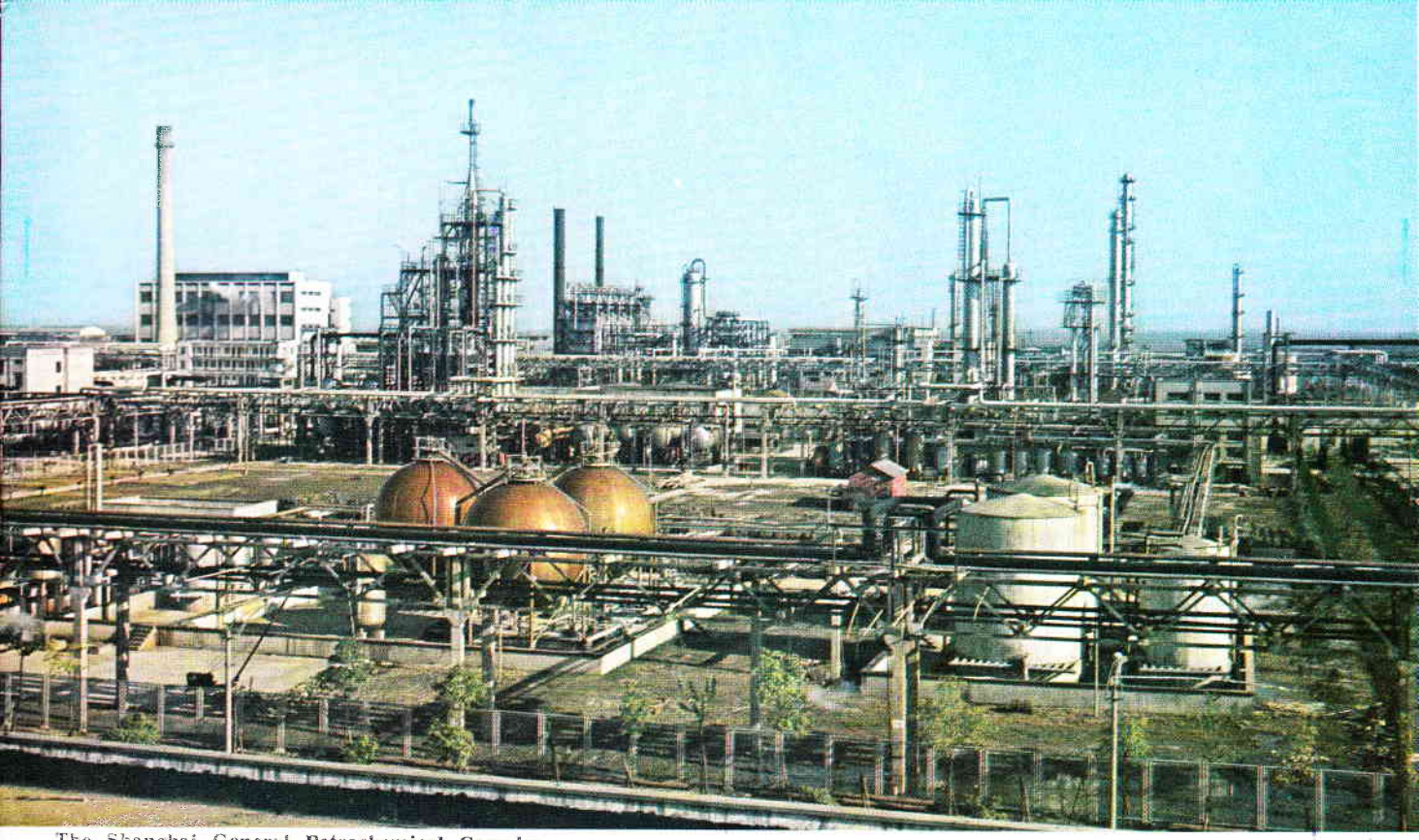
Nearly 100 factories from Shanghai joined in manufacturing and installing key equipment for the project — about 120,000 tons in the first year or so. The Shanghai Industrial Equipment Installation Company sent 70 percent of its plumbers and assemblers to help. At the peak of the work, Shanghai authorities mobilized most of the installers from the city's textile, chemical, metallurgical and electric machinery industries to assist. Also 2,000 workers came from Sichuan province.

Shop director Sun Guojin (left) gets production information from a staff member at the control panel.
Zhang Shuicheng

Foreign Plus Chinese Technology

First-stage projects, which went into trial operation in July 1977 and were officially certified by state industrial departments in June 1979, include six mills producing chemical products, synthetic fibers and plastics; four auxiliary plants to provide the water supply, machine repair, power and waste-water treatment; a crude-oil unloading dock, a

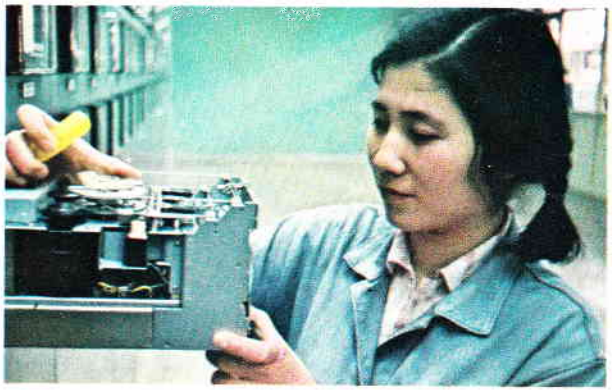
BIAN HUI is a staff reporter for China Reconstructs.



The Shanghai General Petrochemical Complex. *Shi Yun*

Rong Guangdao, 25, heads the crew of the central panel at the ethylene unit in the petrochemical plant No. 1. *Zhang Shuicheng*

Shi Shanping, 25, repairs instruments in the orlon plant. *Zhang Shuicheng*



Ye Shentu, 25, heads the terylene plant's esterization section. *Zhang Shuicheng*

A forest of spindles in the terylene plant's long-fiber shop. *Zhang Shuicheng*

Sedimentation tanks in the waste water treatment plant. *Shi Yun*

double-decker bridge over the Huangpu River and water and land transport facilities. In addition, there is a residential area with apartment buildings, medical facilities, schools, administrative offices and a commercial network.

By the end of May 1979 the plant had achieved a gross output value of 2.4 billion yuan and had returned to the state 920 million yuan — a term greater than the entire cost of imported equipment and patents and equaling 40 percent of the total investment.

Half of the key production machinery for the plant was imported from Japan and West Germany. The other half, plus a great deal of auxiliary equipment, is Chinese-made. The imported technology is among the world's most advanced and helps fill a gap in China's petrochemical and chemical fiber industry. The responsibility for planning, capital construction and installation was entirely in Chinese hands.

The first-stage projects are designed to produce 102,000 tons of synthetic fiber annually — the equivalent of the amount of cotton produced on 150,000 hectares of land. They can also turn out 60,000 tons of plastic resin and 2.8 million tons of petroleum and other chemical products each year.

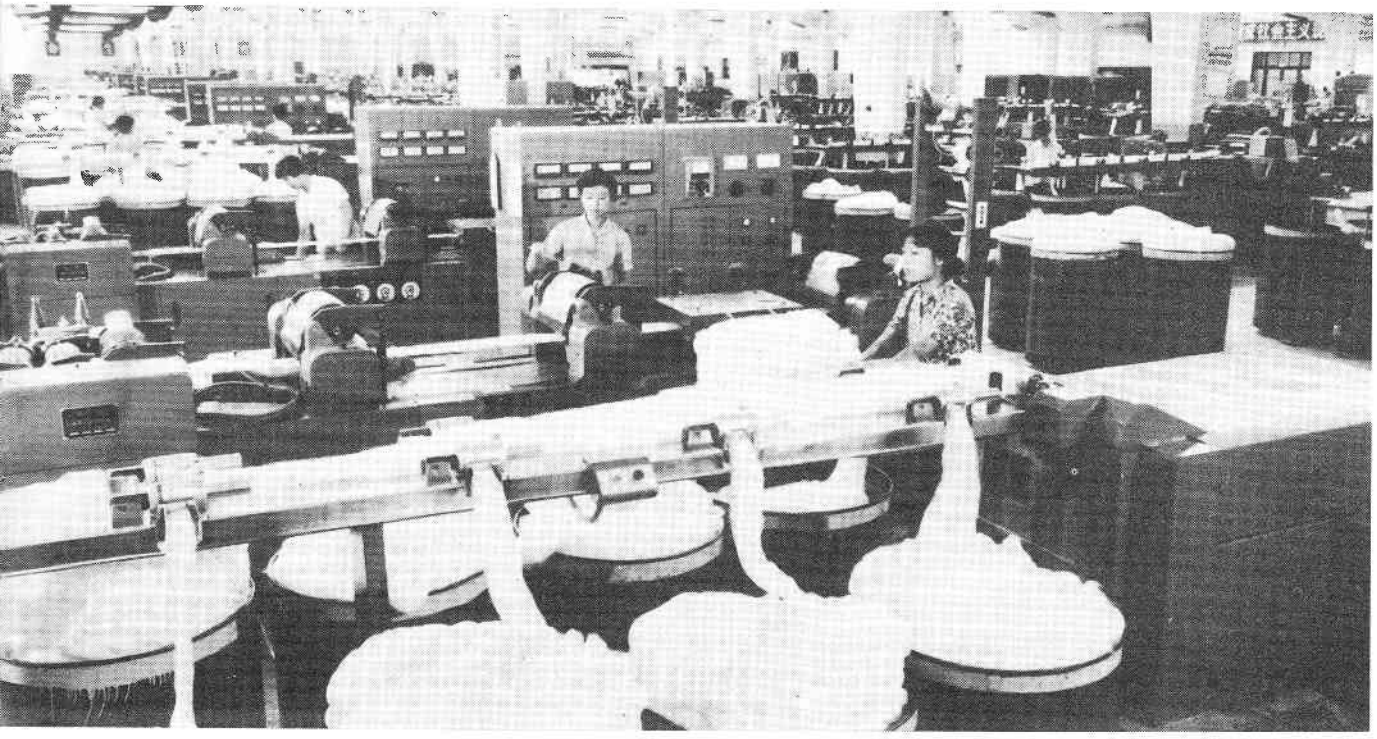
Here are some examples of the combination of imported equipment with that made in China and with Chinese initiative. An ultra-pressure compressor for a Japan-made high-pressure polyethylene unit required 2,000 piles for its foundation according to the imported design. Engineers from the Shanghai Light Industry Designing Institute analyzed the site's geological conditions and decided that 661 piles would be enough. This saved 2 million yuan and two months of time.

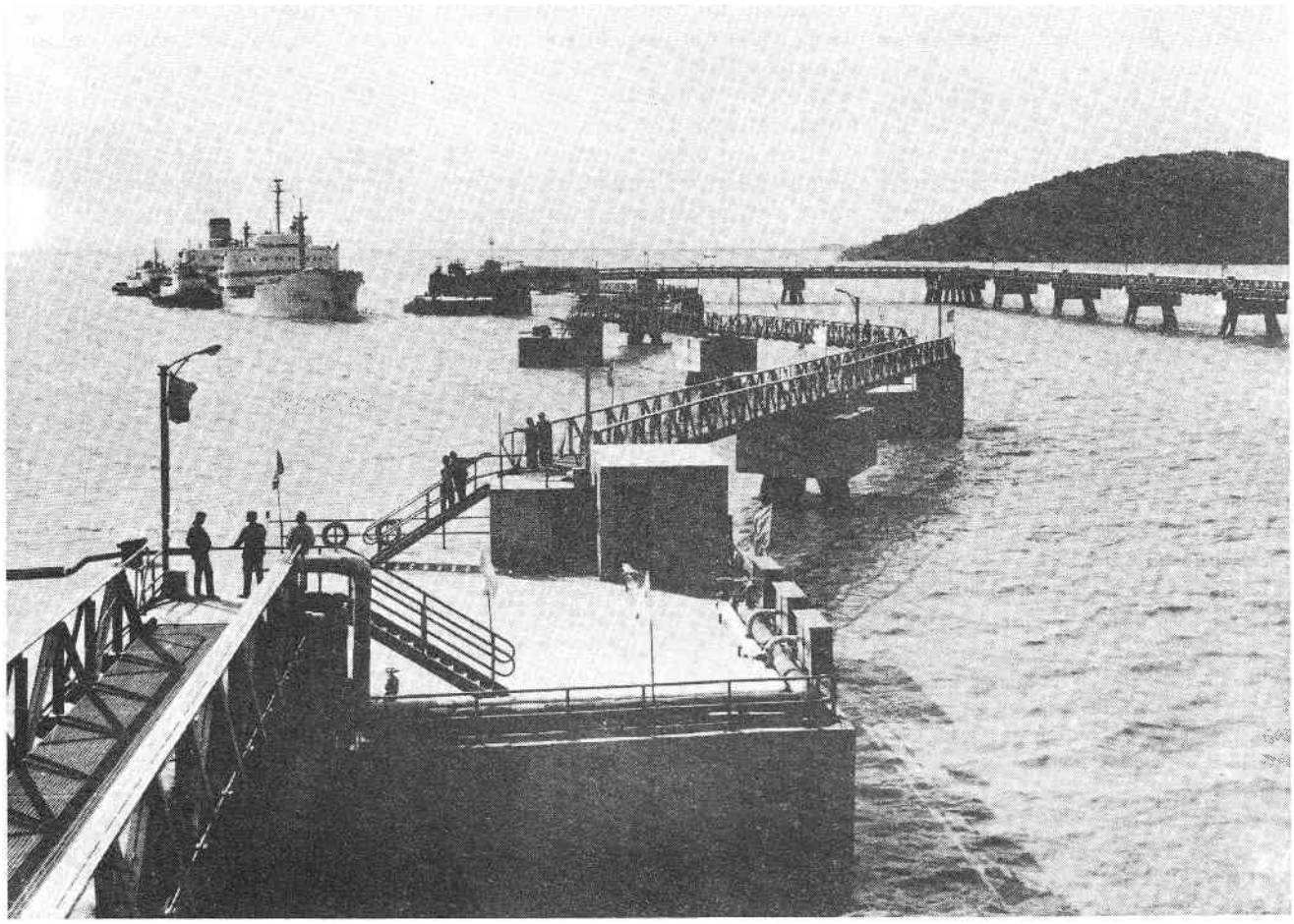
China designed, manufactured, assembled and installed the equipment for the orlon and polyvinyl mills and part of the terylene mill, as well as for the power, water supply, machine repair and water treatment plants. Designated and organized by the state, 500 factories from around the country and in Shanghai quickly provided a great variety of equipment and materials. Lanzhou, a city in the far northwest China, sent the main parts for a constant pressure device. Kaifeng in central China built the entire oxygen-purification unit. Changsha on the middle reaches of Changjiang River supplied 17 huge water pumps. Major textile machinery plants produced all the machines and equipment for the orlon, vinylon and terylene mills.

Three gigantic steel structures with towers and tanks, standing abreast, mark the skyline of Chemical Works No. 2. One is an acetaldehyde column from West Germany. Another a vinyl cyanide column from Japan. Between them is a Chinese-made acetic acid column. The inner-cooling process formerly used in China's acetic acid production was clumsy, complex and time-consuming. The Shanghai Chemical Industry Designing Institute developed a new outer-cooling process. A Shanghai steel plant produced the special rolled steel for the new system.

China at first planned to import the main parts for orlon production. Later she decided to build

China-made production line in the wool-tops section of the orlon mill. *Shi Yun*





The offshore oil dock at Chenshan. *Shi Yun*

the equipment herself. Fifteen textile machinery and chemical fiber plants in Shanghai municipality and four provinces were mobilized to make it. Steel plants in Anshan, Dalian, Beijing, Taiyuan and Shanghai provided high-quality steel that would resist corrosion. Factories in Anhui and Guangdong provinces developed automatic meters and instruments. Within a year and a half the various enterprises delivered their products to the worksite. The orlon mill was completed according to plan.

Learning and Improving

Such a big and modern complex needs a great number of technical and administrative personnel. But petrochemical operation was begun with only a handful of engineers and veteran workers with experience in the textile or chemical industries. Three-fourths of the work force were youngsters newly out of middle school. So the leaders of the enterprise asked the Shanghai Textile Engineering College to run a workers' training school for the plant, and sent workers and technicians to study at other units in the same field. Workers and technicians also had to learn to install and operate the imported equipment.

Sun Guojin, the 45-year-old director of shop No. 3 in the Chemical Works No. 1, had worked at the Shanghai Coking Plant, but knew nothing about the aromatic hydrocarbon extraction and xylene devices in the new plant. The aromatic hydrocarbon device is composed of 150 units — towers, heat exchangers, containers, troughs and pumps and several dozen pipe lines. Tracing the blueprints, Sun explored every section of pipe line, valve and every piece of machinery, crawling into narrow holes and climbing to the top of the high tower. Now he knows his shop like the back of his hand.

The filament finishing section in the spinning shop of the terylene mill has four false twisters. Japanese engineers helped train 40 spinners who had to be able to doff 88 spindles in 20 minutes by the end of the course. All women, they passed the test. The fastest needed only 11 minutes to complete it. Now the section is overfulfilling its monthly quotas by 10 percent and the elastic fibers it turns out are 98 percent top-grade. ▣

Thirty

YOU YUWEN

The year they came into the world — 1949 — one stage of the Chinese revolution was thundering down the home stretch. In January the People's Liberation Army took Beijing (then Peiping), in April it crossed the Changjiang (Yangtze) River and took Chiang Kai-shek's capital Nanjing. The Chinese people, with the Chinese Communist Party in the forefront, were fighting to free themselves from the old regime, under which they lived hungry and ill-clad and whose policies and economy were controlled by foreign imperialists. By the end of the year of their birth a new China, too, had been born — the People's Republic had been set up and work was being done to right the wrongs of centuries, and to create the conditions for a secure and happy childhood.

When they reached their teens they themselves were caught up in a new storm, the Great Proletarian Cultural Revolution which began in 1966. Those were unsettling years — irregular schooling, years in the countryside. . . . Along with revolutionary aspirations there came disruption by Lin Biao and the gang of four as these false prophets fomented anarchy in the name of revolution, reaching for personal power in the confusion.

Where are they now, these young people who, like the new China, were born in 1949 and, like it, are now 30? Events led a few of them for a time to disillusion, cynicism, or to petty crime, and such social problems left from those years are still being solved.

Below, three who with strong will did otherwise tell their experiences. Due to circumstance, not many of China's young people have had the striking success of these three. Yet their stories have an element in common with those of most young people in China today — the desire to do their best to create a modern socialist industry, agriculture, science and defense for their country for this too is part of the revolution which is their birthright.

WU QIANG, technical innovator at the Beijing Silk Mill and delegate to the Beijing People's Congress.

I WORKED hard on my lessons when I was in middle school. After classes I would go out to collect plant and insect specimens or work on my transistor radio or go to some scientific activity in Beijing Children's Palace. I took part in math and composition contests. When we had a campaign to learn from Lei Feng, an outstanding People's Liberation Army man, I tried my best to help others and do good things for the people. At the end of my second year in junior middle school I was named an outstanding Beijing student and given two gold pins.

The cultural revolution began while I was still in junior middle school. My schoolmates and I plunged ourselves into it with great enthusiasm. We traveled about to a number of cities — it seems that we walked over half of China — to exchange experience on how to make revolution.

When I came back I was puzzled to find that students who had remained were attacking teachers we had respected. I did not realize until much later that some people were urging the Red Guards to follow an ultra-Left line of attacking all intellectuals. Even my father, an engineer who had always worked very hard, came under fire merely for being an old intellectual.

I began to wonder why I should work hard if it would only come to this, but my father did not let such things faze him. He kept his faith and dedication to China's socialist revolution and construction. "Many young people with broad knowledge of science will be needed," he said. His words and Chairman Mao's admonition, "Study well and make progress every day" helped me keep on with my scientific studies.

With a few close friends I began making various kinds of radio equipment. We haunted the radio stores for parts and bookshops for any new literature on the subject. Thus began my interest in electronics.

In 1968 I was assigned to work as a spinner in the Beijing Silk Mill. It did not have modern machinery. The workers in the preparation shop had to keep their eyes on several hundred warp reels, watching for broken ends. Severe eyestrain caused many to wear glasses. With support from the mill leaders I tried to make equipment to do this job, but it was not successful. Hoping to find out what went wrong, I read more books and went to the Beijing Chemical Engineering Institute for

YOU YUWEN is a staff reporter for China Reconstructs.

help. Eight months later after repeated experiments I perfected a pulse-controlled automatic warp stop device which was quickly adopted throughout the shop. The eyestrain was ended and production went up by 20 percent.

This led to the desire to make the weaving shop automatic — automatic shuttle change, TV inspection and push-button control so that the weavers didn't need to walk around the shop. For this project, on my own I studied physics, math, computer science, silicon-controlled rectifiers, lasers and engineering drawing, and read some material from abroad.

Later we set up an electronics group to concentrate on technical innovation. We worked very hard. Sometimes I didn't get much sleep for days on end while we were carrying on an experiment. To make the weft fault detector I had to try dozens of bulbs and regulate the voltage over and over in order to observe the changes of lamp filament and brightness. My eyes often watered and hurt so sometimes I had to stop and do eye exercises before continuing.

We finally made the fault detector. It has improved quality and reduced consumption of raw materials by four-fifths. Since then our mill has produced over 10,000 extra meters of silk with raw material saved.

Our group has made six kinds of electronically-controlled equipment for looms in the past few years. These have opened a new horizon for us in applying electronics in the silk industry.

Now six of us have gone to study in college. People have asked me whether I planned to take the examination for college entrance. I considered the matter. It's true that China's modernization needs a lot of professional research personnel, but it also needs a lot of workers with advanced technical knowledge. I feel I can continue to improve my theoretical background in connection with problems right on the job, so I've decided not to try for college.

Now I am married to a worker from our mill. Since she is not in very good health, I have to do quite a lot at home. But she supports my work for innovation and never complains when I don't come home because of it.

Wu and other members of the electronics group discuss a problem.

Zhang Jingde

CAO NANWEI, graduate student in the High Energy Physics Research Institute of the Chinese Academy of Sciences.

WHEN I was five my father died and my mother, an ordinary government worker, supported us four children on her not-very-high wage. The government paid our school tuition fees and later living subsidies while in college.

I was lucky because of my high marks to be admitted to a key middle school where I got better teaching. I wanted to be a scientist. Once I had an argument with a classmate. She said that there was no woman who was a leading scientist. I mentioned Madame Curie. "But she was a foreigner," put in another friend who was with us. "There's never been one in China." I had no answer, but in my heart was unwilling to accept the idea. The girls in my class were as good academically as the boys. Why couldn't they become leading scientists?

My elder sister was studying philosophy at Beijing University and I wanted to study physics. I had the idea that we could work together to use materialist dialectics to study elemental particles.

In 1964 I got a letter from my sister. She was very excited about the visit to China of Shoichi Sakata, a Japanese physicist, introducing the "Sakata Model." He had applied materialist dialectics to the study of elemental particles. "Think of it," my sister wrote, "a scientist from a capitalist country gave lectures on materialist dia-

With Professor He Zuoxiu. *Sun Yunshan*

lectics for members of academic circles in socialist China. Isn't this something for our Chinese young people to think about?" Prof. Sakata had met with Chairman Mao several times during his visit.

I was in senior middle school when the cultural revolution began. As it went on, our school could no longer hold classes as usual. After graduation in 1968 most of my class went to live and work in the countryside. I was not in good health so I did not go.

Since I had nothing to do, I began on my own studying materials that my elder brother and sister had used in university. Since I didn't have a teacher to help me, I took a great deal of time and sometimes got to a thing by taking the long way around. We didn't have much money so I bought paper for my notes and exercises from a waste materials collection station. Over seven years I finished all the math and physics courses normally taken by university science students, and some in higher mathematics and physics. To learn more about the evolution of the elemental particle theory I studied English on my own and even tried to read some books in the original English and looked through magazines in English, Italian and Japanese.

My greatest difficulty was how to get books, since I did not have the money to buy them. Since I had no job I didn't have a work card, and had to use my classmate's to get into the Shanghai library to read. But I was afraid I would be denied the use of the library if found out. Fortunately the library was only a 40-minute walk from home so I could go there every day and stay till it closed.

In September 1975 Professor He Zuoxiu, a Chinese high energy physicist, published a thesis "A New Possible Quantized Field Theory of Composite Particles". After reading it I wrote him a letter and gave my opinions about certain problems to be solved in this field. I also wrote an article "Field-Current Identity and the Total Decay Width of the P-State New Particles" and sent it to the *Science Bulletin* of the Chinese Academy of Sciences and they published it.

I kept in touch with Professor He and he and other scientists in Shanghai gave me a lot of help. After the gang of four fell the system of entrance examinations for college enrollment was restored. I took the examination for graduate students and in 1977 was accepted in the Academy's High Energy Physics Research Institute. Professor He is my teacher. I hope that my studies will enable me to contribute to the modernization of our country.

HUANG ANLUN, composer with the Central Opera and Dance Drama Theater. Of him, Margot Fonteyn, famous ballerina and honorary president of the Royal Ballet Academy of Great Britain, said, "You are lucky to have a talented composer. He has written really good music," after she saw The Little Match Girl, **a ballet adapted from Hans Christian Anderson's story with music by Huang Anlun. Another of his works, a piano piece** Prelude and Dance **was performed by Chinese pianist Liu Shikun while on tour in the United States.**

MY father Huang Feili is head of the conducting department of the Central Conservatory of

Music. When I was born in the city of Guangzhou he was studying music in the United States. In 1951 he didn't want to stay away from China any longer. He gave up the opportunity for a European tour with his teacher Hindemith and to finish his academic degree and returned to give his all to the new China. This feeling is reflected in the painstaking way he educated me.

I started to study the piano at the age of five. But my mind was outside in the yard where my friends were playing. For this I got quite a few spankings, but now that I look back over it, I think my parents should have been even more strict.

When I was six I was sent to study piano in a spare-time primary school and at 12 I entered the middle school attached to the Central Conservatory of Music to major in piano. One day I was shooting away with a slingshot when a teacher named Shao Yuanxin called me in. I expected him to scold me. Instead he asked, "Do you really understand music?" I made a face and retorted, "No, I hate it." He didn't get angry, but let me hear a piece by Schubert and explained it to me in detail. Before I knew it my resentment had vanished. I could feel the music with every nerve. From then on I stayed at the piano eight or nine hours a day.

My schooling was interrupted during the cultural revolution. My classmates and I were assigned to do farm work in a village near Zhangjiakou, a city north of the Great Wall. I wept bitterly at the thought that I wouldn't be able to play the piano. Then I was struck by an idea: Even if I couldn't play maybe I could learn to compose. My father agreed. On my next visit to my family in Beijing I got some teaching materials from the conservatory's composing department. My father set me tasks of scoring symphonic music for piano.

I took to composing in that remote village in a fever of enthusiasm. When I learned that there was a small organ in a primary school four kilometers away, I walked there every day to use it. I didn't even skip one day when there was a blizzard. The teachers at the primary school were very sympathetic, which made my work there easier.

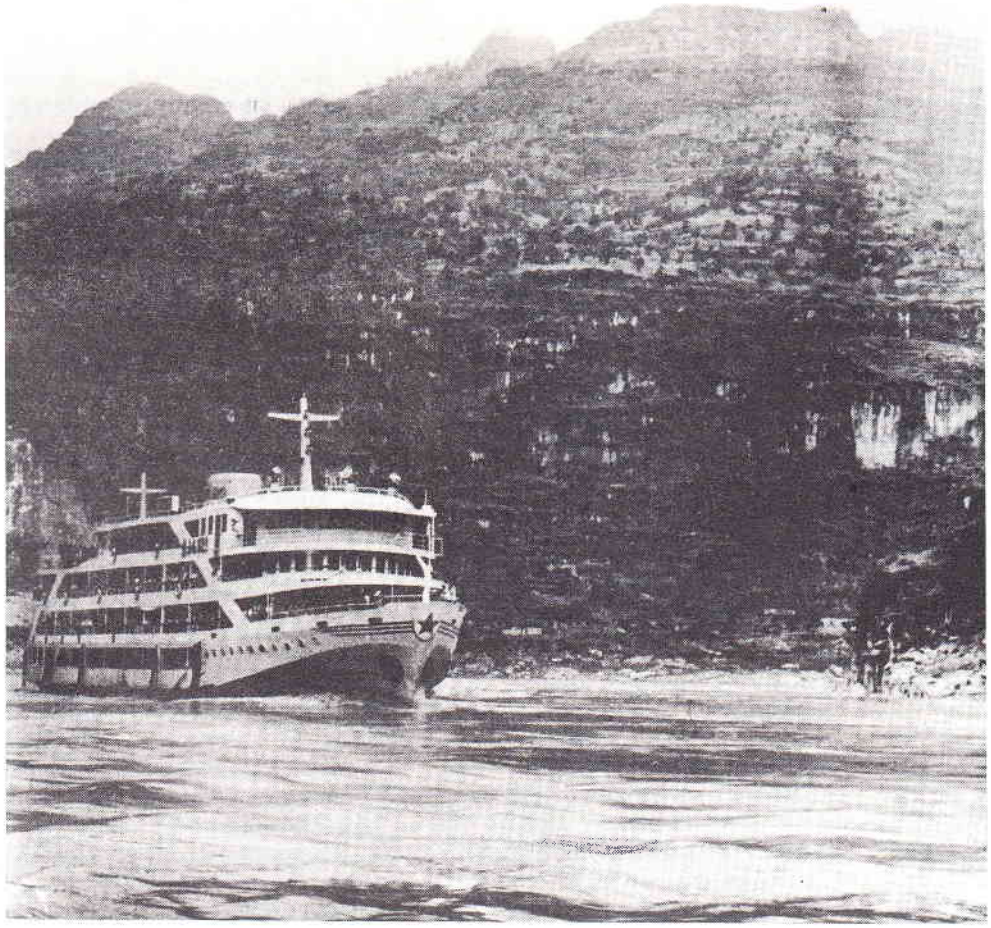
In 1972 the veteran composer Chen Zi and others were planning to create an opera *The Miner's Daughter*. I was asked to go to Beijing to coordinate the instrumentation. I was determined to make the best of this rare chance. In the course of the work I learned a lot from these veteran musicians and gained a deeper understanding of music itself.

Chen Zi was a student of the late great composer Xian Xinghai. In the 1930s he and several of his schoolmates had gone to Yanan to join the Chinese revolution. The others went into the army, while he became a musician at the Lu Xun Academy of Arts in Yanan. During the time I worked with him Chen Zi often talked about his personal experiences and his opinions on creating a national music. "Xian Xinghai studied western music in France but he used it to serve China in her struggle against the Japanese invasion," he pointed out. "A person may eat the meat of sheep, but it goes into making him a man. You must always remember that only your closeness to the Chinese nation can give your music vitality."

Now I am working on an opera on Yue Fei, a hero of the Song dynasty (960-1279). I have collected a dozen tapes of an opera in Fujian province style to study as a basis for my work. I want to achieve the good qualities of modern western music such as lucidity and free-flowing style. But I want my music to express healthy sentiments, deep revolutionary feeling and be in characteristic Chinese style.

I am married now. My wife works as a pianist in a dance school. Since my mother takes care of our household and the children, I am able to give all my time to composing. ■

At the piano.



Navigation through the gorges in Sichuan province is now constant and safe. *Shen Yantai*

THIRTY YEARS OF CONTROLLING CHINA'S GREATEST RIVER

LIN YISHAN

I'VE BEEN working on the control of China's greatest river, the Changjiang (Yangtze), for some 30 years. It should be familiar to me, you might think, and it is. But when this summer I went with 100 other water conservation and geological workers to survey its world-famous gorges, I was stirred as seldom before. Standing on a mountain top, seeing it wind east along its seaward course I was struck, as though for the first time, by its beauty and promise. For at these gorges, we shall build the biggest dam in China and one of the biggest in the world, as part of the project to curb the river from flooding and harness its vast potential for irrigation and electric power — to protect our people and bring them a brighter, more abundant life.

Born of peasant stock, I learned the tragedies of both too little and too much water not from hydro-

LIN YISHAN is Chairman of the Changjiang River Valley Long-range Planning Commission.

Apex of the 2,000-year-old Dujiangyan irrigation system renovated after liberation. *Zhang Shuicheng*

logy, in which I have no formal training, but from the ground up. And in the course of guerrilla warfare against the Japanese invaders, in 1939 I dug wells and built irrigation ditches with the local peasants in the base areas led by the Communist Party.

After 1949, when our country was liberated, I was put in charge of control work on this mighty waterway. In the spring of 1953, when Chairman Mao Zedong was inspecting the region, he discussed with me the overall task, and later instructed me and other colleagues to draw up a comprehensive plan. Flood prevention, to save thousands of lives, was the main emphasis.

With this in mind we water conservation workers have traveled the length of the river from its source, the Tongtian River in China's far west, to the sea outlet at Wusongkou (Woosung) near Shanghai. We took part in every big project built on the tributaries. Over the years, we rejoiced in the growing achievements in averting flood damage, irrigating crops to feed more people, the production of power for industry, improvement of navigation and scientific research.

In old China, under its reactionary ruling classes no effective measures were ever taken to tame the river. For centuries inundations, waterlogging, drought, and schistosomiasis (snail fever) harassed the people along its banks. Things began to change in 1949, when the people took power. Very early, despite lack of equipment and efficient technicians, the people's government set up the Changjiang River Valley Long-range Planning Commission. Over 1,000 water conservation workers, 10,000 hydrographers and geologists were assigned to it. We did a lot of surveying and inspection work and gathered and collated much basic data. Here are the main accomplishments since then.

Tracing the Source

Detailed work was done to locate exactly the river's main source. This had long been believed to be the Minjiang River in Sichuan province. In 1641, the noted geographer Xu Xiake wrote that the Jinsha River was the source. But prior to liberation nobody investigated its upper reaches or the Tongtian River and its five tributaries.

In the summer of 1976 one such tributary, the Tuotuo, was definitely identified as the true source of the Changjiang. The towering snowcapped mountains and glaciers on the Qinghai-Tibet Plateau are the inexhaustible reservoir of its life-giving water.

This reliable survey has revealed that the Changjiang River is 6,300 kilometers long, and not 5,800 as was formerly believed.

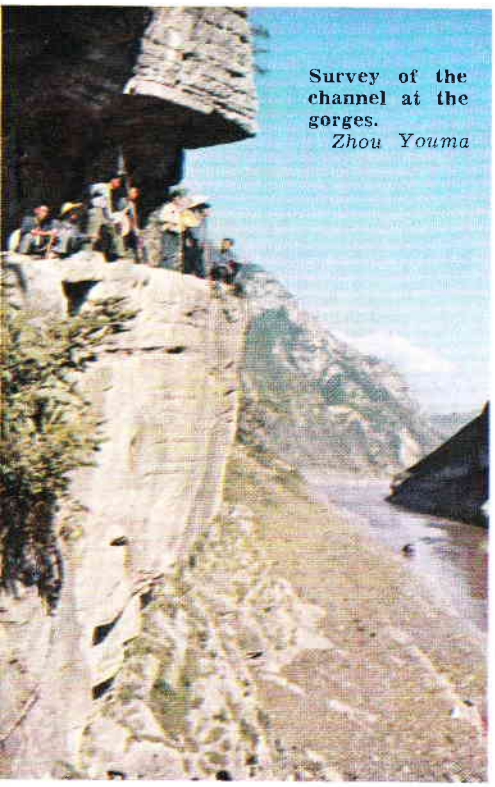
Jingjiang River Project

In the liberation year, in Wuhan in the summer of 1949, I got caught up in a battle to protect the dikes and save that major city from flood. Torrential rains had rapidly raised the water level and speed of flow in the upper reaches of the Changjiang in Sichuan province. June to August is the peak period of the high-water season, which lasts from May to October. Then torrents pour down from the upper reaches into the gorges, and flood the plains of Hunan and Hubei provinces below, breaching many of the flimsier dikes. Things get worse if too much silt accumulates in the riverbed. If floodwaters from the upper reaches meet those from the tributaries in the middle reaches, inundation of great areas in the middle and lower reaches is inevitable.

The Changjiang River is historically reputed to have burst its banks over 200 times in 2,000 years. In 1931, its overflow drowned over three million hectares of land in six provinces and killed 140,000 people. A total of 28 million people suffered from the effects. In the 1935 flood, another 140,000 lives were lost.

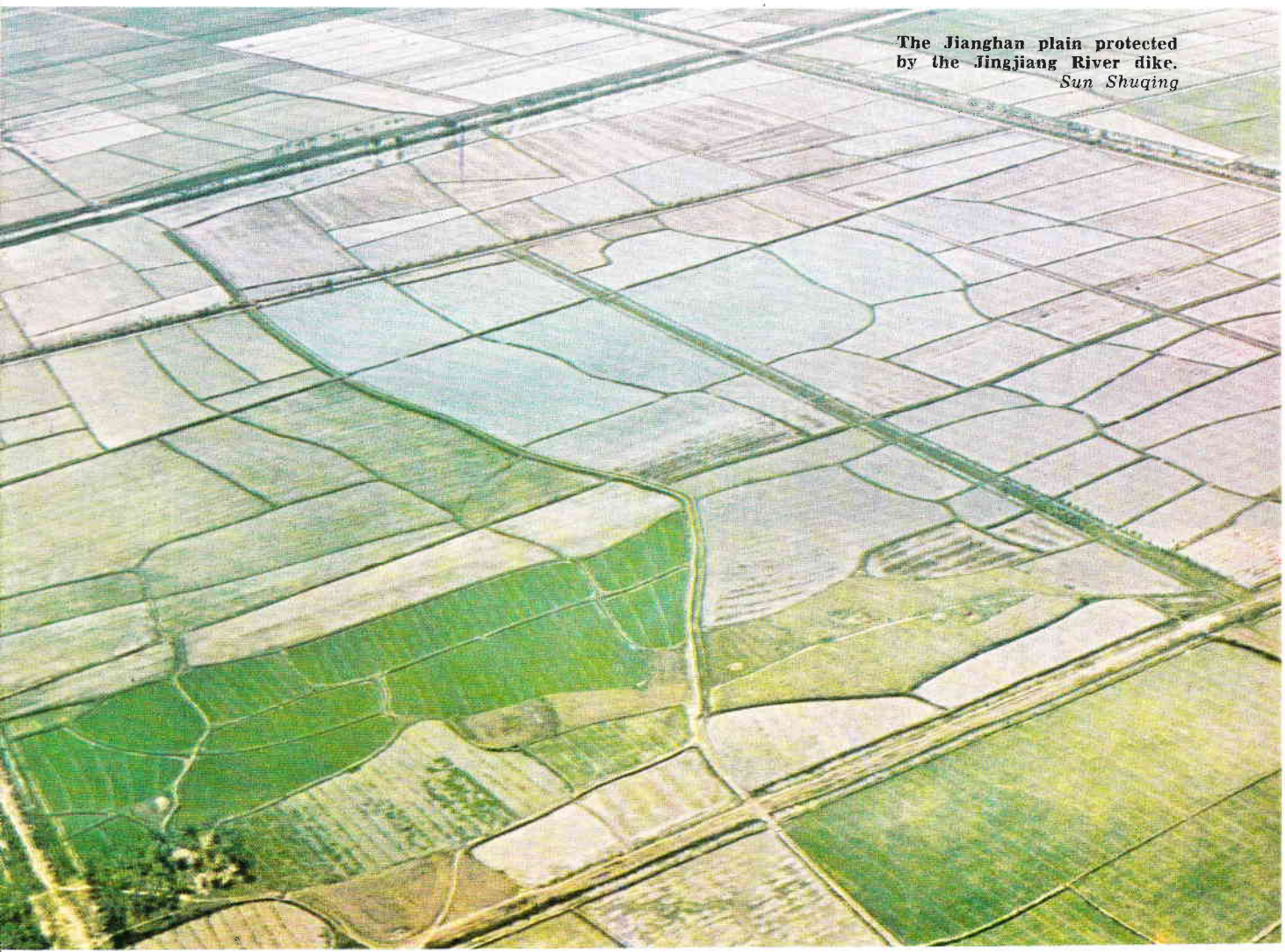
Following the liberation, flood prevention became a primary task of our newborn people's government, and was embarked on immediately. Some 3,000 kilometers of dikes were rebuilt and strengthened. The key Jingjiang River Dike was raised by three meters and widened by eight meters along a 180-kilometer stretch, and numerous small ones were constructed on the tributaries as outposts against flooding.

Flood diversion and storage are of prime importance in safeguarding key regions during periods of unusually high water. The first undertaking to do this was the Jingjiang River Flood-diversion



Survey of the channel at the gorges.
Zhou Youma

Gezhouba, the initial water conservation project west of the gorges, under construction.
Shen Yantai



The Jianghan plain protected by the Jingjiang River dike.
Sun Shuqing

The busy docks at Yichang.

Shen Yantai

Project. The plan for it was approved by Chairman Mao and Premier Zhou Enlai. In April 1952 a force of 300,000 construction workers, peasants and soldiers threw themselves into the battle to build it within 75 days. The job was to create a 900-square-kilometer basin in a low-lying plain south of the Jingjiang River, with inlet sluice gates capable of admitting 8,000 cubic meters of water per second.

The project soon proved worth the vast effort. Late in July 1954, heavy downpours raised the Changjiang to an exceptionally high level, threatening disaster to the middle and lower reaches. Three times the dam's sluice gates were opened to release the swollen waters. A serious disaster was averted.

In the late 1960s, after careful study of the Jingjiang River system it was decided to do more work here — to straighten out two of its biggest bends situated in Hubei province. This shortened the river by 80 kilometers and lessened the flood peril.

Flood Diversion to Lakes

Many lakes linked with the Changjiang River, including major ones — the Dongting in Hunan province, Honghu in Hubei province and Poyang in Jiangxi province—were once natural reservoirs for floodwaters. But silting and the reclamation of lakeside land over the years considerably reduced their storage capacity.

After the liberation it was decided to restore this function of the lakes. Around the shallow ones, dikes and sluice dams were built to maintain the water at a low level or check inflow at normal times. This increased their capacity to accommodate floodwaters when required. During low-water seasons the land is drained and sown to crops (with the understanding that they will be sacrificed if down-river cities or regions are endangered by floods). These projects, plus the Jingjiang River Flood-diversion Project, have created a diversion and storage area of 10,000 square kilometers, with an effective capacity of 50 thousand million cubic meters of water. The middle and lower reaches of the Changjiang no longer face floods every year. When there is no threat, the land reclaimed from the lakes produces much grain.

Hubei is called "the province with a thousand lakes." The four largest, which include Lake Honghu, cover 11,000 square kilometers. After liberation, a diversion dam was constructed as part of a projected comprehensive control program. Then, between 1959 and early 1960, half a year's effort by 200,000 construction workers completed four long drainage canals with a total length of 390 kilometers. In 1973, a storage and drainage project four times the size of the Jingjiang one was completed on Lake Honghu.

On the south bank of the Changjiang River a similar project was also built on the Dongting Lake (China's biggest inland body of fresh water): Seventy percent of the farmland in ten lakeside counties now yield high stable crops regardless of weather.

Harnessing of the lakes has also helped fish breeding and inland navigation. It has cut down virtually the killer disease, schistosomiasis. Snails, the intermediate host of the organisms that cause it, formerly bred in abundance on lakesides, in river bends and in ditches and pools. Whole villages were depopulated by this scourge. In the spring of 1950, when investigating the lake area near Wuhan, we often traveled long distances without coming across any sign of human habitation.

On one occasion we did meet the middle-aged mother of seven children. They all bore different surnames, for she had married seven times. Each of her husbands had died of schistosomiasis contracted while working in the paddy fields. Only because neither she nor the children worked in the fields had they avoided the same fate. Time will never banish those tragic scenes from my memory.

With liberation, the extermination of these snails became an integral part of the lake harnessing program. Countless lives have been saved.

More Land Irrigated

The greater part of the Changjiang River basin has an abundant rainful. But unfortunately the rain does not always arrive when most needed by the crops. Drought used constantly to threat-

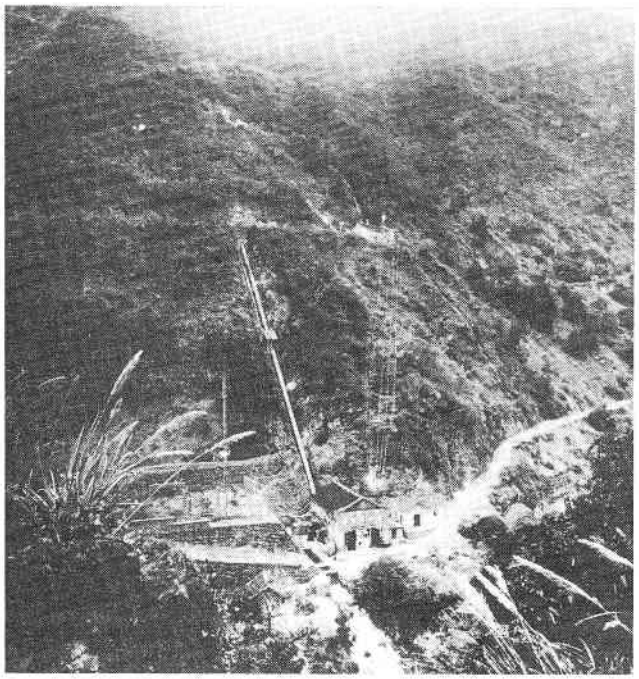
The Changjiang—China's Longest River

THE Changjiang, China's largest river, rises in the Tanggula Mountains on the Qinghai-Tibet Plateau and traverses 6,300 kilometers through one municipality, one autonomous region and eight provinces.

It is fed along its long course by over 700 rivers and streams. Every year it discharges one million million cubic meters of water into the East China Sea near Shanghai — 20 times as much as the Huanghe (Yellow) River, China's second largest.

The basin drained by the Changjiang measures 1.8 million square kilometers, about one fifth of China's total area, and equivalent to about one sixth of the entire area of Europe. The 300 million people inhabiting in this basin cultivate rice, cotton and rape on 27 million hectares of fertile land, growing 40 percent of China's grain and one third of her cotton.

The area is also rich in mineral and timber resources. The river carries 80 percent of all China's internal waterborne traffic.



A small-sized multistage hydropower station in Badong county, Hubei province. *Huang Taoming*

Lin Yishan (center) and hydrologists, including 83-year-old Prof. Tao Shuzeng with a walking stick in the first row, surveying the site for the dam of the gorges. *Ma Jun*

en farming, especially in hilly areas. Since liberation we have built over 800 big and medium-sized reservoirs and 130,000 electric irrigation and drainage stations. Today the river valley is studded with canals, ponds and reservoirs which irrigate 14.6 million hectares of farmland.

The struggle to make water available at the right time began many centuries ago.

The Dujiangyan irrigation project in Sichuan province on the upper reaches was built in 250 B.C. Later, lack of necessary repairs caused croplands served by it to shrink from 200,000 to about 130,000 hectares. After the liberation, by the 1960s the ancient network was restored and expanded. Areas benefited rose to half a million hectares, including hill areas it had never served before.

Among new irrigation areas watered by the Changjiang is Shaoshan, Chairman Mao's native district in Hunan province.

Lower down, the Taihu Lake area is known as "the land of rice and fish." Over 100 main river courses and tens of thousands of tributary beds have been newly dug, widened or deepened to form a new multipurpose drainage, diversion and storage network, with enhanced irrigation and transport capacity.

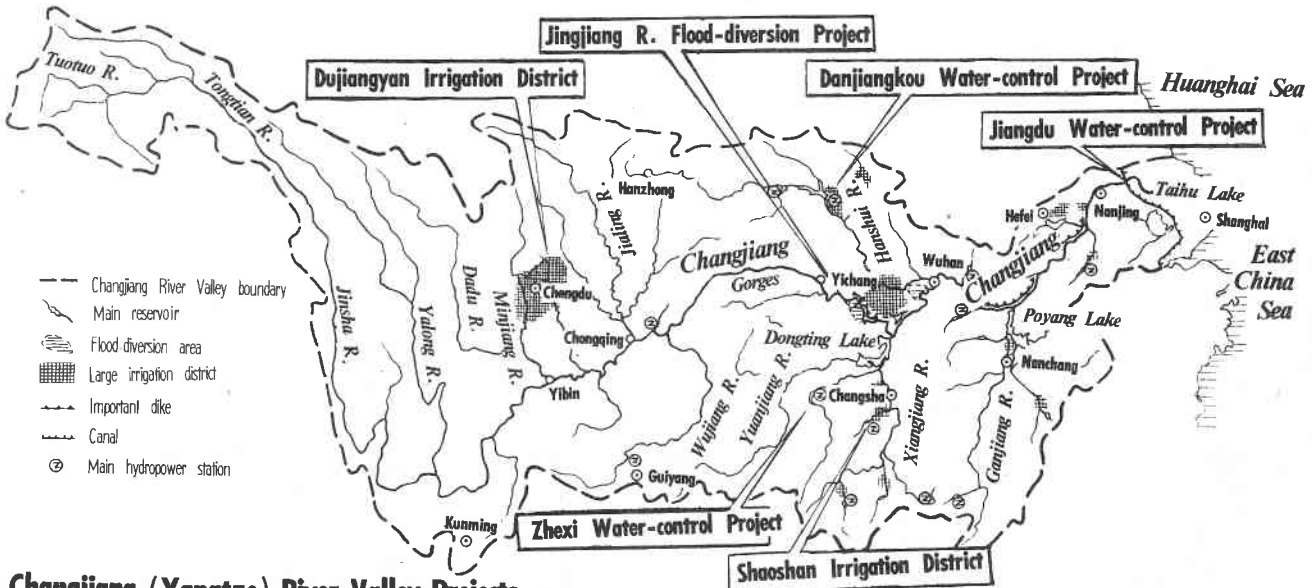
Still lower, the Jiangdu Key Water Control Project aims to divert water from the Changjiang River to the Grand Canal and thence to the Huaihe River to irrigate the north China plain. The first stage, completed in 1977 consists of four of China's largest irrigation and drainage stations, a check gate, a lock and a number of waterways. Already benefited are 660,000 hectares of farmland.

Power and Navigation

Power generation and river transport are also provided for in many of the projects built on the major tributaries. Biggest so far, is the Danjiangkou project on the Hanjiang River. The first stage completed in the 1970s includes a 2.5-kilometer dam, a 900,000-kw. power station, a lock and two irrigation canals. Power is supplied to industry and agriculture in Hubei and Henan provinces.

The total generating potential of the Changjiang River and its tributaries is immense — estimated at 230 million kilowatts, 40 percent of the national total. Present generating capacity of the 20,000 big, medium and small hydropower stations built since liberation is six million kw.

With ample water, supplemented from tributaries, the Changjiang River is a vital transport artery, navigable the year round. But the 1,033-kilometer stretch from Yibin in Sichuan povince to Yichang in Hubei province, along which the river passes through its far famed gorges, was always hazardous. The people's government has improved navigation conditions: 154 shoals have been removed and rock-clearance in the gorges now allows ships to pass through day and night. The 24 river harbors, 270 stopover points and 200 docks provide ample loading and unloading facilities. Navigation including that on



Changjiang (Yangtze) River Valley Projects

the tributaries has been extended from 10,000 to 30,000 kilometers.

Gorges Project — The Key

Despite the achievements of these 30 years, full flood control has not yet been achieved. Only about three percent of the actual water resources of the Changjiang are put to use. Navigation is still at far too low a level.

Therefore, we hydrologists are working on a grandiose scheme to tame the entire Changjiang River, with the gorges as the key link. The tremendous flow from the upper reaches, the 120-meter head drop along the 600 kilometers above the gorges, and the sheer cliffs on either side make this an ideal site for a huge control installation.

In February 1953, when Chairman Mao talked with me about taming the river, he pointed to the gorges on a map and suggested that the outlet be bottled up, as a first step, to form a reservoir. After the serious 1954 flood, he again inspected the river, and during an all-night discussion listened attentively to my report on the gorges. Then he asked me to write it out for the Party Central Committee to study. In the spring of 1958 Chairman Mao asked Premier Zhou Enlai to look into the matter further. The Premier concluded that a dam at the gorges would eliminate the flood menace and make the river serve the interests of the people for all time.

Greatly encouraged by Chairman Mao and Premier Zhou, we river workers have done a tremendous amount of preparation in these 30 years. In the early 1970s, to our great joy, the building of the Gezhou Dam was begun.

This huge construction project is located at the outlet of the gorges. The first stage includes two lock gates, a six-arch scouring sluice, a 27-arch flood-discharge gate and a power station. During the second stage a 2,561-meter dam will be built across the river, and the generating capacity is expected to reach 2,700,000 kw. The rise in the water level will improve navigation facilities. The electric power obtained will be used in the construction of the main part of the gorges project.

This summer's new survey and the current debate on its findings are expected to decide which of the suggested sites for the dam is the best.

Chairman Mao's famous poem, *Swimming* envisions the splendid prospects of river control at the Changjiang Gorges:

Walls of stone will stand
upstream to the west
To hold back Wushan's
clouds and rain
Till a smooth lake rises in
the narrow gorges.
The mountain goddess if
she is still there
Will marvel at a world so
changed.

His hope will be realized in the not distant future. Reservoirs will accommodate all flood waters. Power stations along the river will generate far more hydroelectricity than the whole country now produces.

As a hydrologist, I am happy and proud to play my part. ▣

Zhao Haosheng at the Great Wall.

Zhao Haosheng (Howard Chao), a Chinese-American professor in the Department of East Asian Languages and Literature at Yale University, since 1973 has returned seven times to China, where he has traveled widely, written articles and given lectures. Recently we visited him at the seaside resort of Beidaihe (Peitaiho) where he was spending a brief holiday. Mr. Zhao's Japanese-American wife, Chie Imaizumi, took part in our conversation. The following are the high points.

Seven Returns to the Homeland

—An Interview with Zhao Haosheng

Staff Reporters

A SAYING among the Chinese goes: "Every stream has its source and every tree its roots," meaning that all things have their origins. Before I begin talking about my impressions, let me tell you briefly about my past. That'll make it easier for you to understand my feelings.

I was born in 1920 in a very small, very poor county town in central China's Henan province. How small? Well, they used to say that if you tripped and fell outside the town's east gate, you'd probably pick your hat up outside the west gate. I grew up there, and then went to study in Sichuan province during the Second World War. Later I worked as a reporter in Chongqing (Chungking) and Nanjing (Nanking), so I had a front seat in the theater of history preceding China's liberation.

In 1948, when I was 28, I went to Japan as a foreign correspondent. I was still in Japan when the Chinese mainland was liberated in 1949. I didn't know where to go — I felt like a kite with a broken string. Because of the circumstances at the time I didn't come back to China. Instead, I went to the United States to study, found work there, got married and brought up a family. I've lived there since 1952, which makes it 27 years now.

AS FAR AS impressions of the new China go, many Chinese living abroad have gone through a number of phases during these last thirty years.

The first phase, beginning with the liberation of the mainland, was one of suspicion and fear of the China under Chinese Communist rule, since most such people had lived in an anti-communist environment and had been exposed to anti-communist propaganda. Even so, there was also a feeling of pride over the birth of the new China, and over the fact that the Chinese people had stood up.

The second phase lasted longer — from the outbreak of the Korean war to China's defiance of the attempt by the Soviet Union to dominate her, and her own successful A-bomb tests. These

were greeted with surprise and admiration.

The third phase started with Nixon's visit to China and the big rise in China's international prestige. More and more Chinese abroad began wanting to identify themselves with the new China and to come back to visit.

The fourth phase began with the passing away first of Premier Zhou, and then of Chairman Mao, in 1976, and the events related to the gang of four. These shocks, coming one after the other, changed their feeling about the homeland from exhilaration to one of apprehension.

In the fifth phase, that is in the last couple of years, they saw that China has been able to withstand these shocks, and both her strong points and weaknesses had been revealed. People saw the realities, and they saw real hope.

MY own feelings went through more or less the same five phases. I first resumed contact with my homeland in 1971. In Paris I saw a film from the new China called *The Red Flag Canal.* It was most moving, the story of how the people of Linxian county in my native Henan cut an irrigation canal through mountains. It was 20 years since I had seen China, and the sight of it, even though only on the screen, put me in a fever of excitement. I immediately rang up the Chinese embassy in France saying that I wanted to drop in for a visit. The voice at the other end said I was welcome to come and asked me to fix the hour for an appointment.

Later I began to have second thoughts. This was the first time I'd had contact with Chinese Communist officials and I felt nervous. What if I went and they didn't let me out again? Would there be trouble if someone saw me enter the embassy? Years of "red phobia" made me hesitate. I talked it over with my wife. On the day I went she was to wait in a coffee house opposite the embassy. If I didn't come out by noon that would signify I was in trouble. That's how fearful I was.

I went on the appointed day and entered the embassy at nine o'clock. About eleven I came out, smiling. Moreover, I had fixed a date for another meeting. As I had one talk after another with Chinese Communist officials my fears gradually dissipated. Not long after that I heard, in Paris, about Kissinger's secret visit to Beijing. I was overjoyed and told my family that very soon we should be able to go for a visit.

MY FIRST trip back to China was in 1973. I had been a young man of less than 30 when I left the country, and now my hair was streaked with gray. My wife who had been married to me for 20 years but had never met my family, came with me. I could barely suppress my excitement. The contrast between the old China of my memories and the new China overwhelmed me. I was stirred by every tree and blade of grass in my home town for which I had yearned more than 20 years. Even the first taste of *shaobing* (griddle-baked sesame biscuits) and *youtiao* (crullers) in Beijing brought tears to my eyes.

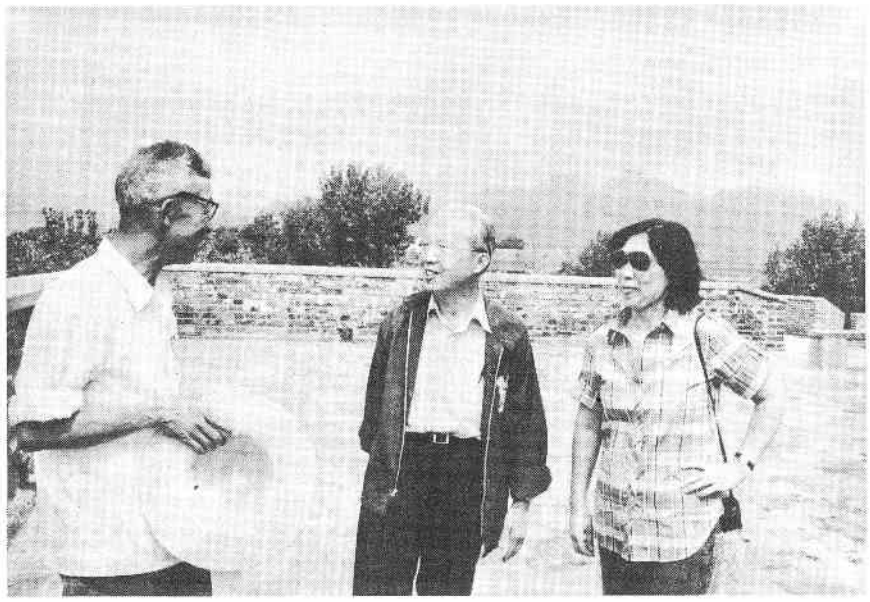
Once whetted, my desire to revisit my homeland could no longer be contained. I returned in both 1974 and 1975. In 1974 I was calmer and more collected than on the first trip back, but I didn't notice any problems in China since they hadn't come to the surface yet.

On my third trip in 1975, however, I began to sense that something was wrong. There were refusals to let me visit some places, conversations broken off at a certain point. I was aware of a tension, a strained, unnatural feeling in the air. It was at the end of the year and I'd come back for my mother's funeral. I arrived in Beijing from my home town just about the time Premier Zhou passed away. For the second time I put on the black armband of mourning. I somehow sensed that the Chinese people's grief was mixed with a premonition that something awful might happen and this told me that something was definitely very wrong.

With his daughter Patricia, now working in Beijing, in front of Tian An Men Gate.

Then in close succession came the Tian An Men incident, the Tangshan earthquake and the passing of Chairman Mao. I became more and more depressed. I didn't even want to turn on the radio. I felt as though some calamity might befall the country at any moment.

China survived the shocks. This, and the neat and efficient removal of the gang of four, proved the solidity of China's foundations. She had swayed without falling, gone through crises without suffering irremediable consequences. On coming back in 1978, I saw that people had not lost hope through the momentous turn of events.



With his wife, Chie Imaizumi, chatting with the director of the Research Institute of Culture and History at Shanhaiguan where the Great Wall meets the sea. *Zhou Youma*

ON my trip back this year, I've sensed a new enthusiasm, a forward-looking atmosphere. People talk freely about everything and anything. Leaders admit their mistakes. Compared with 1975 this is like spring sunshine after a bad winter. Of course, I have learned that there are many problems I had never been aware of, and have seen phenomena I hadn't imagined existed. On thinking it over, I realize that all these things were there before, only they'd been hidden under the carpet. Now they're coming to light.

Since China has been cut off from the world for so long, sudden contact with foreign countries has created a number of problems — problems such as inevitably accompany sudden changes. Some young people, for instance, seem to think that everything abroad is good — nothing in China suits them. This, I believe, is chiefly because these young people don't compare the present with the past.

I lived 28 years in the old China, another 27 in the United States, and now I've seen the new China. So I think I'm qualified to compare the present with the past, and China with the United States. If we think about it with a clear head — has China wasted her time these last 30 years? China isn't up to some of the over-inflated boasts of the gang of four, but she has already laid a solid foundation.

There are three things nobody in the world can deny: First, those triple mountains of political oppression — imperialism, bureaucrat capitalism and feudalism — are gone, once and for all. Secondly, China is firmly unified. And third, China is able to defend herself, and the principle of "we will not attack unless we are attacked; if we are attacked we will certainly counterattack" has been tested and proven. With these three fundamental things in her possession, a slight lag in material conditions doesn't count for so much. But young people usually don't realize that. Comparing China with other countries solely from the point of view of standard of living they are bound to feel impatient.

Now that China has these three foundations, only one thing is missing: modernization.

* * *

MRS. ZHAO: I am Japanese. My mother, who is 85, is visiting China with us for the first time. She was born in the Meiji period (1868-1912). In this period the Japanese people were forward-looking, although their life was not as good as today. She says she sees a similar atmosphere in China — in Shanghai, Hangzhou, Suzhou and Beijing. Coming back to China with my husband, I find that the Chinese people's life is improving every year. I feel the dignity of the people. When I first met my sister-in-law — the wife of my husband's youngest brother — in my husband's home town in Henan I felt that she represented the earth itself — stable, solid, honest and unspoiled. She's a woman from the countryside without, perhaps, much education, but I found in her as I find in the majority of the Chinese people dignity backed

by the long years of splendid civilization. Every time I come to China, I feel really that the next century will be China's century.

* * *

MR. ZHAO: Not so long ago China's strides toward modernization — perhaps because they were just beginning — were too fast and too big. But readjustments were made as soon as this became evident. And the mistakes were corrected faster than would be possible under any other social system.

There are still problems, of course. I believe China's modernization should have its own features and not simply be a copy of what others have done. Chairman Mao didn't copy the Russians when he led the Chinese revolution. It wouldn't have succeeded if he had. Of course, you should see more of the outside world, and break away from old conventions and patterns.

A very important thing is to get agriculture and education in good shape. College students in China don't pay any tuition fees and 75 percent of them get a state subsidy for living expenses. But care must be taken not to breed a privileged class. The rural areas are doing well now — my brother Gengsheng personally told me about that. Then there's another matter, and that is solving the population question.

Chinese circles in the United States react in a very sensitive way to developments in China. . . .

* * *

MRS. ZHAO: In 1973, when we went back to the United States after our first visit here, I felt that some people from Taiwan tried almost to avoid us. But recently things have changed. Those people just can't help being curious. They want to know about China. They are willing to listen to our talk these days.

* * *

MR. ZHAO: Some things that happen are quite interesting. Many people have told me that because their parents came from Taiwan they used to keep their copies of the *China Pictorial*, published here in Beijing, hidden away under a pile of other magazines. But later they found out that the old people were reading them on the sly, and taking more and more interest in them. In the end those parents simply asked their children to let them read all the books and printed matter they had from the mainland. When China and the United States set up diplomatic relations demonstrations to celebrate the occasion were held in New York's Chinatown, and the five-star red flag flew there for the first time. Some Chinese storeowners didn't hang out this flag, because they get much of their stock from Taiwan. Nor did they join the demonstrations. But when the paraders went past they clapped and applauded most enthusiastically.

And here's something else. I've often taken out reporters or members of delegations from the people's republic to meals in Chinese restaurants. I was their host, but by their clothes they could easily be identified as coming from the mainland. Well, on several occasions the proprietor appeared and announced that the meal was on the house. This happened when I was taking out two reporters for Radio Beijing. They wanted to express their thanks in some way, but they had nothing to give in the way of presents. So they produced a pack of Zhonghua cigarettes to be distributed among the cooks and helpers in the kitchen. The entire kitchen staff came out to shake hands with them, because the cigarettes had come all the way from Beijing.

Such sentiments are very heartwarming. They're the kind shared by people belonging to one and the same family. It's something inborn, you might say, and indestructible.

MY daughter was born and grew up in the United States. When she was four years old — we were living in California then — I took her for the first time to Chinatown in San Francisco. Afterward I asked her:

"Patricia, what did you find most interesting there today?"

"Everybody had black hair," she answered.

Young as she was, she seemed to have found her "roots." And so in February this year, after she graduated from college, she came to China to work. Before she left we said to her, "Although you're an American citizen, your roots are in China. You needn't have any apprehensions whatsoever, especially now that there are diplomatic relations between China and the United States. It's your natural and bounden duty to act as a bridge between the Chinese and American peoples."

And so will it be for our younger generation, and for their children and grandchildren. As for myself, every time I've come back, my homeland has treated me like a mother welcoming a son back from faraway places, so much so that it makes me feel undeserving.

So this time I decided not just to look at things but to do some work, and gave lectures at the Institute of Journalism.

From now on I hope to come back here every summer and do something useful here. Let that be my small contribution to China's modernization. ■

Country Fair

RONG LIE

IT was Sunday market day in Xindu township in Sichuan province's Xindu county. The villages were astir at the crack of dawn as a steady stream of commune members poured in from far and near, bringing home produce like chickens, ducks, eggs, tobacco, pigs and bamboo by cart, bicycle, basket or shoulder pole. Thursday and Sunday are fair days with the latter busier. This Sunday was particularly busy, for the commune brigades had given their members a half-day off so that they could go to the fair and buy things they needed before they got busy with the summer harvest.

As I edged my way through the crowd I ran into Han Dashuan hunkering down in front of some sweet potato seedlings. A 54-year-old commune member known for his industriousness, he had just sold the duck he had raised for 1.35 yuan and was selecting sweet potato seedlings that someone else had brought to the fair to sell. Han wanted to grow sweet potatoes on his private plot for the five pigs he was raising.

Most of the 20,000 who attended the fair that day were, like Old Han, commune members buying and selling small produce, and a few were representatives of commune production brigades. Such small-scale and mainly private exchange is still a necessary part of commerce in the stage of socialism. That day the volume of trade was 45,000 yuan, the equivalent of 15 percent of the total volume of retail sales in the township's state-run stores that day.

The Xindu fair is among the biggest of the 5,000 fairs held regularly in Sichuan province. This township, located at the junction of the highway between Sichuan and Shaanxi provinces and the rail line from Baoji in Shaanxi to Chengdu, capital of Sichuan, is an important trading center for farm, sideline and other local products for the 13 people's communes nearby. It had long been the site of a lively local fair. But from 1968 on, Lin Biao and later the gang of four spread the idea that small sideline production by the commune members was a vestige of capitalism. The fairs were closed down and commune members were not allowed to market their produce. They were unhappy because they had things to sell but no place to sell them. In fact, cessation of the fairs opened the door to speculation and black marketing by a few peasants.

After the downfall of the gang of four, from 1977 on, the state policy on marketing could again be carried out. According to it, commune members have the right to engage in sideline undertakings such as home weaving, keeping livestock and gathering things like medicinal herbs, and to sell these and the produce from their private plots, provided that this does not impair collective economic development. Sales are limited to what can be grown on the small private plots, so the volume of such trading is quite small. It is from work on collective projects that commune members get their main income and food grain, which is allocated according to collective workpoints earned.

Production brigades, as well as individuals, bring in vegetables to sell.

Pigs, Peppers, Potatoes

To facilitate the fairs, the county department of industry and commerce has provided two sites near the east and west gates of the town, at either end of its shop-lined main street. Bamboo, timber

A corner of the fair.

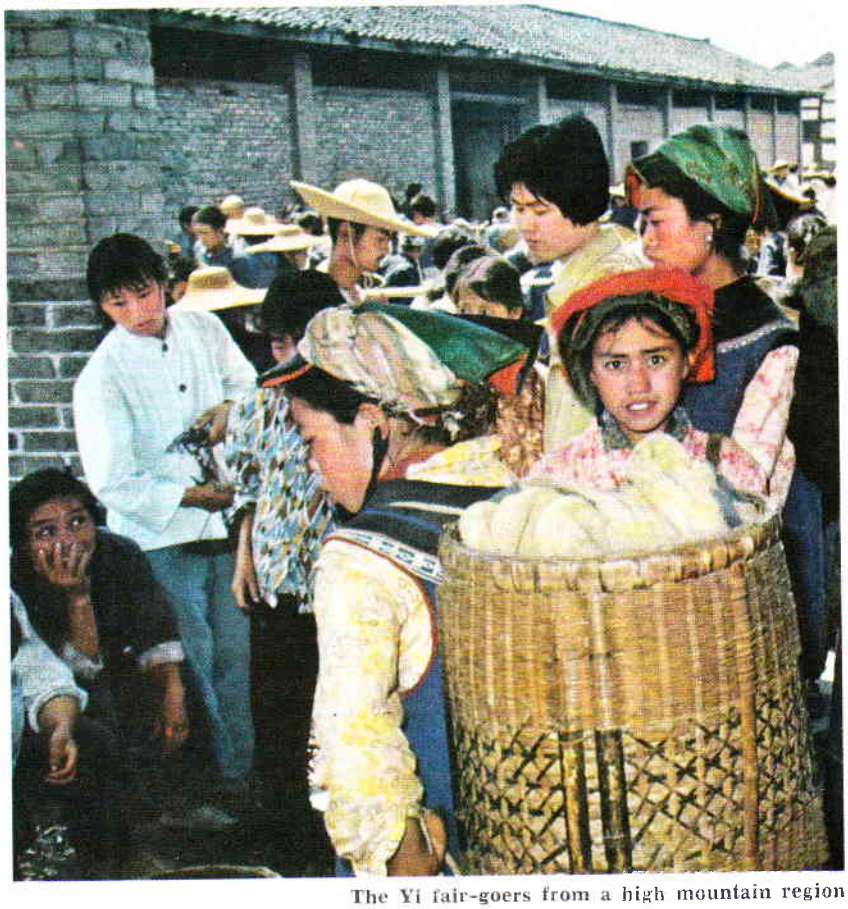
Weighing station maintained by the fair's administration department.

State stores operate booths too.

Cleaning eels.

Buying baby chicks.

Rabbit raisers selling to a state purchasing agent.



The Yi fair-goers from a high mountain region

The bamboo ware for sale.

Photos by Wang Hongxun

and pigs are traded on the east, and on the west end there is brisk trading in farm and sideline produce. From 9 to 11 a.m. is the busiest time, though people arrive much earlier at the roofed shed which serves to shelter the vegetable sellers. That Sunday, individuals had brought more than 20 kinds of vegetables for sale including lettuce, garlic greens, cabbage, bamboo shoots and peas. Along the southern side a row of people squatted behind their baskets of chicks and ducklings, hampers of live poultry, the heads sticking out this way and that, and unpenned fowls which were unwilling to stay put to be viewed. Lining a broad aisle in the middle were other people with eggs, chickens and ducks and vegetable seedlings. Along the west corn, rice and fodder were on sale. If there is a large amount of some product to be sold, negotiations at the fair are handled by a representative of the seller's production brigade.

Over in one corner a crowd had gathered to watch some people cleaning eels for sale. Eels are harmful to rice fields as they make holes in the ridges. Children often go out in the evenings with flashlights to catch them. They sell for 0.60 yuan per kilogram uncleaned and 1.80 yuan cleaned.

Near the vegetable shed many people had crowded around some carts of pepper seedlings. The Sichuanese are fond of peppers and very particular about them so every year the production brigades sell some to families who want to grow them around their homes. At the east end of the poultry stalls were eight big baskets of lively ducklings. The seller was a young man from a commune brigade which was trying to introduce a new strain of duck from Jiangsu province. His description of the breed as being sturdy, easy to care for, quick-growing and early to lay eggs persuaded many people to buy and raise a few.

Pig-raising is the main sideline production in peasant households. This benefits the commune members in income and also helps the collectives with manure sold to the production team. More than 700 pigs, big and small, were sold that day. It was near the summer harvest, so things like baskets and scoops woven of bamboo were in great demand. Although commune members can make these themselves or buy them from the state supply and marketing co-op, they always seem to be in need of more. Large quantities of all the above — bamboo ware, pigs, chicks and ducklings, and seedlings and vegetable seeds — are sold at fairs for these are needed in both collective and individual production and in everyday life.

Production brigade representatives buy sweet potato seedlings at the fair.

Co-op Restaurant near the fairgrounds is ready for a crowd on fairday.

The ability to market produce at the fairs has stimulated home sideline production and helped many families to improve their livelihood. Production team No. 8 in the Dafeng commune does not have much land. So for some time 27 of its 44 households had incomes so low that they were getting government aid. Last year the team mobilized its members to make use of the abundant local

bamboo for both collective and individual sideline production of woven articles. As a result incomes from collective production rose and in addition these families made an average 40 yuan each from home production in the first three months of 1979.

Prices Follow Supply

The seller is allowed to ask what he will at the fair, but this frequently comes down after bargaining. Prices generally find their own level according to market supply. When the fairs were first resumed there was not much to be sold and sellers set the prices of some goods two or three times higher than those charged by the state. Today, with greater supply, prices have come down and stabilized.

In the past no free trading was allowed in grain, which was handled exclusively through state purchase and marketing. This helped to reverse the situation before liberation when grain was always short in spring before the winter wheat was harvested, and the landlord and capitalist dealers took advantage of this to raise prices. Planned purchase and marketing by the government, which became a nationwide system in November 1953, guaranteed that enough food grain was available. But if a production brigade had a bad year, its members might still be short of grain in spring. Individuals elsewhere who had grown more grain and had a surplus might bring it to shortage areas to sell at high prices on black markets.

The 1978 grain production in Xindu county was five percent over that for 1977 so the average food grain distributed per capita reached 300 kg. in some teams. Now families who do not wish to consume this much can sell it legally at the fairs. This plus produce from private plots has generally made more grain available for sale. Commune members from the hilly regions like to sell their corn and beans and buy rice from people on the plain, and others buy corn and beans for animal feed. Over 6,000 kg. of grain was traded at the fair I attended in May, twice that at a fair the previous December.

The reduction in the price of grain has led to lowering of prices for pigs and other livestock, and other prices have come down too. Vegetables sell from 0.04 to 0.14 yuan per kg., nearly the same as in the state store. Some people make brown sugar from their own cane and now it sells for one yuan per kg., the same as the state price. Bamboo is 0.12 yuan per kg., even below the 0.16 state price. The following table compares some prices.

	Hens	Eggs	Rape-seed Oil	Tobacco Leaves
May 1978	3.00	3.00	5.00	5.40
May 1979	2.10	2.10	2.80	2.20
State price	2.00	1.80	1.60	2.04

(Prices in Yuan per kilogram)

Aid from County Staff

Under a tree in the center of the west gate fairgrounds two young men with scales were weighing people's purchases. This was one of the three weighing centers set up by the county as a public service. After a price is agreed upon buyers and sellers can bring their goods to them for weighing. There is a service charge of one percent of the sale price.

The state maintains a temporary purchasing center at the fairgrounds. One thing it buys is a lot of rabbits. Many people raise them but other commune members don't want to buy them, so the state purchases them and exports their skins.

The county does much to educate the peasants about market policy. Its staff is frequently called in to mediate disputes between bargainers over prices or to investigate fraud. A man found to have sold bad vegetable seeds for good ones, causing considerable losses to the production brigades, was arrested and dealt with according to law, but for lesser offenses the staff simply tries to educate the offender.

Stop at the Teahouse

Sichuan is famous for its teahouses and restaurants. As noontime approached, those along the street between the two markets began to fill up and crowds to gather around the counters set up for the fair serving noodles, *baozi* (steamed buns with meat filling), rice with dishes and fermented glutinous rice. Every one of the 200 seats in the Dongfeng Teahouse was occupied and six staff members were kept busy brewing tea. After a busy morning it was a good place for fairgoers to rest, and over a five *fen* cup of tea exchange the latest news and opinions on the crops and market.

As the fair was breaking up I met Han Dashuan again turning toward home, his basket on his back filled with sweet potato and pepper seedlings. He also had a bag of glutinous rice which he wanted to ferment to make some wine. I urged him to stop for a cup of tea before going on his way, but he declined. "Got to get back and get these plants in the ground," he said, "and I've got a lot to get ready for the wheat harvest." ■

Virtuoso Isaac Stern Charms Chinese Audiences

Stern and Golub give a demonstration for students at the Central Conservatory of Music.

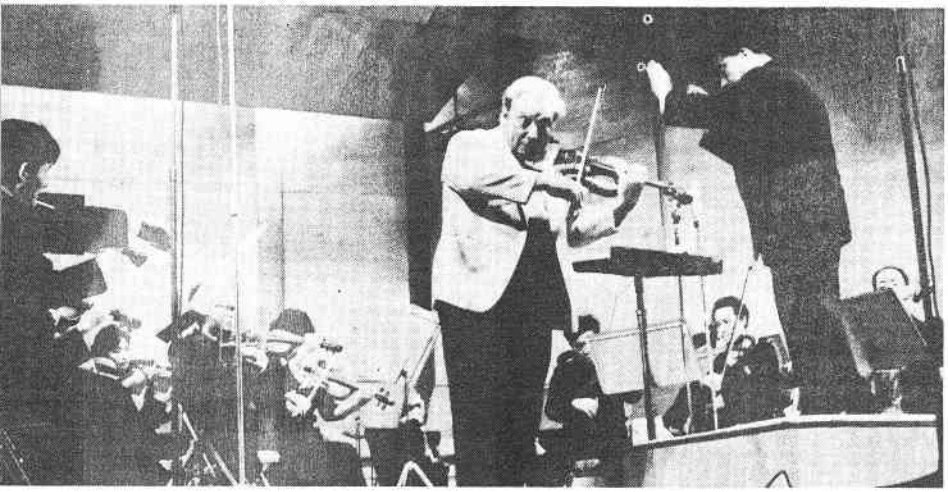
Coaching.

FROM the very beginning of his visit to China last summer, American violinist Isaac Stern showed his friendship for its people through his warm relations with Chinese audiences and his willingness to help their musicians learn. He turned an open dress rehearsal before 2,000 spectators in Beijing's newly acoustically reconstructed Red Tower Theater into a question and answer session with the audience. He was asked about everything from when his violin was made to how long a violinist should practice every day. But seeing that no questions were coming from the balcony, from his position in the center of the stage he shouted up, "Why haven't you people up there asked any questions? Are you shy?" The hall exploded into laughter. His warmth, friendliness and humor were widely talked about among the capital's music lovers.

Some felt he demonstrated a particularly warm feeling for China when at one Beijing performance he canceled a previously-announced selection and played instead a Debussy sonata for violin and piano. After hearing Chinese music on this visit, he told the audience he was reminded of how much oriental music had influenced some of Debussy's works especially in color and harmony, and he wanted the Chinese audience to know this too.

ISAAC Stern was the first violinist of world stature to tour China for two decades. At his premiere in Beijing, Mme. Soong

Photo with Soong Ching Ling after the performance. *Xinhua*



With China's Central Philharmonic Orchestra, Li Delun conducting.

Congratulating Lü Siqing—nine years old.

Ching Ling, Vice-Chairman of the Standing Committee of the National People's Congress, Huang Zhen, the Minister of Culture and Huang Hua, the Foreign Minister were in the audience.

Accompanied by pianist David Golub, Stern performed sonatas by Beethoven, Bach, Brahms, Debussy and Franck. With China's Central Philharmonic Orchestra conducted by Li Delun, he performed concertos for violin and orchestra by Mozart and Brahms.

Stern's recitals were regarded by all as a good opportunity for learning. His strict and meticulous attitude toward music left a deep impression on the Chinese musicians. He showed himself familiar not only with his violin part but also with the piano and all the orchestra parts. He put emphasis on respecting the intent of the composer, the style of a work and the historical background of each work. The performer's own interpretation and creation, he holds, should come second — if a performer overstresses his own artistic interest and way of presentation, the piece can be utterly changed. Stern several times said that a musician must first move himself before he can move the audience. His serious approach together with his accomplished technique made every program unforgettable.

Giving classes at the Central Conservatory of Music, like a loving grandfather with his spectacles on his forehead, he listened attentively to the young performers. He explained points on violin playing in simple and vivid terms and demonstrated for the students. When Lü Siqing, a nine-year-old boy finished playing Mozart's *Third Concerto*, Isaac Stern hugged him and said that his skill was of international level. Stern's vigor, diligence and superb skill greatly struck the Chinese students. ▣

Exchanging pointers during a visit to the Central Conservatory of Music.

Photos by Zhang Jingde

Victor Sangiorgio, featured soloist.

Concertmaster Sandra Tancibudek.

Australian Youth Orchestra in China

THE Australian Youth Orchestra composed of 74 young people selected from a music summer camp, visited China early this June. The average age was 17. The youngest was a 15-year-old French horn player. Lovely and graceful Sandra Tancibudek the concertmaster was herself only 22. Under the baton of John Hopkins the ensemble performed in Beijing, Nanjing, Shanghai and Guangzhou. Praises could be heard for the high accomplishment and excellent coordination of a group so young.

The wide choice of selections included classics and European romantic works, works by national composers from northern and eastern European countries and by Australian composers, and Australian folk music. High skill was shown whether in Mozart's sprightly overture to *The Magic Flute* or Handel's stately *Water Music*. Victor Sangiorgio, the featured pianist, played Liszt and Grieg. The performers' homeland was represented by *Irish Tune* and *Morlly on the Shore* by the noted Australian composer Percy Grainger, and by the Australian folk song *Waltzing Matilda*.

In Beijing the young musicians had a get-together with Chinese students at the Central Conservatory of Music. The hosts played traditional Chinese melodies on Chinese instruments such as *zheng* (25-stringed harp), *pipa* (4-stringed Chinese lute) and *suona* horn. Under the baton of Mr. Hopkins, the young artists of both countries played the Chinese *Spring Festival Overture*.

French horn players.

Sixty Years in an Artist's Life

The author in his studio. *Huo Jianying*

LI KUCHAN

ONE might say that for me this is a double-thirtieth anniversary. I lived for 30 years in this ancient city of Beijing before liberation and now I have lived another 30 years in the city since the founding of the new China. The journey I have traversed is not one that I can easily forget. Sixty years ago, in 1919, I came to Beijing just after the turbulent May Fourth Movement. It was here while taking part in the activities of the Work-Study Society that I first met Mao Zedong, who later became the leader of our new China. Here I have lived, studied, painted and done what I could.

My whole career has been given to painting Chinese traditional paintings in freehand style and teaching fine art. People say that the fine arts should be a quest for truth, beauty and goodness. But I found misery and frustration much of the time. I was born into a poor peasant family in Gaotang county, Shandong province. My ambition to become a painter was inspired by the folk artists who decorated the temples and monasteries in that area. When I was 22 I managed to make my way to Beijing. First there was the Work-Study Society. Later I entered Beijing University to study literature, then the Public Arts School to learn painting. I eked out a living by pulling a rickshaw in the evening.

Beijing was much colder then. The north winds cut right through my cotton padded jacket and froze me to the bone. Poor as I was, however, I held on to my dignity. I never sought the company of classmates from wealthy families — I was too proud to put up with their supercilious stares. I thought of every possible means to economize with my hard-earned money. I would pick up discarded pencil stubs for my practice sketching. In the most difficult days all I could afford was one pot of porridge per day. I sprinkled a thin layer of dried shrimp shells on top of it and when it had cooled I divided it into three portions for the day's three meals. I went everywhere on foot, even on journeys of several dozen *li*. What hardships I went through to learn to paint!

A classmate gave me the pseudonym "Kuchan" for my paintings. *Ku* means bitterness, *Chan** is the name of a branch of Buddhism, and in olden times freehand traditional painting was known as a Buddhist art. Once the painter Lin Fengmian saw a painting of mine signed with this name and took it for a painting by a destitute monk! In fact I did not fare any better than one. Some good-hearted people advised me to adopt a more auspicious name, but I have insisted upon using it until this day. It reminds me of my antecedents.

I HAD started out studying western-style painting under Xu Beihong and several foreign art teachers. But there was little sale for oils among Chinese so I had to find someone to sell my paintings

LI KUCHAN, 82, is a well-known traditional-style Chinese painter and calligrapher. He is now a professor in the Chinese traditional painting department of the Central Academy of Fine Arts in Beijing.

*Known abroad by its Japanese pronunciation *Zen*.

to foreigners in the legation quarter and to buy the materials I needed through them. After being continually bullied and fleeced, I finally decided to switch to traditional Chinese painting. The expense involved in oils was one factor, but I had always been attracted to this traditional art.

BEIJING had no lack of talented traditional painters, but at that time a stultifying "back to the ancients" trend prevailed in the arts. Most paintings were no more than insipid imitations of works by four artists of the late Qing dynasty. Our good tradition of painting from nature was ignored; there was little creativity. But amid this stagnancy there was one artist who was blazing a trail of his own. Assimilating the good points of the old masters without letting himself be limited by them, he painted entirely from his impressions of life as he saw it. This was Qi Baishi and I decided to learn from him.

One day in 1923 — I was 26 — I walked into Qi Baishi's home in the western part of Beijing. Without ceremony and refusing to accept the customary introductory presents he took me as his student. When he heard of my situation he even refused to accept tuition fees. Sometimes he would ask me stay for a meal or buy me some colors. I was more than grateful, for I knew that he supported his family with his brush and his paintings sold for little in those days. So as not to disturb him I would do nothing but watch when he painted, trying hard to grasp his intention and analyze his brushwork, trying to ask as few questions as possible. I never asked him for a painting as a present.

Qi Baishi was a patient teacher. When he finished each painting he would explain the techniques he had used. He warned me, "Those who learn the essence of my work will survive, those who copy me will perish." He advised me to follow in his tradition, drawing inspiration from my own experience of life, but not to imitate his paintings.

One of his unforgettable qualities was superhuman diligence. The memory of it has spurred me on till this day. Through several dozen years he painted from six in the morning until eleven at night, stopping only for meals and brief rests. He refrained from drinking and smoking, and wasted no time on cultivating social contacts or seeking benefactors among the rich and powerful.

Li Kuchan with his teacher Qi Baishi (seated) in the 1940s.

FINALLY I became a professor of painting in a college, but life continued to be insecure. Those were times plagued by warlord fighting, skyrocketing prices and frequent wage cuts. My main salary was not much so to support my family I had to lecture in several other places. Occasionally I was lucky enough to sell a painting at an exhibition. In those difficult days I made some friends outside art circles — friends who were poor but honest and upstanding. After the Japanese occupation of Beijing the Chinese Communist Party intensified its underground activities both inside and outside the city. Often a friend of mine would bring strangers to stay for several days in my small studio. By then I had stopped teaching because I refused to work for the Japanese, who had taken over the schools. My family lived solely on the proceeds from my paintings and we could give these comrades only very simple fare by selling paintings. I managed to buy them second-hand clothes for disguises and supply them with money for travel expenses. For this I was reported to Japanese gendarmes and arrested. In the prison, situated in the basement of the old Beijing University, I was tortured. I bear a big scar on my leg from it to this day.

Premier Zhou Enlai with some of the members of the Beijing Chinese Traditional Painting Academy when it was founded in May 1957. Li Kuchan is in the center row, first left.

Beijing was liberated in 1949. At that time my financial problems were even more serious. Then I thought of Chairman Mao with whom I had studied in the Work-Study Society. I wrote him a letter

in big brush characters on a roll of paper three meters long. Chairman Mao mentioned my problem in a letter to Xu Beihong, president of the Central Academy of Fine Arts and sent one of his secretaries to my home. "Chairman Mao is busy," he said. "He can't come himself so he sent me to see what we can do. The Chairman says our country's economy is still in difficulty but things will improve and life will get better. He urges you to go on painting so as to leave something to posterity. . . ."

"Busy as he is, Chairman Mao still thinks of me," I said to the secretary. "Truly, he makes the people's welfare his first concern. I regret now that I wrote him that letter burdening him with my personal problems." Soon afterward Chairman Mao gave instructions to assign me work and help me over my financial problems. He knew what the common people felt.

FOR a while after liberation I worked in the land reform movement in Sichuan province. Then I turned to teaching freehand traditional painting which is what I have been doing ever since. Now and then I took part in social activities. I gave classroom painting demonstrations and helped students analyze my drawings. This made it easier for the students to comprehend difficult points. I taught students from Egypt, India and Czechoslovakia and became fast friends with them.

Since foreign friends were interested in the freehand school of Chinese traditional painting I was often invited to give demonstrations. Some got so excited that they hugged me. One man had a bristly beard that tickled me. But everybody was happy. I felt rewarded when I thought that this Chinese art had played such an important part in building up good will.

Suddenly in 1966, when I was nearly 70, I was plunged into humiliation. Instigated by bad people some students attacked me and many others on the faculty, saying we were "monsters," "reactionary academic tyrants" and "old scoundrels who poison the minds of the young." We lived in constant fear. We were dragged onto the platform before a crowd to be accused. I was subjected to beatings, curses and forced labor. We were kept under guard in a "monster shed" — an unofficial and illegal detention room in the school — and more than once paraded through the streets in a truck. When we passed the places where I had pulled a rickshaw in the old days, I felt particularly bitter. Here I had once suffered. But what had our new society come to that I was being forced to suffer again?

PREMIER Zhou did much to bring old artists back into the picture. In 1972 he wanted guest houses for foreign visitors decorated with paintings. The State Council asked me and some other old artists to do some. At first I couldn't shake off my fears after those terrible years, but friends and colleagues encouraged me. Words fail to describe my agitation on the day I took up my brush again. Before long I lost myself in my work. I painted a large piece 4×6 meters in size, the biggest in my career. In the next two years I produced 300 scrolls. One day a message from Premier Zhou was relayed to me telling me that I had done a good job. "Kuchan's bamboos are excellent," the Premier commented. This inspired me to work all the harder.

But the gang of four once again gained the upper hand. They whipped up a campaign to criticize what they called "capitalist restoration" and "reverting to the past." The pictures we had done became "black paintings." Once again I was subjected to abuse and attack. I had done a picture entitled "Lotus and Kingfishers" for the Beijing International Club, and Premier Zhou had approved of it. But the gang of four put it in an exhibition of paintings to be criticized, claiming that the eight lotus flowers in it were libelous take-offs on their "eight model theatrical works" which they had boosted to the skies. With all this they were really attacking Premier Zhou by innuendo.

When the gang of four was finally deposed by the Party Central Committee headed by Chairman Hua we old people went from house to house talking about the happy news. Visitors filled my home. In the first flush of joy and excitement I painted several pictures of red plum blossoms in bloom. These I sent to an exhibition in the National Art Gallery, a place where for years I had not dared set foot.

Now I am glad to see China embarking on a new period of order and prosperity. I feel very fortunate to have lived to see this happy day. That is why I asked somebody to carve me a name seal with the characters "Happy to be alive in these great times." I often use it to mark my pictures. My painter friends have taken up their brushes again and paint with enthusiasm. □ ▣

"Clearing after Snow," painted shortly after the downfall of the gang of four.

BEIJING SCENES

A drove of mail deliverers leaves the main post office.

Zhou Youma

Taijiqian exercises at Tian Tan (Temple of Heaven) Park.

Zhou Youma

Spring at the Summer Palace.
Liu Chen

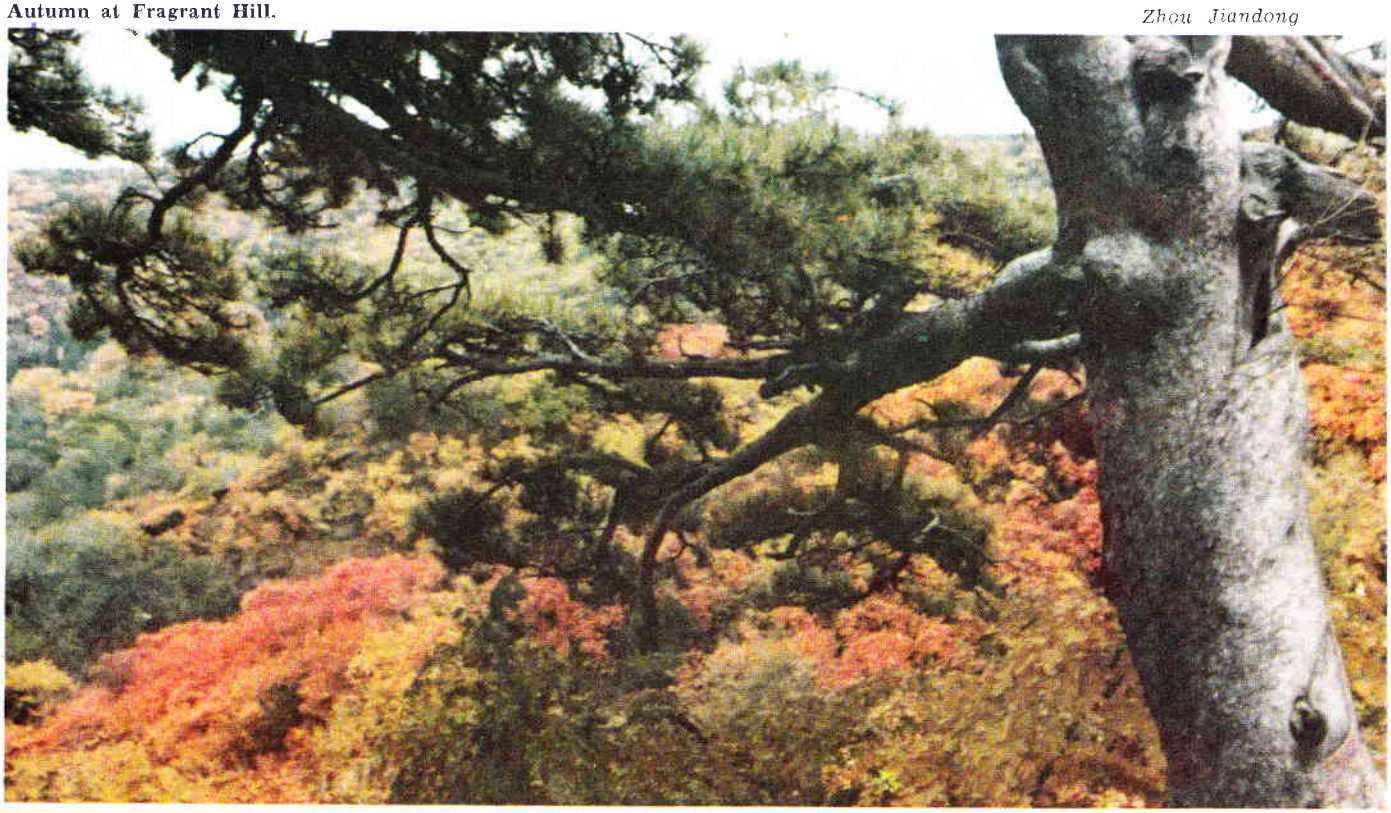
Winter on Kunming Lake, Summer Palace.
Liu Changzhong

Ruins of an earlier summer palace Yuanmingyuan, destroyed in 1900 by troops of eight allied powers.

Zhou Youma

Autumn at Fragrant Hill.

Zhou Jiandong



East side cloverleaf.

A typical old Beijing courtyard dwelling.

Beijing duck restaurant.

Worker's family at supper.

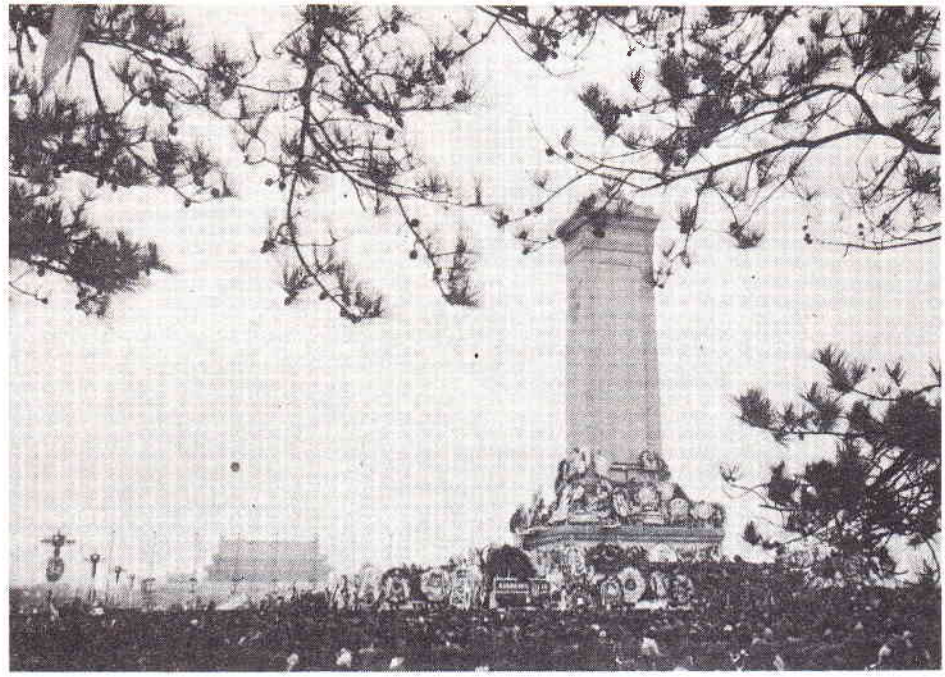
Daybreak.

Crossing.

Photos by Zhou Youma

DO YOU KNOW?

TIAN AN MEN



Tian An Men Square during Qingming festival in 1976. *Xu Xiaodan*

TIAN AN MEN Gate is situated in the center of Beijing, and its imposing structure appears on China's national emblem. It was here that Chairman Mao Zedong proclaimed the founding of the People's Republic of China on October 1, 1949.

The present Tian An Men Gate (The Gate of Heavenly Peace), the front gate to the Imperial Palace, was built in 1651. The 33.7-meter-high gate tower has five entrances through the red wall. It has nine bays along its length and five along its width. According to *The Book of Changes*, a very ancient philosophical work, the combination of nine and five symbolizes the imperial throne. The tower has 36 high windows with lozenge-shaped latticework.

Just outside is a moat called the Jinshuihe (River of Golden Water) which is spanned by five marble bridges. To the south are two marble columns engraved with a cloud-and-dragon design and topped with the figure of a mythical animal. Two big stone lions flank the main entrance.

During the Ming (1368-1644) and Qing (1644-1911) dynasties important state ceremonies were held at Tian An Men. They included sacrificial rites, sending off military expeditions, proclamations of imperial edicts and announcements of the names of those who had passed imperial examinations. When the emperor personally appeared, it was with a corps of 110,908 officers and guards — a scene of great pomp. Every autumn in front of the gate the Ministry of Punishments staged re-trials of death-penalty cases presented from different provinces.

In 1644 when the peasant army that overthrew the Ming dynasty entered Beijing its leader Li Zicheng shot an arrow at the name board over Tian An Men, showing the people's anger and hatred toward the feudal monarchy.

ON May 4, 1919 students and workers held a demonstration in front of Tian An Men against the imperialists and warlords. This, the famous "May Fourth Movement," ushered in the new democratic revolution in modern China.

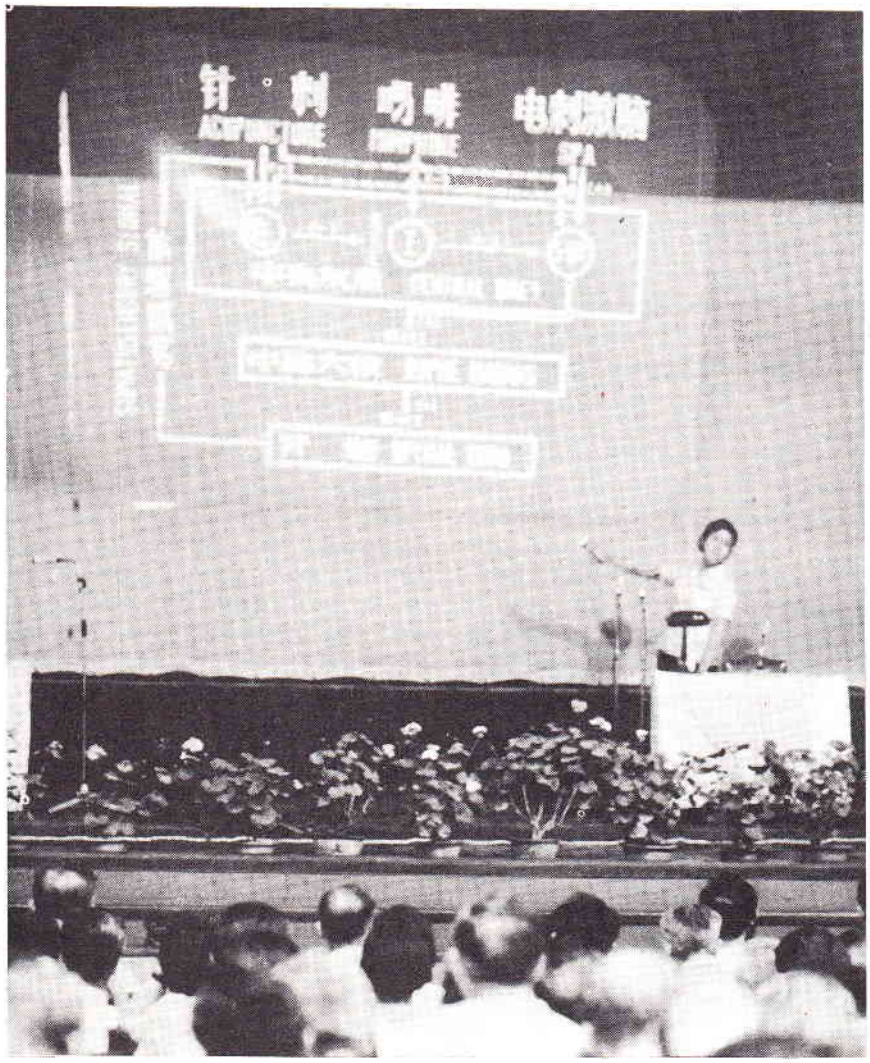
Tian An Men has been repaired and repainted many times since the founding of the People's Republic of China. The square has been enlarged to 40 hectares and paved with concrete blocks. In 1958 the Monument to the People's Heroes was erected in its southern part. The following year two magnificent buildings were put up on either side of the square — the Great Hall of the People to the west and the Museum of Chinese History and Museum of the Chinese Revolution to the east. In 1976 the Memorial Hall to Chairman Mao Zedong was built to the south of the monument. Here people from all over China and the world come to view his remains in token of their respect for his great achievements.

On April 5, 1976 at *Qingming* — the traditional day in China to commemorate the dead — a million people flocked to Tian An Men Square to honor the memory of the late Premier Zhou Enlai and protest against the gang of four's attempt to seize supreme power. This event, a prelude to the gang's downfall several months later, wrote another chapter in the history of Tian An Men. ▣

LARGEST ACUPUNCTURE SYMPOSIUM EVER

China's National Symposium on Acupuncture and Moxibustion and Acupuncture Anesthesia was held in Beijing from June 1 to 5. Attending it were over 300 Chinese specialists in this field as well as 150 foreign scholars, practitioners and other interested persons from 30 countries. Over 500 papers were read, 25 of them by foreign participants. This largest symposium ever held on this subject summarized and discussed China's work in acupuncture over the past 30 years, especially results of clinical application and theoretical study in recent years. Successes achieved in other countries were also reported. Our staff reporter interviewed some participants.

Zhang Anzhong, from the acupuncture anesthesia research group in the Shanghai First Medical College, reading a research paper, "Endorphins and Acupuncture Analgesia." *Lin Chuan*



Qiu Maoliang (Professor of the Nanjing College of Traditional Chinese Medicine):

Of all the symposiums on acupuncture and acupuncture anesthesia I've attended, nationwide or regional, this has been the largest and most fruitful. I am an acupuncture researcher with 40 years of clinical practice, and I have learned a good deal not only from my colleagues in China but also from the many outstanding practitioners and students of acupuncture from other countries.

The theses read at the symposium show that a great deal has been done both in China and abroad in applying modern science to the study of this ancient medical skill. Previously reports on acupuncture written by Chinese traditional doctors were often confined to observing and summarizing its effects. The research papers presented this time, such as those on treating coronary heart disease and correcting the position of the fetus, have provided more accurate data obtained through the use of modern scientific instruments and methods such as electrocardiograms, rheoencephalograms* and endocrinology. These will greatly help us in analyzing and determining the reasons for the curative effects of acupuncture,

*A rheoencephalograph is a medical device used to test and examine the state of blood vessels and flow of blood inside the head.

and will take this ancient medical art an important step forward. The papers on the channel theory present new achievements proving that this ancient theory can be explained in terms of modern science.

Haruto Kinoshita (Chairman of the Acupuncture and Moxibustion Society of Japan):

This has been an academic discussion of very high level. I was surprised and impressed by the efforts and successes China has made in acupuncture, both clinically and theoretically.

Why can acupuncture suppress pain? Why can it be used in surgery? What is the mechanism of acupuncture analgesia? These are problems of common interest in medical circles. Research on endorphins in some countries is helping to unravel the mystery of acupuncture anesthesia. In addition to their painstaking work on endorphins, Chinese medical scientists have achieved commendable results in studying acupuncture anesthesia from the standpoint of electrophysiology and anatomy.

The channel theory is the basis of classical acupuncture treatment. Many reports by Chinese doctors on the phenomenon of propagated sensation along channels* and conduction pathways of needling sensation are particularly impressive. More time and money have been put into such research in China than in any other country, including Japan. China has observed the phenomena of propagated sensation along channels in thousands of subjects — men and women, old and young, in both good and poor health. Such large-scale investigation would be unthinkable in Japan. In China, nationwide, coordinated studies carried on by medical colleges and institutes are conducted on all aspects of acupuncture and acupuncture anesthesia. This has produced a vast amount of data invaluable for future research.

A larger-than-life bronze figure with acupuncture points made by Nanjing Medical College, a replica of one first used for teaching purposes in the year 1207. *Zhang Hesong*

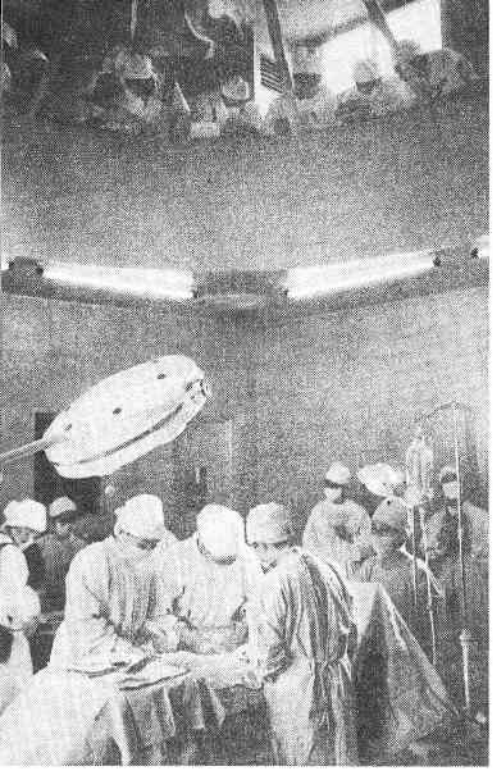
Acupuncture was introduced into Japan 1,500 years ago. Banned by government law for a time after the Meiji Reform late in the last century, it was used only among the people. But promoted by enthusiasts, acupuncture began to command more and more attention. Now it is used and studied in several major medical institutes in Japan. Today in my country 40,000 practitioners and 2,000-3,000 researchers are engaged in acupuncture. We hope we will have more chances to expand exchanges and cooperation in this field with Chinese scientists. I have suggested to my Chinese colleagues that we work together on numbering the acupuncture points under a unified international system so that foreigners can learn them more easily.

David J. Mayer (Professor of physiology in the medical college, Virginia Commonwealth University in the United States):**

I'm most gratified to have the chance to attend this unprecedented academic discussion. This is a good opportunity for the participants to exchange experience and opinions. I'm impressed by the

* Phenomenon of propagated sensation along channels: a feeling of soreness, swelling, numbness and warmth, caused by stimulating certain points on the body by needling and transmitted along the *jingluo* or channels.

** Professor Mayer made the first attempts to relate opiate receptors present in the membranes of brain cells with acupuncture analgesia through experiments with naloxone.



Symposium participants watch a Caesarean section under acupuncture anesthesia in the Beijing Maternity Hospital. *Han Xiaohua*

Han Xiaohua

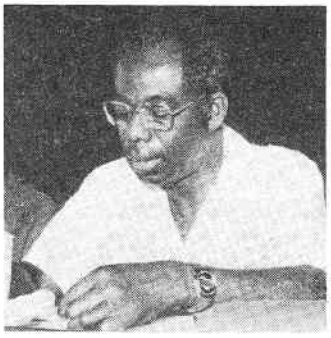
Prof. Bruce Pomeranz from Canada asks a question at a panel session.

quantity and quality of the papers presented by Chinese researchers.

My interest was triggered in 1964 when I read Zou Gang's thesis published in *Scientia Sinica*. According to Zou Gang, injecting 0.1 percent of the normal dose of morphine into "the central gray matter" of the brain can produce a strong analgesic effect. This, to me, was a most enlightening discovery in the physiology of pain.

In 1971 China's publication of its successes in surgery under acupuncture anesthesia intensified my interest. Recent experiments and studies by scientists of several countries have initially proved that a pain control system exists within the central nervous system which involves morphine-like substances called endorphins. Needling stimulation can increase the endorphin contents rapidly, and suppress pain. In 1975 I made an experiment using naloxone, an antagonist of morphine to block the effect of acupuncture analgesia. It showed that this antagonist of morphine likewise conteracts the effect of acupuncture analgesia. Furthermore, it proved that acupuncture analgesia is related to the endorphin system in the brain.

I have read several theses written by research groups in acupuncture anesthesia at the Beijing Medical College and Shanghai First Medical College. At the symposium I met and talked with Chinese colleagues whom I knew from medical magazines and through letters. I learned what a great deal China has done in studying endorphins, and how much in common I have with my Chinese colleagues. I found the Chinese scientists working very hard. They are real scientists. I hope one day to read their theses in international, as well as Chinese, academic journals.



R. H. Bannerman (Program Manager of Traditional Medicine in the World Health Organization):

It gives me great pleasure to attend this symposium on behalf of the World Health Organization.

Many changes have taken place in our work since the People's Republic of China joined the WHO in 1972. Since 1975 WHO has held several training courses in China and made a number of study tours. Of these, I think those concerned with acupuncture and Chinese traditional medicine were the most popular. Forty-seven doctors from 26 developing countries attended. In 1977 a WHO delegation came to this country to study Chinese traditional medicine. Its 29 participants included senior health administrators, professors and members of the field health staff from all six WHO regions. We are delighted by this symposium, because it enables still more scientists and doctors to exchange knowledge and study China's experience.

Acupuncture has a history of 2,000 years in China. Stone knives and other sharp tools were once used as needles. Only 40 years ago, the use of acupuncture skills was handed down from generation to generation and still limited to those who inherited it. Now I'm happy to say that this skill has become available to everyone, including peasants in rural areas. Improved equipment is being employed, such as stainless steel needles and electrical devices to replace manual manipulation of the needles.

In recent years we have seen many effective methods of health care in China, kindling hope in the hearts of health administrators in the developing countries, who face many problems. China's successes in public health work since 1949 convince me that the goal set by the WHO of "health for all by the year 2000" can become a reality for every country.

China's Widening Research on Acupuncture

QIAN XINZHONG

ACUPUNCTURE and moxibustion constitute an important part of Chinese traditional medicine and pharmacology. Found among relics of the primitive society of China's New Stone Age (10,000 to 4,000 years ago) "pinning stones" were the predecessors of acupuncture needles. By the time of the Spring and Autumn and Warring States periods (770-221 B.C.), the theory of *Jingluo* (channels and collaterals) had been established. It was systematically illustrated in the ancient medical classic *Huangdi Neijing* (Canon of Medicine of the Yellow Emperor). The book *Zhen Jiu Jia Yi Jing*, a classic on acupuncture and moxibustion was published sometime between A.D. 256 and 260. It is the earliest complete work on acupuncture and moxibustion so far discovered.

In our own times, treatment by combined traditional Chinese and western medicine, training of acupuncturists and the publication of books on acupuncture and moxibustion won new encouragement in the liberated areas under the leadership of the Communist Party of China in the years before our revolution's victory in 1949. This was warmly welcomed by the masses. Since the founding of the people's republic, greater attention has been paid to these therapies, and they have been further developed.

From 1949 to 1977 we have held all kinds of training classes and published many special and other publications on the subject. As many as 8,000 articles on acupuncture and moxibustion have appeared in newspapers and magazines. Starting from the several hundred acupuncture points previously in use, we have discovered many new ones through practical experience, and new methods have been created. These new points and techniques have played a very important role in extending the application of acupuncture and moxibustion and in improving their medical effect.

In the last 20 years or so through combining western and Chinese traditional medicine great headway has been made in our research on acupuncture, moxibustion and acupuncture anesthesia. I shall dwell only on the following four aspects, drawing on material in papers received for the nationwide symposium in June 1979.

Clinical Observation

Clinically, acupuncture and moxibustion have been used to treat about 300 different diseases, with good or very good results in about 100. Meticulous observation of the use of acupuncture in 600 cases of coronary heart disease showed it to be effective in relieving symptoms and in eliminating angina pectoris. In 500 cases electrocardiograms taken before and after the acupuncture therapy revealed an effectiveness rate of 53 percent. Observations and analyses made by some units by means of electrocardiography, ultra-sound cardiography, measurement of the cardiac output and cerebral hemadromography showed that acupuncture could improve coronary circulation, left heart function and cerebral circulation.

Acupuncture has been found, in 645 cases, to have a good effect on acute bacillary dysentery. Judging by the clinical symptoms and signs and the results of stool culture, 92 percent of these patients were cured within ten days. Follow-up of 268 cases six months after treatment revealed relapse only in 33. Through experiments, observations and analyses we concluded that the therapeutic effect of acupuncture in acute bacillary dysentery is related to the increase of body immunity following acupuncture needling.

Acupuncture is definitely useful against gallstones. The total expulsion rate in 522 cases treated by electro-acupuncture and oral administration of magnesium sulfate was 78 percent. In 69 percent of the cases stone expulsion began one to five days after treatment. This procedure is readily accepted by patients because with it surgery can be avoided in some cases.

Our doctors have also shown interest in correcting abnormal position of the fetus by moxibustion. Moxibustion at *Zhiyin* point during the 29th-40th weeks of pregnancy corrected 90 percent of the cases with various abnormal fetal positions. It is believed that its mechanism may lie in increasing the activity of the uterus and movements of the fetus. Acupuncture is also effective in inducing labor and in the treatment of cervical erosion.

Acupuncture has certain therapeutic effect in various types of paralysis, on diseases of the eye, ear, laryngopharynx, nose and mouth, and it has a comparatively good anti-phlogistic and analgesic effect.

The function of acupuncture and moxibustion on the human body varies. According to ancient Chinese medical theory, they cure diseases mainly by means of adjusting the relationship between *yang* and *yin*, promoting communication between the channels and collaterals, regulating the vital energy *(qi)* and blood, promoting positive factors and eliminating negative ones. From the point of view of modern medicine,

QIAN XINZHONG is Minister of Public Health and President of the Chinese Medical Association.

Zhang Xiangtong, noted neurophysiologist and head of the Shanghai Institute of Physiology of the Chinese Academy of Sciences, tests the pain-relieving qualities of acupuncture on animals.

the principal action of acupuncture and moxibustion is to regulate the function of the body and increase its resistance.

Acupuncture Anesthesia

Acupuncture anesthesia can be called an invention by the masses of Chinese medical personnel on the basis of acupuncture analgesia through countless cases in clinical practice. We now have a clearer knowledge of this procedure, its indications and the principles governing its clinical application. It may be said that its value as an anesthetic measure is already firmly established.

There is wide scope for its clinical application. So far more than two million operations have been performed in China under such anesthesia. The effect is comparatively stable in 20 to 30 kinds of ordinary operations. Generally speaking, it is thought to be more effective in head, neck and chest surgery. It has also been widely adopted in thyroid, maxillary sinus, glaucoma and abdominal tubal ligation operations. It is being used routinely with rather satisfactory results by a few units in operations such as Caesarean section, partial removal of the stomach, total removal of the spleen and larynx and operations on the cervical vertebra through the anterior approach. Some hospitals make it their first choice for craniocerebral surgery, removal of the prostate, the meniscus (discs of fibro-cartilage in the knee joint) or of lobes of the lung. Since 1972 it has been used in open heart surgery undertaken under extracorporeal circulation with satisfactory results.

In recent years, with a view to improving the effect of acupuncture anesthesia, units throughout the country have worked in concert to study its principles and practice. They are doing this by looking for more effective points, improving methods of needling, the judicious use of adjuvants and more accurate preoperative forecasts so as to increase the adaptability of the patient to operation. Much headway has been made through repeated practice. Take lung and stomach operation for example, the number of needles required to effect anesthesia in these operations has gradually been decreased from several dozen to as few as one or two today.

Acupuncture anesthesia has its special advantages. First, patients remain in a conscious state throughout the operation. Thus they usually can cooperate well with the operating surgeon. Second, little or no other anesthesia is needed, thereby preventing the post-operative side-effects of drugs. Third, post-operative pain is mild, and generally there are no such reactions as nausea and vomiting. Both food intake and physical activity can be resumed early. Anti-disease factors in the body are apparantly mobilized and enhanced, thus hastening post-operative rehabilitation. Fourth, no sophisticated instruments are needed and manipulation is simple and easy to master. Of course, acupuncture anesthesia also has some disadvantages, namely: incomplete analgesia, incomplete control of visceral reaction, and unsatisfactory muscle relaxation. However, these do not depreciate its value as a useful anesthetic procedure under specific conditions. It is a new addition to the armory of anesthesiology.

Mechanisms

Popularization of acupuncture-moxibustion therapy and extensive use of acupuncture anesthesia have led to nationwide coordinated studies of many different disciplines on the mechanisms involved. Academically, there exist two different theories, the neuro-humoral and the channel-collateral theory. I'll say something about the development of each of them.

Action of acupuncture on the body: In the light of indications for acupuncture therapy revealed thus far, it is presumed that acupuncture acts in two ways, i.e. to regulate the functions of the various systems of the body and to strengthen its resistance to disease. A large amount of experimental work on animals shows that needling certain points may produce obvious regulating action on the function of the respiratory, digestive, circulatory, urinary, endocrine, nervous and energy metabolism systems. As shown by the results of experiments on dogs, needling the *Neiguan*, *Renzhong*, *Chengjiang* and other points may greatly increase the stability of the blood pressure regulating system.

Laboratory observation showed that acupuncture therapy has a marked effect on enhancing the immunological functions of human blood cells. Animal experiments showed that moxibustion can increase the activity of the giant phagocytes and the antibody titer in the blood. Some laboratories reported that after needling the content of sulfohydryl in the tissues, which is closely related to the defensive mechanism, was increased.

Medical researchers have carried out a series of experiments probing the analgesic action of acupuncture on humans and animals. In recent years more rapid advances have been made in the study of this action and its mechanism. Research on nervous physiological principles of anal-

gesic action of acupuncture has been carried out in many of our modern electro-physiological laboratories with good results.

In recent years discovery of an endogenous morphine-like substance has stimulated research and the assumption of the presence of an intrinsic anti-pain mechanism in the nervous system. The relationship between this endogenous morphine-like substance and the analgesia resulting from acupuncture has aroused much interest among scientific workers. In a short period of two to three years our scientists have succeeded in working out methods for isolation, extraction and determination of this substance, as well as in synthesizing artificially the highly active enkephalin and its derivatives.

The role played by other factors in acupuncture analgesia, including the psychological factor, is under active research.

To sum up, we have a general picture of the mechanism of acupuncture analgesia. Acupuncture analgesia is a complicated dynamic process in which under stimulation of needling a series of changes occur, extending from the periphery to various levels of the central nervous system and involving many factors such as the nerves and the body fluids, including the causation and relief of pain. Many problems, of course, remain to be elucidated.

Channels and Collaterals

The theory of channels and collaterals forms the theoretical basis for acupuncture-moxibustion therapy. In recent years the study of the channel-collateral theory has been centered on: the phenomenon of sensation transmission along the channels; the action of needling on the pathway of transmission; the relation between the visceral organs and the body surface; and the morphologic basis of the channels and collaterals.

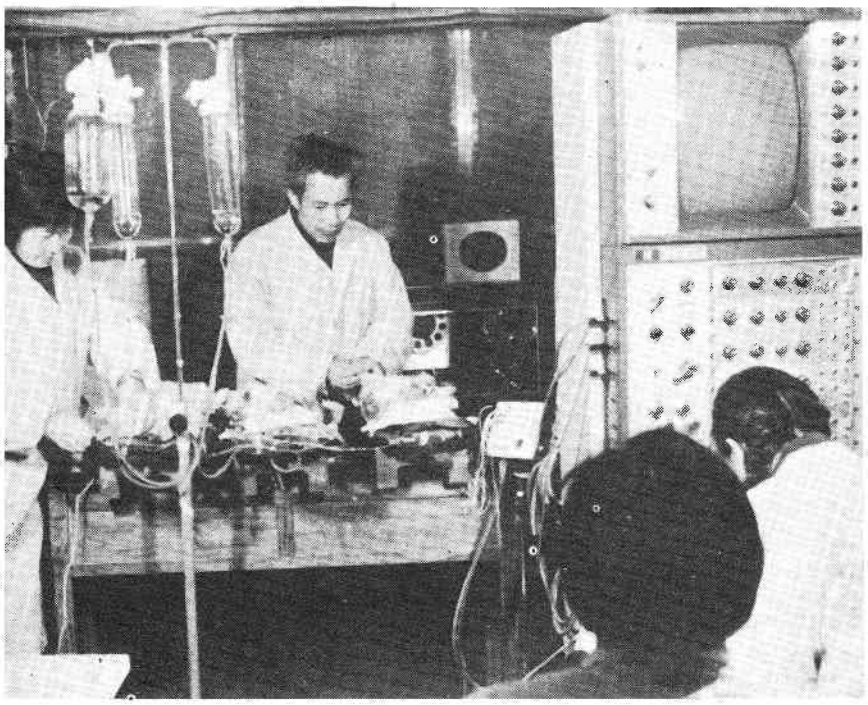
When stimulation is applied to the points of the channels, a sensation of soreness, numbness, distension and burning is transmitted along the course of the channels and collaterals. This phenomenon is called "sensation propagation along the channels." Since 1972 units in more than 20 provinces, municipalities and autonomous regions have carried out a series of investigations into this phenomenon. It has been found that it appears in people of various nationalities, of all age groups, in both sexes and in different conditions of health. When the sensation reaches a corresponding organ, it gives rise to change in function of that organ. When it is transmitted to the diseased region, the symptoms often improve. However, the nature of sensation transmission along the course of the channels is still obscure.

The action of acupuncture on the transmission pathway: Numerous laboratory studies show that when the involved factor, the nerve or the body fluid, is blocked, destroyed or removed, the effect of acupuncture become correspondingly weakened or disappears entirely. This confirms the presumption that acupuncture mainly acts through the nerves and body fluids. However, the possibility of participation of some factors other than these is suggested by some laboratory studies and this needs further investigation.

Our scientific workers have made extensive anatomical and histological studies of the acupuncture points on cadavers. Through these investigations they found the existence of a definite relationship between the points and the lines connecting them with the peripheral nerves and blood vessels.

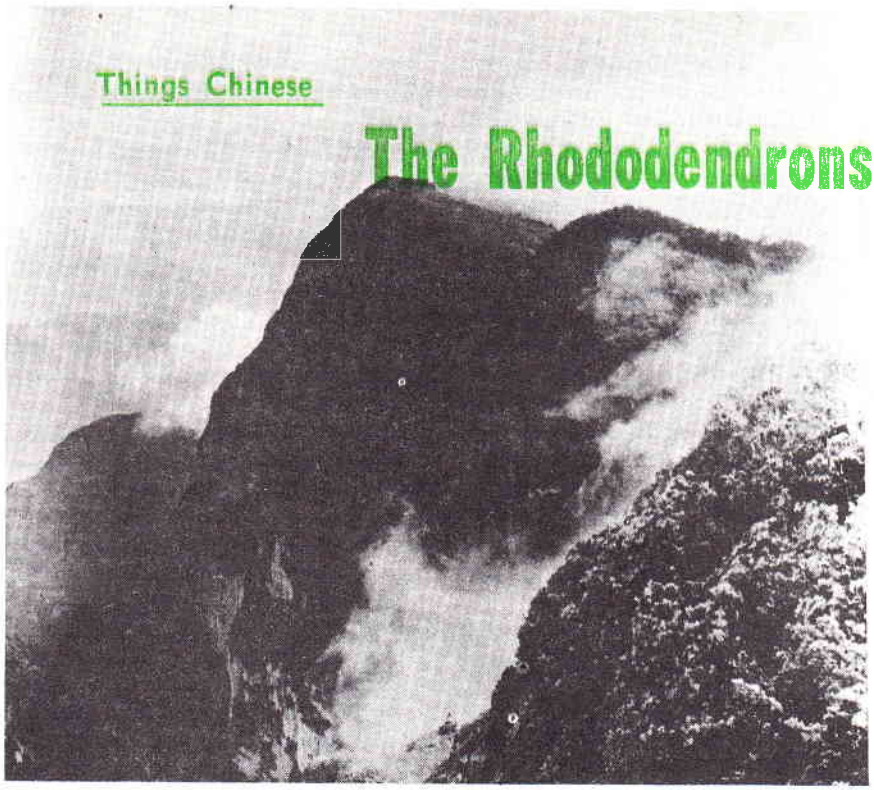
In the past two decades we have made considerable progress in our scientific study of acupuncture, moxibustion and acupuncture anesthesia. However, the objective world is still developing and man's recognition of it never comes to an end. We are confident that the studies will deepen. The Chinese scientists engaged are now summing up their experience over the past 20 years. They are strengthening international exchanges in this field to push forward this research and the combination of Chinese and western medicine as a whole. Our ultimate goal is to establish a new system of medicine and pharmacology for China and speed up modernization of our medical science.

Modern equipment is used to do research into the channel-collateral theory and the theory of acupuncture anesthesia at the Anhui Institute of Traditional Chinese Medicine.



Things Chinese

The Rhododendrons of Mount Emei



A slope of purple rhododendrons blends with the mist on mystic Mt. Emei. *Chen Zhenge*

THE rhododendron is known in China as the cuckoo flower. Why cuckoo? Legend has it that in the ancient time Wang Di, a king of Shu (today's Sichuan province) well-regarded by the people for his efforts to develop agriculture, was driven from his throne by a usurper and had to flee for his life to a distant state. He yearned for his homeland and when he died his soul became a cuckoo which every spring when the flowers began to bloom poured out its lament. One day its heart burst with grief, the blood staining the flowers red. Thus the name cuckoo flower.

Known for its beauty and grace, the rhododendron grows in China in 400 varieties. Those on Mount Emei are the most famous.

MOUNT EMEI rises abruptly from a plain in subtropical southwesterly Sichuan to an altitude of 3,099 meters above sea level. Sheer cliffs and thrusting peaks clad in dense woods make it one of China's famed scenic areas. The many monasteries and historical sites on the mountain testify to its special meaning to Chinese Buddhism. Towering 2,500 meters over the surrounding plains, it has a difference in temperature of a dozen degrees between foot and summit. Hence it is often shrouded in clouds and mist. This, with plentiful rainfall, accounts for the lushness and variety of its plants.

The mountain is carpeted with rhododendrons of different kinds blooming in succession in gorgeous hues through spring and summer.

Botanists have counted 23 varieties of rhododendron that grow here. On the lower slopes between 500 and 1,000 meters above sea level, are the azalea (*Rh. Simsii Planchon*) and the longstamen rhododendron (*Rh. Stanineum Fr.*). The former blossoms in early spring and late fall, its flowers flame-red. The latter blooms in April in the forests. An extraordinarily long stamen rising out of white, fragrant petals makes the species unique.

On the middle levels of the mountain, 1,000-2,000 meters above sea level, nine other varieties are found. Among them are the silverleaf rhododendron (*Rh. Argyrophyllum Fr.*), growing among shrubs and rocks and putting forth white bell-like flowers in the month of May; *Rh. Ririei Hemsley et Wilson*, a bush with purple flowers blooming in March just when the snow begins to melt; and also the mandarin rhododendron (*Rh. Discolor Fr.*), and the canary rhododendron (*Rh. Lutescens*).

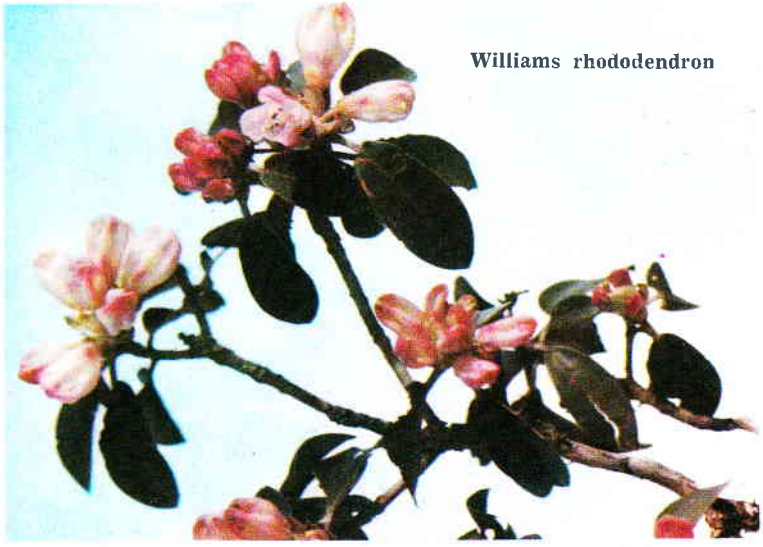
RHODODENDRON forests grow much higher, 2,000-2,500 meters above sea level on the southern face. Here one finds the queen of the rhododendron world, the bigleaf rhododendron (*Rh. Calophtum Fr.*). It is a tree four to five meters high bearing blossoms of up to three dozen small lavender-pink flowers clustered together in a large and dazzlingly beautiful ball. Its companions are the hairystalk rhododendron (*Rh. Pachygrichum Fr.*) and scarletball rhododendron (*Rh. Strigillosum*). All burst into flower in May in colors ranging from red and white to lavender.

One of the most exotic sights is at the Elephant Bathing Pool and on Emei's Seven-mile Slope. Here the *Rh. Dendrocharis Fr.*, a small parasitic plant with tiny branches and dainty leaves presents rose-red flowers in May. From Seven-mile Slope up to the summit, at an altitude of about 3,000 meters, are two rhododendron beauties — the Faber rhododendron with white flowers and large calyxes and the puckerleaf with pink, small-calyxed blossoms. These often grow on sheer precipices and have winding trunks that resemble curling dragons. Between Thousand-Buddha Peak and Ten-thousand-Buddha Peak, both on the southwestern slope near the summit, three other varieties grow interspersed among stretches of glossyleaf chinacane. All three bloom in June, one with purple flowers and the others with light yellow, funnel-shaped flowers and big white ones.

People often doubt that the varieties of rhododendron on Mount Emei number only 23, as botanists claim. Standing on the mountain and looking down into

Bigleaf rhododendron

Puckerleaf rhododendron



Williams rhododendron

Canary rhododendron

Faber rhododendron

Photos by Chen Zhenge and Xinhua

the valleys, one sees rhododendron shrubs and trees in a thousand shapes flaunting a multitude of colors beside crystal springs or under overhanging rocks. So dazzling is the scene that the number of varieties seems to have multiplied.

From March to July the rhododendrons, beginning to bloom at the foot of the mountain, spread gradually toward the summit in a spectacle unparalleled in China.

The Emei rhododendrons have been acclaimed through the ages in poetry and prose. After a trip to the mountain, the Song dynasty (960-1279) writer Fan Chengda wrote: "White and red are the rhododendrons. They bloom in spring and summer, but only on this mountain. They greet you at the foot of the mountain. Higher up they are everywhere to be seen."

Having viewed the rhododendrons on Emei, an 18th century traveler marveled, "When the flowers are at their best, the mountain seems to be decked out in colorful silk balls. The trees are about seven *chi* (over 2 meters) high, and the leaves deep green. The flowers blossom at the tips of the branches, a dozen clustering in one calyx. Red, pink and white, they look like hibiscus. The trees die if transplanted outside the mountain, because they are accustomed to cold weather and are sacred plants not for the appreciation of mortals." Local Buddhists refer to them as their sara trees*. "Saras grow only around the Buddha," they say. "Like rosy clouds these trees bloom all over Emei. Although the Buddha does not live here all year round, seeing the flowers is equal to seeing the Buddha."

Many measures have been taken to protect the rhododendrons of Emei. Chinese botanists have made collections of specimens. Many are displayed in the Bao Guo Temple at the foot of the mountain.

Part of Mt. Emei is now accessible to tourists, and pathways and accommodations are being built. □

* An Indian tree (*Cyathea spinulosa*) intimately associated with Buddhism.

Modernization

(Continued from p. 7)

years of high population growth, are reaching the age of marriage. In 1978, the population growth was 12 per thousand. This year's effort is to bring it down to 10 for all except the national minorities who live in vast but underpopulated parts of the country.

If all these things can be done in the current three years, China's economy will assume a new look. And by 1981, when her Sixth Five Year Plan begins, big new strides can be taken in modernization.

Democracy and Legal System

Democratic principles and important safeguards of citizens' rights were embodied in legislation by the People's Congress, which included some constitutional amendments and several major laws.

The organization of local people's congresses and people's governments (which for some years had been replaced by revolutionary committees but are now reinstituted) was redefined. Congresses at county level will henceforth be elected by direct popular vote, not indirectly as before. A candidate can be nominated by any voter with three seconders. No member of any people's congress at or above the county level can be arrested or tried without the consent of its standing committee. A people's congress (or its standing committee) can elect or appoint, and has the power to remove members of the people's government at its own level.

The Criminal Law and Law of Criminal Procedure adopted at the Congress will come into force on January 1, 1980. It stresses that all men are equal before the law, and no one has the privilege of being beyond or above it. It protects the right of person and democratic and other rights of citizens against illegal infringement by any person or institution. Imprisonment without legal sanction, frame-ups on false charges and extortion of confession through torture are strictly prohibited. All these abuses, promoted by Lin Biao and the gang of four, are declared illegal and punishable. The assembling of a crowd to "beat, smash and loot," rife in their day, is also forbidden and punishable by law.

There is a clear division of function between public security organs, which are empowered to make provisional arrests and criminal investigations, procuratorates which must approve all arrests and initiate prosecutions, and the courts which try offenders and pass sentences. They both complement and check on each other. Judiciary organs are given independence in their work.

In order to guard against misuse of serious charges, such as occurred in recent years, a strict limit is placed on prosecutions for counter-revolutionary offences, which can only be for "acts undermining the People's Republic of China with the aim of overthrowing the political power of the dictatorship of the proletariat and the socialist system."

Every accused person is entitled to legal defense (the training and use of lawyers is resumed). The system of people's assessors (jurors) is to be strengthened. With a very few exceptions, as in cases involving state secrets, serious sexual offences, or offences by minors, all trials must be public.

Being drafted are a Civil Law, Law of Civil Procedure, new Marriage Law, Family Planning Law, Factory Law, Labor Law, Contract Law, Energy Law and Law of Environmental Protection.

In short, the Congress marks a great advance in stability, unity, efficacy and democracy in the first steps of the new Long March. ■

The Glory That Was Tang

2—Relations with Many Peoples

JIAO JIAN

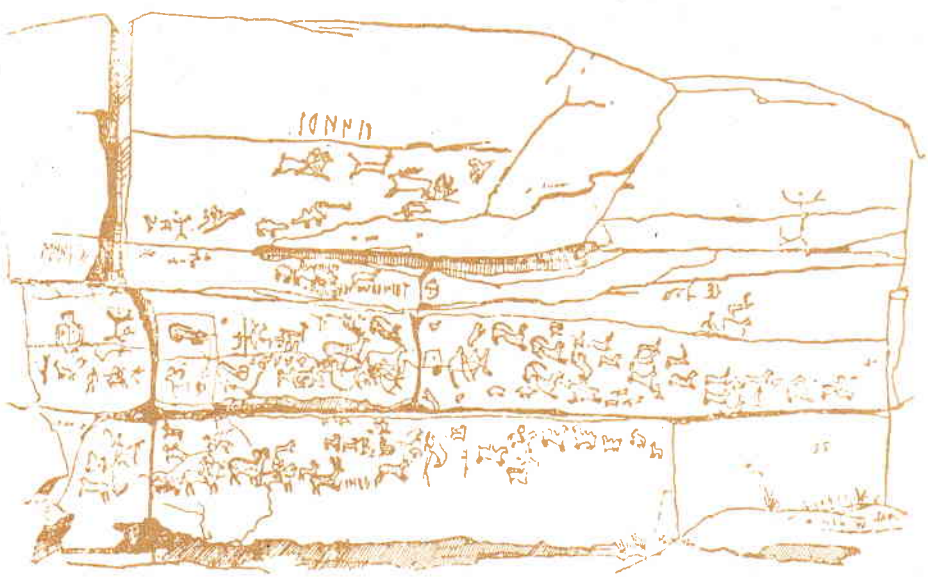
THE AREA under Tang dynasty rule (618-907) extended from the sea on the east to beyond Lake Balkhash in the west, and from the Outer Khingan Mountains north of the Heilong River to the South China Sea Islands. Tang culture was gradually carried to its outermost reaches inhabited by peoples of many nationalities. Ties between peoples were strengthened and various cultures mingled to create a richer, varied whole. A thriving economy and culture and efficient international communications brought China's relations with other countries to new heights.

Turks in the Northwest

From the third to sixth centuries from the time of the Three Kingdoms period onward, the peoples of the "Western Regions" (covering today's Xinjiang and some areas to the west) had maintained close contacts with the Han people in other parts of China. By the middle of the sixth century the Turks, then a nomadic people living around the Altai Mountains had grown strong and brought under their control a vast area from the Khingan Mountains to the Caspian Sea. By the end of the century they had split into Eastern and Western Turks.

During the early Tang period the chiefs of the Eastern Turks frequently led them to make forays toward the south. They often seized captives whom they enslaved. On one occasion 100,000 Eastern Turk horsemen reached the northern bank of the Wei River near Changan. In 629 Tang Emperor Tai Zong sent more than 100,000 troops under General

Carving on stone by a Turkic people who inhabited areas in the north and west of China dating from Tang times pictures scenes of nomadic life.



Early-Tang certificate appointing the Turk Fandeda as official in the newly-established Suiye military district south of Lake Balkhash.

Li Jing against the Eastern Turks. The following year the Tang army routed them at their headquarters in the Yinshan Mountains (in today's Inner Mongolia). In the territory once overrun by the Eastern Turks Emperor Tai Zong set up prefectural administrations and appointed a Turk noble as military governor.

Then the Western Turk khan sent envoys to Changan on friendly terms.

Military commands were set up in certain areas and later administrations. One was Anxi established in 640 in the lands south of the Tianshan Mountains, including the Pamir Mountains, with headquarters at what is today's Turpan in Xinjiang. The other was Beiting set up in 702 by Empress Wu Ze Tian* north of the Tianshans and including the Altai Mountains and the area west of Lake Balkhash with headquarters at what is today's Jimsar in Xinjiang.

Suiye, south of Lake Balkhash, one of the four military districts under the Anxi administration (the other three were today's Kuqa, Hotan and Kashi — the latter two also known as Khotan and Kashgar), was particularly important in consolidating defences in the border area and protecting the overland route connecting China with the west. Scenes of life in this region are vividly described in the works of the Tang poet Cen Can who served in the army there.

Into both these areas the Tang government introduced a system under which soldiers were encouraged to reclaim land and grow crops. People of the Han nationality went to these regions with advanced farming techniques which helped promote agricultural production. The peoples of these regions went to the capital Changan to study and took back Han classics such as *The Analects of Confucius* which came to be used as textbooks in the schools. Many musicians and painters from the far regions moved to the Han areas and found their artistry highly regarded.

Huairen Khan of the Ouigours

In the early Tang period the Ouigours, nomads along the Selenga River, were subject to the Eastern Turks. After Tang conquered the Eastern Turks, the Ouigours gradually extended their power southwards and came into more contact with Tang. By 744 their leader Guolbelga had defeated many other tribes and controlled a huge expanse of territory from the Heilong River in the east to the steppes below the Altai Mountains in the west. He was given the title of Huairen Khan by the Tang emperor. By the middle of the 9th century Ouigour power had disintegrated and most of the Ouigours had moved westward to Gansu and Xinjiang. They exchanged horses, furs and hides for the silk and tea of the Hans. The works of the famous Tang poets were well known among the Ouigours. Kakmanl, an Ouigour poet, wrote in the Han language.

Mohes in the Northeast

Early in the 7th century the valleys of the Heilong, Songhua and Wusuli rivers in the far north were inhabited by the Mohe people. They lived in dugout-shelters in the winter and herded pigs in the summer. In 681 the Heishui, one of the two main branches of the Mohes who lived along the lower Heilong River, began to pay tribute to the Tang court and increase political ties with it. In 722 the Tang government appointed the Heishui leader magistrate of Boli district (at the junction of the Heilong and Wusuli rivers). A few years later a fairly complete administration existed in the Heilong River valley with Heishui leaders as military governor and district magistrates.

In the area to the south, the other large tribe of the Mohe people, the Sumos, submitted to Tang authority early in the dynasty. By the end of the 7th century the Sumo leader Dazuorong had brought most other Mohe tribes under his rule. The area became the Bohai principality under Tang and Emperor Xuan Zong conferred on him the title of prince. Henceforth the Sumo tribe became known as the Bohai.

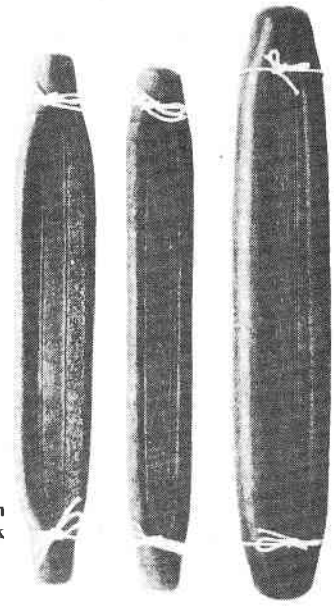
There were about 100,000 households in the Bohai region. They grew rice, millet, wheat and beans, made wine, wove cotton and silk cloth and produced fine pottery vessels. People were sent to Changan to study "ancient and present systems" and brought back with them books in the Han language. The economy and culture in the area were developed, nearly on a par with that elsewhere in China. Sable furs, sealskins, falcons, ginseng, musk, horses and copper were sold to other areas.

Nanzhaos in the South

In Yunnan in the far south, prefectural and county administrations under the central government had existed from as early as Western Han times. During the early Tang period the tribes living around Erhai Lake in northwestern Yunnan including the ancestors of today's Yi and Bai nationalities were amalgamated into six *zhao*. The southernmost were the Nanzhao. In 738 Emperor Tang Xuan Zong made the Nanzhao chieftain Piloko Prince of Yunnan. With permission from the Tang emperor, Piloko and his son Kolofeng conquered the other tribes. The Nanzhao were in the stage of slave society. Slaves worked in the fields under overseers sent by nobles, officials and slaveowners, and most of their produce

*Wu Ze Tian was a young concubine of Emperor Tai Zong. After he died she became a nun in a temple. Emperor Gao Zong summoned her back to the court and later promoted her to be his wife. In 960 at the age of 66 she proclaimed herself empress, the only woman in Chinese history to rule as sovereign in her own right.

Statues of Songtsan Gambo (left) and Princess Wen Cheng preserved in Tibet's Potala Palace.



Ink sticks, a favorite import from Korea shown with a Chinese ink stick (right).

went to their masters. Cultural influences from other parts of China hastened the economic and cultural development of the Nanzhao. Many artisans from Chengdu (in today's Sichuan province) went there and helped bring the quality of silk fabrics there to a par with Sichuan's products. Marked achievements were also made in architecture and art. Three pagodas from this period still stand in the 1,000-year-old Chong Sheng Temple near Erhai Lake.

The Tibetans

The ancestors of the modern Tibetans, the Tubo people, had been living on the Qinghai-Tibet plateau since much earlier times. Some were farmers raising *qingke* (highland barley), wheat, buckwheat and peas, some were nomadic herders. Their domestic animals included yaks, cattle, horses, pigs and dromedaries.

The Tubos wore clothes made of felt and lived in felt tents. The Qinghai-Tibet plateau was rich in gold, silver, copper, iron and tin and the Tubos were highly skilled in making vessels of gold, silver and bronze. They also made excellent iron armor and weapons.

Early in the 7th century Songtsan Gambo, the Tubo ruler, brought the scattered tribes of the Qinghai-Tibet plateau under one rule with Lhasa as its political center. Wanting to cement his relations with the Tang rulers, several times he requested the hand of a Han princess in marriage. So in 641 Tang Emperor Tai Zong sent Princess Wen Cheng to be his bride. An admirer of Tang culture, Songtsan Gambo built for her mansions in Tang style. The princess brought with her vegetable seeds, fine handicraft articles and books on medicine and production techniques. Tang artisans came bringing the stone mill, the arts of distilling and paper and ink-making and silkworm raising.

Later Tang Emperor Zhong Zong gave Princess Jin Cheng in marriage to the Tibetan ruler Chide Zutsan and the latter wrote the emperor saying that the Tibetan and Tang governments had become "harmonious as one family." In 821 the Tibetans concluded an alliance with Tang, stipulating that one party should aid the other in adversity and that neither should attack or plunder the other. A stone tablet recording this alliance still stands before the Jokhang Temple in Lhasa. These close contacts were to develop, by the 13th century, into the administrative unification of Tibet into the multi-national Chinese state.

Exchange with Other Countries: Korea and Japan

The close relations that existed between China and Korea became still closer in Tang times. During the early part of the period the Korean peninsula was divided into three states — Kokuli, Silla and Paikche. Musicians from Kokuli and Paikche came to Changan and were well received. Kokuli music was included in Tang players' repertoires. In the latter part of the 7th century Silla brought the peninsula under one rule and sent many students to Changan to study Chinese politics, history, philosophy, astronomy, calendar science and medicine. Tang poetry was very popular among those from Silla. Through contact with Chinese artisans its weavers began making exquisite brocades with cloud and other designs.

Trade between China and Korea flourished in Tang times. Chinese silk, tea, porcelain, medicine and books exchanged for cattle, horses, hemp, cotton

cloth, paper, writing brushes, ink and folding fans from the Korean peninsula. These helped enrich the economic and cultural life of both countries.

Japan had begun to send envoys to China as early as the Han dynasty. As many as 13 or 14 missions were sent to China during the Tang dynasty. They included officials and students, and the largest had 600 members. Students from Japan studied Chinese philosophy, history, the political system, literature, art and handicrafts. Some remained for 20 to 40 years.

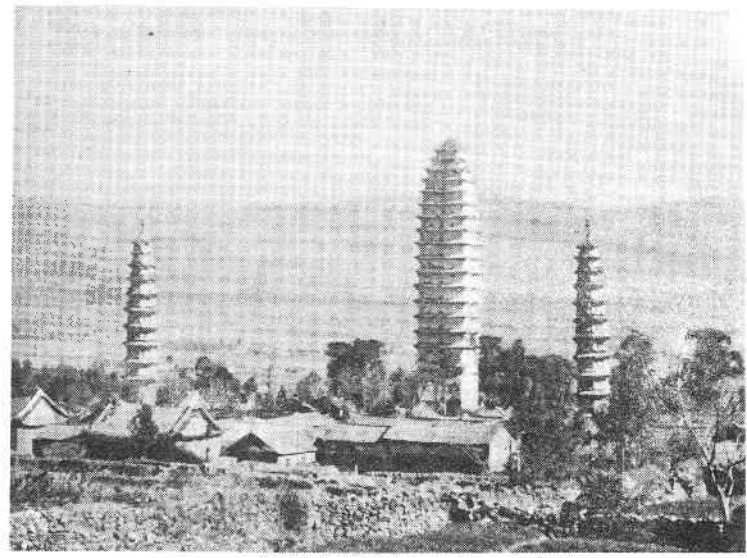
One who came from Japan to study was Abeno Nakamaro, who was known in China by the name Chao Heng. He excelled at poetry in the Han language and won the admiration and friendship of the great Tang poets Li Bo and Wang Wei. When Chao was about to return to Japan, Wang Wei wrote a farewell poem.

He became the subject of another poem "The Poet Mourns His Japanese Friend" by Li Bo. It was composed in deep grief by the Tang poet when it was falsely rumored that Chao had died in a storm at sea. It stands today as a moving record of a friendship between nationals of the two countries.

The Tang culture which the students took back exerted great influence on Japanese culture. The Japanese took up the Tang system of land distribution and taxation. The ancient Japanese capital Kyoto was modeled on Changan. The radicals of the Han characters were utilized to create a script for the Japanese language. Some Tang customs in food and dress and other ways of life have been preserved in Japan down to the present day.

The Monk Xuan Zang

India and China exchanged envoys during the reign of Emperor Tai Zong (626-649). Indian medicine, astronomy, calendar science, music and handicrafts were introduced into China, and the Chinese classics and the art of making paper to India. The monk Xuan Zang (Hsuan Tsang) left from Changan in 629 and traveled via Xinjiang and over the Pamir Mountains to India to get the Buddhist religious writings from their source. He visited the birthplace of Sakyamuni in Nepal and many monasteries in India. While there he learned many languages and made a wide study of the Buddhist scriptures. In 645 he brought more than 600 religious works back to Changan. He spent the next 20 years translating 1,300 volumes of them. These translations have proven invaluable for researchers on Buddhism and Indian culture, since many of the originals in India were lost. Xuan Zang and his disciples wrote a detailed account of the trip, entitled *Records of Western Travels*. It noted the mountains and rivers, local products, customs and habits, religious beliefs and legends of the 130 states he visited and particularly those of India.



The three pagodas in the 1000-year-old Chongsheng Temple built in Yunnan province by the Nanzhaos during the Tang period.

Xuan Zang's travels became the theme of novels written between the 13th and 17th centuries. Most popular is *Pilgrimage to the West* by Wu Chengen (*c.* 1500 - *c.* 1582) which features the Monkey King Sun Wukong. It is well known in nearly every household in China.

Persia, Arabia, Byzantium

Closer relations developed with Persia, Arabia and Byzantium, with many embassies from them visiting China. In the hundred-some years from the reigns of Emperor Gao Zong to Emperor De Zong (mid-7th to early 9th centuries) more than 30 embassies came to China from Arabia.

Merchants, students, artists and religious personnel from Persia and Arabia could be found in almost every big city of Tang times. Throughout most of the period the Tang rulers followed a policy of tolerance toward their religious beliefs and customs. Arabs built the first mosque in China in Guangzhou during this time. Students from many countries studied in schools in Changan, and artists from abroad taught music, dancing and acrobatics there.

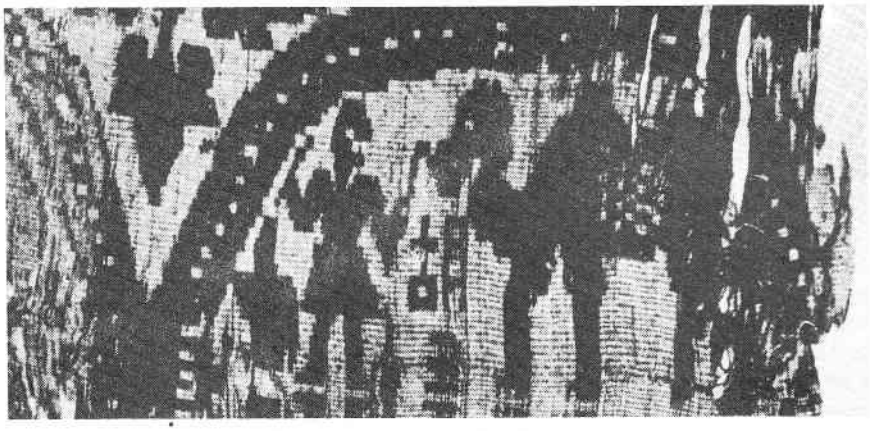
The Tang government encouraged merchants from abroad to come to trade in China. Tang local officials were prohibited from levying extra taxes on them. Some came and went, but others settled in and carried on long-term trading in silk and jewels. Thousands of Persian merchants resided in Changan and Yangzhou. Some of them operated small shops selling grapewine and home-baked cakes.

Chinese silks, handicraft products and cultural objects traveled to western Asia and Europe in large quantities via the Old Silk Road. Through Arabia the Chinese arts of papermaking, silk weaving and handicrafts found their way to many countries in Africa and Europe. ▣

Treasures from Abroad Prized in Sui-Tang Times

YI SHUI

THE flow of silks westward over the Old Silk Road is well known, but what flowed along it eastward to China from central and western Asia? One thing of which there is considerable material evidence is the passage of luxury goods during the Sui (581-618) and Tang (618-907) dynasties. Jewelry and vessels of gold and silver were some of the main items, and they were much sought after by the upper strata of Chinese society. So much in demand were they that imitations of them were produced by artisans in China.



The camel-and-tender motif inside a typically Persian medallion pattern on silk found at Turpan in Xinjiang bears the Chinese characters "foreign king."

Changan (present-day Xi'an in Shaanxi province), capital during these dynasties, became the center of economic and cultural intercourse for the Asian peoples and such goods, both imports and copies, were sold in its shops. One of the shops excavated on the site of the old western market yielded large quantities of ornaments set with pearls and agates and made of crystal, and some of gold.

An exquisite gold necklace evidently from west Asia was found in 1957 at Xi'an in a tomb dated 608 belonging to the granddaughter of a princess. Made in characteristically west Asian style, it is a string of 28 finely-worked gold beads with a clasp made of a blue stone with the design of a big-horned deer. The large pieces in front are of gold, jade and precious stones. In this tomb were also found a gold stem-cup and one of silver in the style of the Persian Sassanian dynasty, a Sassanian silver coin from the reign of King Peroz (459-484) and five glass vessels.

Chinese and Persian Elements

Imitations of gold and silver vessels that began to appear on the market show Sassanian influence and some might have been made by Persian handicraftsmen in China. Generally speaking, the Chinese copies resemble the Persian prototypes in shape, but the decoration is usually in typically Tang Chinese style. An example are three octagonal stem-cups of silver chased with gold unearthed in 1970 at Hejia village near Xi'an on the site of the mansion of Prince Bin, a cousin of Tang Emperor Xuan Zong. The shape, the ring handle with thumbpiece on top and the "pearled" edge and foot are Sassanian. So is design in relief on one of the cups of the

Silver ewer from Persia and the head of the man at its top.

head of a west Asian man with deep-set eyes and a high nose. But the figures of dancers and musicians on each of the eight sides are typically Chinese in both costume and facial features. Another silver stem-cup is Sassanian in shape but the body is decorated with a Tang hunting scene. Among

YI SHUI is a researcher at the Institute of Archeology of the Academy of Social Sciences.

the 270 silver and gold vessels found there, some are obviously imitations.

Excavated with these were a Sassanian silver coin of King Chosroes II (590-628) and a Byzantine gold coin bearing the likeness of Heraclius (610-641). They seem to have been preserved as treasures.

Sassanian Relics

Quite a number of silver coins have been discovered in tombs in the Turpan oasis in Xinjiang on the Old Silk Road. Apparently some special power was attributed to them; many of them were found in the mouths of the dead. Most numerous are those minted by Shapur II (310-379) and Ardashir II (379-383) and Chosroes II. Byzantine gold coins or their imitations were also found there.

Other Sassanian-style silver vessels were found in 1975 in an ancient tomb in Inner Mongolia's Aohan banner. They include an ewer, an oval-shaped cup and a dish with an animal design hammered in from the back. The ewer is particularly noteworthy for the head of a mustached man at the point where the handle joins the mouth. This and the "pearled" edge around the base make it safe to identify as an import from Persia.

Eastward along the Old Silk Road also came a number of aristocrats of the Sassanian dynasty seeking refuge in China after its downfall. In 1955 the tombstone of a woman named Ma was unearthed in Xi'an. Writing in both Chinese and the Persian Pahlavi script states that she was the wife of a Zoroastrian named Suren, the descendant of one of these aristocrats. As a monument it is a worthy representative of Sassanian traditional culture, even though it was put up much later in 874 at the time of her death. This is the first stone engraved with Pahlavi cursive script to be discovered in China.

Designs for Weaving

Persian designs were brought to China so that Chinese weavers could use them in manufacturing silks for export to Persia and thus became part of China's culture too. Quite a few examples of brocades with Persian designs have been found at stops along the Old Silk Road, particularly at Astana in the Turpan oasis. These include the typically Sassanian medallion design with a "pearled" border and inside two birds facing each other. Motifs inside other medallion patterns include riders, eagles, deer and a boar's head. The riders have Persian features and the ribbons over their shoulders are exactly the same as those on the crown of a king depicted on a Sassanian silver dish and silver coins. The most interesting medallion designs feature motifs of camels and their tenders. Each set of figures includes the Chinese characters for "foreign king."

Arabian and Japanese Coins

Three Arabian gold coins were unearthed in a late-Tang tomb at Xi'an. Inscriptions in Kufic script quote from the Koran and note the date of minting, the earliest 702, the latest 746 or 747. These are the earliest coins from an Islamic country found in China, and this was the first time gold coins of the Arabian Omayyad dynasty had been found here.

Among the finds in Prince Bin's mansion at Hejia village were five Wakokaichin silver coins from the time of Emperor Genmei of the Nara dynasty in Japan, relics of relations with that country. ▣

Chinese copy of Persian silver stem-cup bears Persian-style handle and "pearled" edge and foot, but figure of Tang dancer on side.

Treasured coins: Japanese Wakokaichin silver coin (top), three Arabian Omayyad dynasty gold coins, and front and back of a Byzantine gold coin and a Persian silver coin (bottom), all found near Xi'an.

Fierce or Fanciful,

Folk Animal Toys Can Be Both

XIAO QING and WEN ZHEN

CHINESE folk toys are works of art in their clever design and fine craftsmanship. Loved by adults as well as children, many of them reflect the people's desire for a happy and peaceful life and their confidence that all evils can be defeated.

The city of Wuxi in Jiangsu province is famous for its toys of clay. The clay cats look more like tigers than house pets. Mice are a constant threat to the silkworms raised in this part of China so all the farmers keep cats. Perhaps the toy cats personify the fierce alertness the people hope for in their real cats.

In contrast, other toys are fanciful, even mischievous in appearance. Among them are the papermache lions made in Fengxiang county, Shaanxi province, stuffed tigers with embroidered faces from Shanxi province and the lions and tigers made in Weifang in Shandong province. A brightly-colored lion may sport a red flower on either ear. A tiger may wear a mask. A lion made of pieces of silk may be cavorting with a ball. The craftsmen purposely change fierce animals into comic ones to please the children. A favorite is a lion with a head greatly larger than its body.

The stuffed tiger with a head at each end from Shandong province usually serves as a pillow for a child. In the countryside of north China it was once believed that if a child slept such a pillow in spring he would not get ill all year.

A TOY often serves a practical purpose. Take the straw shoes the peasants in Henan province make for their small children. Since babies like to take their shoes off, the shoes become an interesting plaything. The sole is of wood and the upper sturdily woven of straw. The big red eyes seem to be keeping an eye on the road for the tiny wearer.

The hedgehog, beetle and mouse from Shandong province can also serve as pincushions. The hedgehog's quills are imaginatively indicated by white sawtooth strips pasted on the black body.

Some of the toys are figures from legends. A palm fiber dragon is made in Hunan province. The legendary dragon has the head of a bull, horns of a deer, eyes of a prawn, mouth of a donkey, beard of a human being, ears of a pig, body of a serpent, feet of a phoenix and scales of a fish. It can grasp, scratch, kick and stamp. It can rise to the sky to make rain and wind and dive into the sea to stir up turbulent waves. The toy dragon, however, is a symbol of benevolent power that helps people fight off disasters.

The Qilin, another mythical animal with the body of a deer, the tail of a bull, a single horn and scales all over its body, is a symbol for good luck. Toys in this form are frequent gifts at birthdays or weddings.

Clay figurines made in Shaanxi province portray characters from local operas. They are strongly local in shape and color.

Many toys reflect the familiar things in daily life. The clay donkey made in Shanxi, for example, looks like one, from a folk story illustration, ready to carry a young bride to visit her mother. ■

Clay baby with fish (Hebei)

Lion (paper-mache, Shaanxi)

Embroidered cloth tiger (Shanxi)

Clay cats (Jiangsu)

Dragon (coir palm fiber, Hunan)

Clay theatrical figures (Shaanxi)

Straw shoes (Henan)

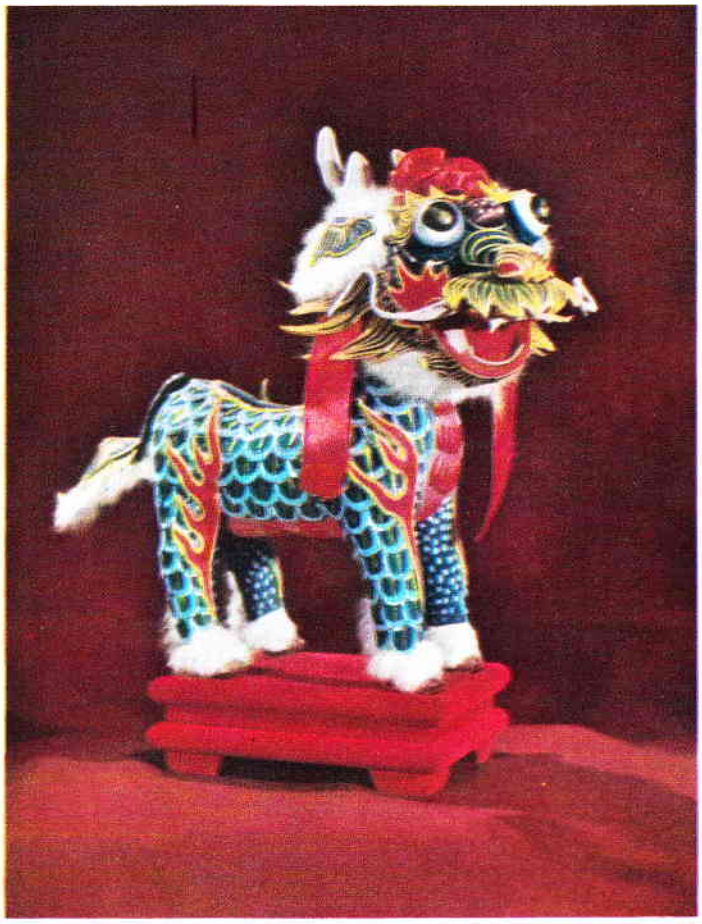
CLOTH FOLK TOYS FROM SHANDONG

Donkey

Hedgehog

Cock

Mouse



Qilin

Mandarin duck

Tiny tigers

Horses

CHILDREN

A Young Mountain Eagle

THE KAZAK herdsmen in China's far western Xinjiang call their heroes "mountain eagles." In Five-tree commune in Xinjiang's Mori county they call Jumjuma, a 12-year-old boy, a young mountain eagle.

Jumjuma's father is a herdsman in the commune. One morning last December his family was driving the sheep to a winter paddock 15 kilometers away. His parents rode ahead in the cart loaded with their yurt (felt tent) and other things. Jumjuma's elder brother, who usually herded the flock from the rear, had a boil on his leg and could not help that day. So their father let Jumjuma bring up the rear. The boy mounted a camel and set off with a crack of his whip.

WEATHER on the Gebi desert changes quickly. Without warning snow began to fall and a strong northwest wind blew up. Jumjuma could hardly see the way. Suddenly a frozen canal blocked the way of the flock. He jumped down, dragged the bellwether across first, and then went back for the others. The sheep couldn't climb the high bank against the heavy snow and strong wind so Jumjuma pushed them up one by one. Sweat streamed down his face, but he didn't care. By the time he had the sheep all across he couldn't see his parents ahead any more.

The blizzard got worse. The flock was blown toward the east. What should he do? He knew that the farther they went toward the east, the farther they would get from his father. He wanted to save the commune's sheep so he ran after the flock.

When the father found that his son was not following him he became worried. He quickly drove the cart to the new place and went back to look for him. When he heard the news, Sabit, head of the commune production team, went out with a doctor and several herdsmen to search for the boy. It was already dark. The people gazed worriedly into the blizzard. Where was Jumjuma?

By that time the boy had been racing after the flock against the driving snow for a whole day, hungry, cold and dog-tired. He had a single thought in his mind: Keep the sheep safe.

THAT night the temperature on the Gebi desert dropped to 30° below zero. In the cold and darkness the frightened sheep began to scatter. The boy was kept busy driving this one, then that one, back to the flock. The camel was too tired to move so Jumjuma ran after the sheep on foot with a whip in his hand, staggering and stumbling in the snow. Finally he managed to get all 288 sheep together again.

It was late in the night before the flock quieted down. The boy was too tired even to hold the whip. He collapsed onto the snow, hardly able to keep his eyes open.

"Don't go to sleep," he told himself, "you might freeze to death." But what about the sheep? He made an effort to open his eyes and stand up. He took up the camel's rein and led it on patrol around the flock.

Jumjuma loved his commune's sheep. He had often heard his father say that only after the liberation could his family and the other herdsmen have so many sheep and live a good life. He had often gone herding with his father or brother after school. When he saw rams fighting with their horns he would throw a stone to separate them. When a lamb was afraid to cross a stream he would carry it over. When a sheep got ill he would hurry to call a veterinarian. In this way he helped the older herders.

The night seemed endless. Jumjuma kept on going round and round. He felt that now he was a real herdsman on duty. "You just have to stick it out," he told himself.

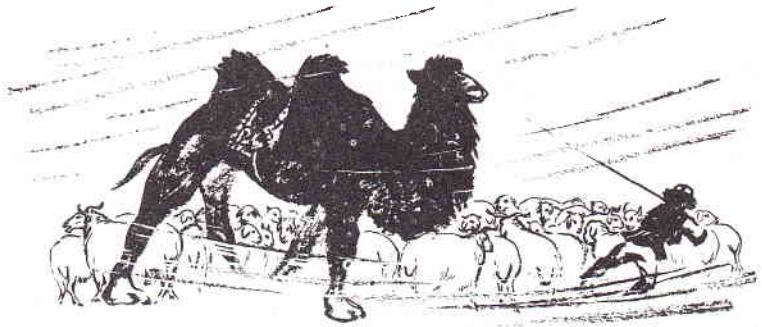
At last it was light. The sheep began to hop about and the camel held its head high. They peacefully moved ahead in the direction chosen by their little driver.

THE PEOPLE had been searching for the boy through the night. Through the morning glow they saw something white far in the east. Soon they saw it clearly. It was a moving flock. They dashed toward it. It was Jumjuma with the sheep.

"Pa, I've brought all 288 sheep back," Jumjuma greeted his father.

His father embraced him, but couldn't utter a word.

"A young mountain eagle," said Sabit and the others. ▣



Drawings by Sha Gengshi

'Roof of the World' Still Moving Northward

TENG JIWEN

THE two million-square-kilometer Qinghai-Tibet plateau lies at an average of 4,000 meters above sea level. Once it was the bottom of a great sea. The entire area rose out of the water about 3 million years ago and began to form what became the world's highest peak, Mt. Qomolangma (known as Mt. Everest in the west). How did this immense and dramatic change occur?

At an academic symposium last spring scientists from a team which made a general survey of the plateau and geologists from all over China discussed the cause and process of the plateau's upthrust. Citing data obtained through years of survey and research in support of their view, most of them were in agreement on certain theories.

TENG JIWEN is a research worker of the Geophysical Institute under the Chinese Academy of Sciences.

Collision of Continents

As ascertained by geologists in the past decade or so, the crust of the earth consists of "plates" that slide over the hot semiplastic layer below.

In the Carboniferous-Permian period (300 million years ago) the Indian subcontinent lay along the southeast side of present-day Africa. Both were part of the ancient continent Gondwana which then embraced all the land in the southern hemisphere. In the early Cretaceous period (100 million years ago) Gondwana broke up into what we know as Africa, South America and other southern hemisphere lands. The expansion of the floor of the Indian Ocean sent the Indian subcontinent drifting northeast. In the Eocene epoch (about 30-40 million years ago) it collided with the Eurasian plate and settled down there. The collision of the two plates deformed the rock strata of the earth's crust, creating folds and deep rifts which gradually took form as today's Himalayas and the Qinghai-Tibet plateau. Mt. Qomolangma is the ultimate outcome of this collision and compression.

Moving Plates

The movement of the earth's plates is the result of massive and

Precise surveys in 1975 determined that the Himalayan upthrust has pushed the ancient sea bottom up to a height of 8848.13 meters at the peak of Mt. Qomolangma.

At the mouth of an ice cave.

long-term movement of matter within the earth itself. Many methods are used to determine and prove the movement of the plates. Reliable quantitative data is now provided by paleomagnetics, the study of the direction of magnetic poles in ancient rock. When rock layers are formed, that is when lava cools off or when sedimentation accumulates and hardens, they are influenced by the magnetism of the earth. Rock layers formed in past geologic ages preserve these lines of magnetic force, thus it can be told from them when and where the rock was formed.

Paleomagnetic studies of rock on the Qinghai-Tibet plateau show that north of the Yarlung Zangbo (Yalutsangpo) River it has the same paleomagnetism as rock in Yunnan, Guangdong and Sichuan in China and even with those in Korea and the Soviet Union. In other words, the north side of the river is part of the Eurasian plate. But magnetism of rocks on the south side of the Yarlung Zangbo corresponds with that of the Deccan plateau in India and the Salt Range in Pakistan. The area south of the Yarlung Zangbo from the river to the southern edge of the Himalayas is a long collision-compression belt where the Indian subcontinent (now on the Indo-Australian, sometimes called South Asian plate) meets the Eurasian plate.

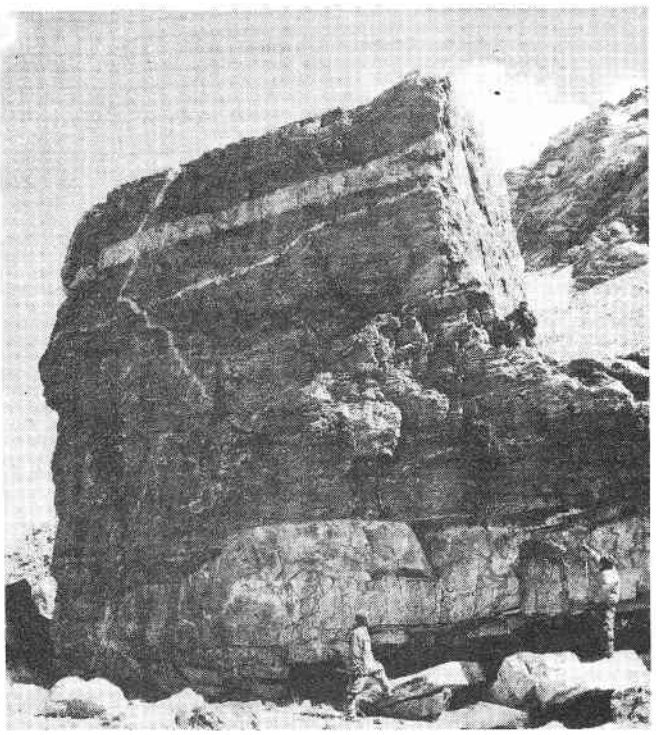
Recent geological findings support the paleomagnetic evidence of this collision of plates. These include evidence of glaciation similar to that in Gondwana, stepanoviella and well-preserved plant fossils of Glossopteris flora found on the northern slope of Mt. Qomolangma, which is south of the Yarlung Zangbo. All these are also found in lands which were once part of Gondwana. So far no evidence of such deposits and fossils has been found north of the Yarlung Zangbo.

In the Carboniferous-Permian period a great ice cap starting from the South Pole enveloped the whole of the southern hemisphere. Even what are today tropical areas of Africa were covered with ice. The only place on the northern hemisphere which shows traces of glaciation in this period is the Indian subcontinent. It must have experienced this glaciation while it was still in the southern hemisphere, before Gondwana split up.

The Himalayan Upthrust

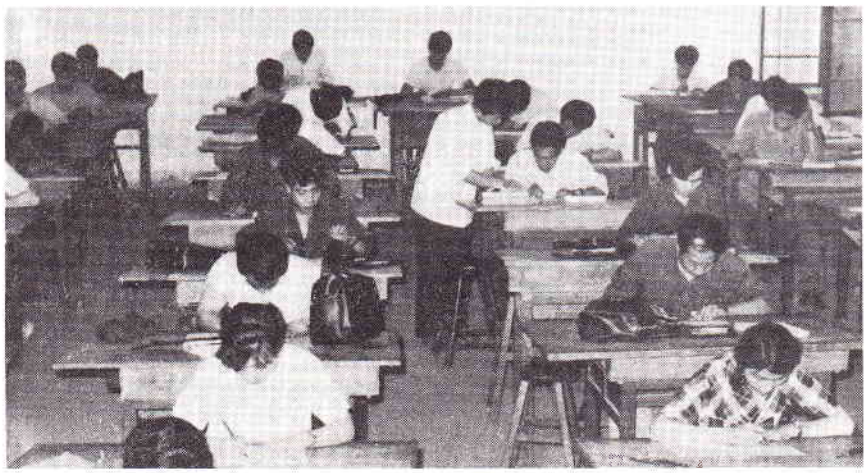
Though collision with the Eurasian plate slowed down the northward movement of the South Asian plate, it is still moving northward. Now 3,000 km. away from its place of origin, it is still moving at a speed of 50-60 millimeters a year. Under compression, the earth's crust continues to fold, pushing the Himalayas still higher. This has a great influence on changes in physical features of the plateau and adjacent areas, and on the atmospheric circulation of eastern Asia. The differences in geomorphology and vegetation are most apparent. The northern slope of the range consists of barren mountains, but on the south side are valleys where tropical fruits grow. The compression zone itself is rich in mineral deposits and sources of geothermal heat. ■

Massive rock 16 meters tall and weighing over 10,000 tons thrusts up to a height of 5,400 meters above sea level on the north slope.



Going to Night School in Tianjin

YOU YUWEN



Class in drafting at Workers' Cultural Palace No. 1.

WHEN the day's work is over around 6 p.m., many factory and office workers in the north China's metropolis of Tianjin do not go home but instead attend classes. One place they go to is Workers' Cultural Palace No. 1, which houses a large night school operated by the municipal federation of trade unions with the help of the city education department. It offers college-level courses using standard college texts, special technical training classes ranging from two months to one to two years in duration and technical lectures on particular problems. They are given by teachers from Tianjin and Nankai universities and other schools in the city or engineers and veteran workers from industrial plants.

Tianjin has other night schools run directly by the department of education. One is the Xinhua Evening University. It has its own teaching staff, full or part-time, and offers special university-level instruction in science, engineering, literature, history, philosophy and medicine. Duration varies according to the needs of the students.

People can also take a variety of subjects in the "July 21" workers' universities, the name given to advanced education units set up by factories, mines and other places of work for their own personnel. Others study from television or radio or correspondence courses. The desire to contribute to China's modernization has brought many more applications than the schools can accommodate. When one night middle school announced it would take in 240 new students, ten times that number signed up.

Enthusiastic to Learn

As everywhere, attending night school involves considerable sacrifice. It often means going right to class after work without changing clothes or eating, and doing homework late into the night. Zhu Shuhua, who teaches music in a primary school and is studying in teacher-education at the Xinhua Evening University, has to bring her 6-year-old daughter along to class (with permission of the school) because her husband, a driver with irregular hours, is not at home to care for the child.

For six years another student, Sun Keyuan, 42, has made the 50-kilometer trip from Tanggu Harbor where he works to the cultural palace. His son, a young worker, is also studying at the school.

Devoting all his time to study and technical innovation, up to now 33-year-old Li Yuming, who works in a radio plant, hasn't sought female company, but today he thinks that if he were to find a young woman with his ideals it would not affect his study. In this respect Sun Baiyuan, who

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YOU YUWEN is a staff reporter for China Reconstructs.

works in the telegraph office and is a part-time teacher at the cultural palace, is a good example. While studying there in 1957 not long after the school opened, he fell in love with and married a fellow-student, who works in a chemical plant. They did not let marriage interfere with learning. When she wanted to do further study for her job Sun did his share of the washing, cooking and mending. They helped each other and made progress together.

Learning While Teaching

Su Shanlü, a teacher at the Tianjin Radio School, also teaches the fundamentals of radio at the cultural palace. He found that some students had a hard time understanding because they lacked basic knowledge. Others raised questions related to their own work in radio factories which he found difficult to answer because he lacked practical experience.

With a list of specific problems in mind he went to work for a time in a radio plant, he learned what the workers really needed to know and was able to organize his material in a way easier for his students to understand.

The *Tianjin Daily* recently carried several articles on Song Jingkang, an outstanding worker in the Tianjin Industrial Pump Plant. "We say a lot about building socialism," it quoted Song as saying, "but it'll be just empty talk if workers don't improve their technical knowledge." He himself had tried to improve outdated equipment, but found it hard because of insufficient technical grounding. Later he studied in the workers' university at his plant and also took courses in machinery at the cultural palace.

Once he happened to see in a foreign magazine a new type of drill which can make deep holes with high polish and accuracy. But the magazine contained no details about its structure. Not long afterward from a Chinese magazine he learned that a factory in Sichuan province was trying to make a similar drill. Putting together information from the two sources, with help from his night-school teachers and friends, in three months he made such a drill himself. It cut the processing time for making a certain casing from 230 to 30 minutes, improved accuracy and reduced labor intensity.

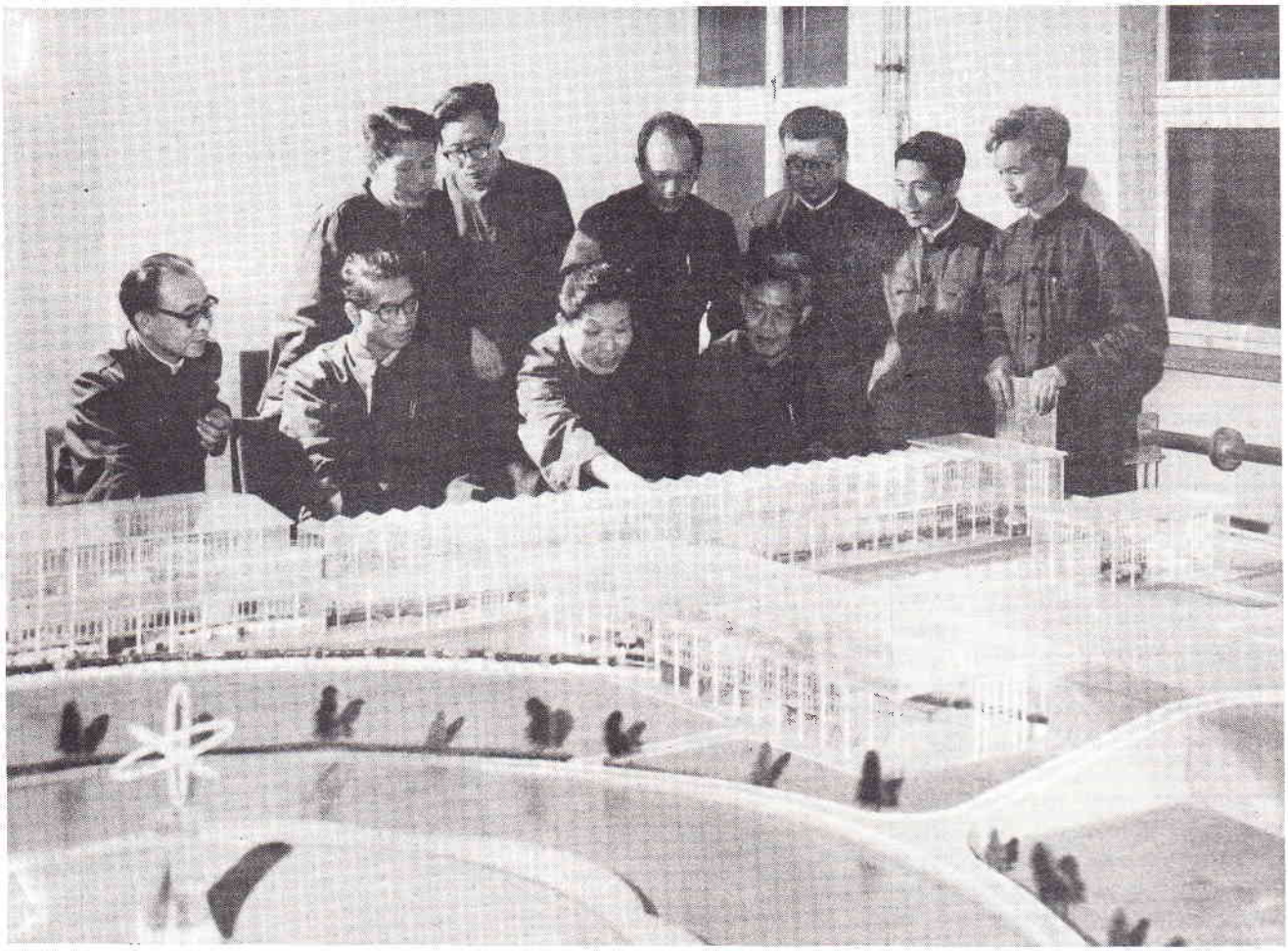
Helped by night-school studies, Shi Guozhong, a young worker in the Tianjin Ocean Navigation Instrument Plant, became an expert on cutting tools and compiler of the *Concise Lathe Operator's Handbook*. He has had a hand in some 100 innovations at his plant or other factories and been elected a vice-leader of the metal-cutting group of the Tianjin Mass Science and Technology Cooperation Association.

Many of the students have studied several subjects. The same person may be teacher in one subject and student in another. Li Yuming observes that his studies have taken him through three stages of electronic technology — electron tubes, transistors and integrated circuits. "Night-school classes have given me the knowledge with which to help modernize our country," he says. Confidence that they can acquire this knowledge is perhaps the most important thing that all the students have learned at night school. ■

Zhu Shuhua's turn at the piano as fellow members of a course in primary education learn a new song.

Sun Baiyuan and his wife do their homework together.

Photos by Wang Xinmin



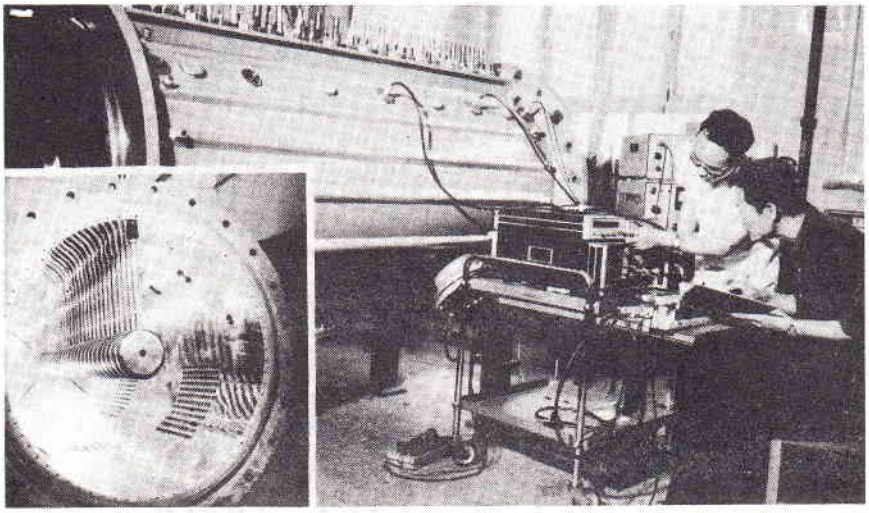
Scientists discussing the general layout of the 50 bev proton synchrotron.

ACROSS THE LAND

High Energy Physics Experimental Center

CHINA'S first high energy physics experimental center is to be built near Beijing. Surveying is in full swing for construction of China's first 50 bev (billion-electron-volt) proton synchrotron.

The high-energy particle accelerator is an experimental installation to supply high energy charged particles. Involving the assistance of prominent foreign physicists, it will help train Chinese scientists in this advanced field. Such research can lead to a deeper understanding of the physical microcosmos which in turn may yield ideas for use in industry. □



Scientists trying the prototype cavity of the line accelerator made by the Institute of High Energy Physics under the Chinese Academy of Sciences. Left inset shows the inner structure of the prototype cavity.

Photos by Yang Wumin

Debate Among Historians

A Forum on the Taiping Revolution

A week-long forum on the history of the Taiping Revolution of 1851-64, one of the greatest peasant uprisings in China's long history, was held in Nanjing last summer. Attendance by 260 specialists and other historians — not only from China but from Britain, the U.S.A., the Federal Republic of Germany, Belgium, Japan and Canada — testified to the wide interest in the subject.

The Taipings fought successfully for ten years against the feudal Qing dynasty (1644-1911) and aggressors from abroad. They provided valuable experience and lessons for the Chinese people in their struggle to finally liberate themselves almost a century later.

Nanjing, the one-time capital of the Taiping state (known as the Taiping Heavenly Kingdom) was a fitting site for the forum.

Chinese and foreign participants presented 217 papers expressing different views on some major historical questions. Among these were:

1. What ideas guided the Taiping Revolution?

Opinions were exchanged on the origin and evolution of the thinking of Hong Xiuquan, the movement's founder and supreme leader. Many agreed that it was a mixture of certain Christian teachings, the equalitarian concepts of past peasant uprisings in China, and the "universal harmony" preached by the Confucians. As to which aspect predominated, however, there was debate.

One view held that the essence was peasant revolutionary thought directed against feudalism and foreign aggression and accompanied by naive peasant equalitarianism inherited from the past, and that Hong Xiuquan borrowed from the west only the religious form and his "One True God." Another stressed his borrowing of some Christian concepts. Others said Confucian ideas were the base.

2. What should be the judgment of history on certain of the Taiping leaders?

Hong Xiuquan was seen by all as an outstanding peasant revolutionary leader of immense achievement and a pioneer in trying to learn from the west things needed for the emancipation of China and her people. But they did not regard him as infallible, or as being free from mistakes, including serious ones.

Yang Xiuqing, one of Hong's chief assistants in building the movement, was also assayed. Some thought him an outstanding leader to be commended for great exploits which were inseparable from the early successes of the Taipings, but also one who made grave errors. One of these was to wage a struggle for personal power and wealth. This generated serious internal conflicts in the Taiping ranks. Others claimed that he was blameless in all respects.

As regards Shi Dakai, a senior Taiping general, the participants concurred that his departure on a separate expedition was not a sign of hostility to the revolution. But they differed about his reputed "humble petition to surrender" to the Qing dynasty forces when his army was besieged at the Dadu River in Sichuan province. Some felt that it was a tale made up by the enemy. Others felt it was true and inexcusable, and that the fact that he did not betray the Taipings after capture should not excuse his surrender.

Li Xiucheng, another noted Taiping general, aroused particular controversy. His defenders said his heroic merits outweighed his faults, and that his confession as a prisoner was a tactical move, not a capitulation. Others declared that even though his previous fighting services should be recognized, by this confession Li Xiucheng negated and disgraced his Taiping title of "Loyal Prince."

3. What was the nature of the Taiping State?

One view was that it was an anti-imperialist and anti-feudal peasant political power. A second regarded it as still mainly feudal. A third held that it contained both aspects. That is, while it was anti-feudal at the start, it had not shaken off his own feudal features and so, as time passed, let them become predominant and moved toward inevitable defeat.

In liveliness of the debate, and in serious approach to documentation and argument, the forum was an expression of the policy, "let a hundred schools of thought contend." ▣

The Karst Caverns of Yixing

HAN QILOU

CONNOISEURS of chinaware generally associate the name Yixing (Yihsing) with the famous red stoneware teapots made in the city, sometimes called China's "pottery capital." Yixing has another claim to interest — its wonderful karst caverns formed by water washing and dripping against soft rock over eons of time.

The southernmost city in Jiangsu province, Yixing lies on the west shore of Taihu Lake on the lower reaches of the Changjiang (Yangtze) River. It is bordered on three sides by fertile lake-dotted plains. To the southwest rises a chain of hills. The caverns are at their foot.

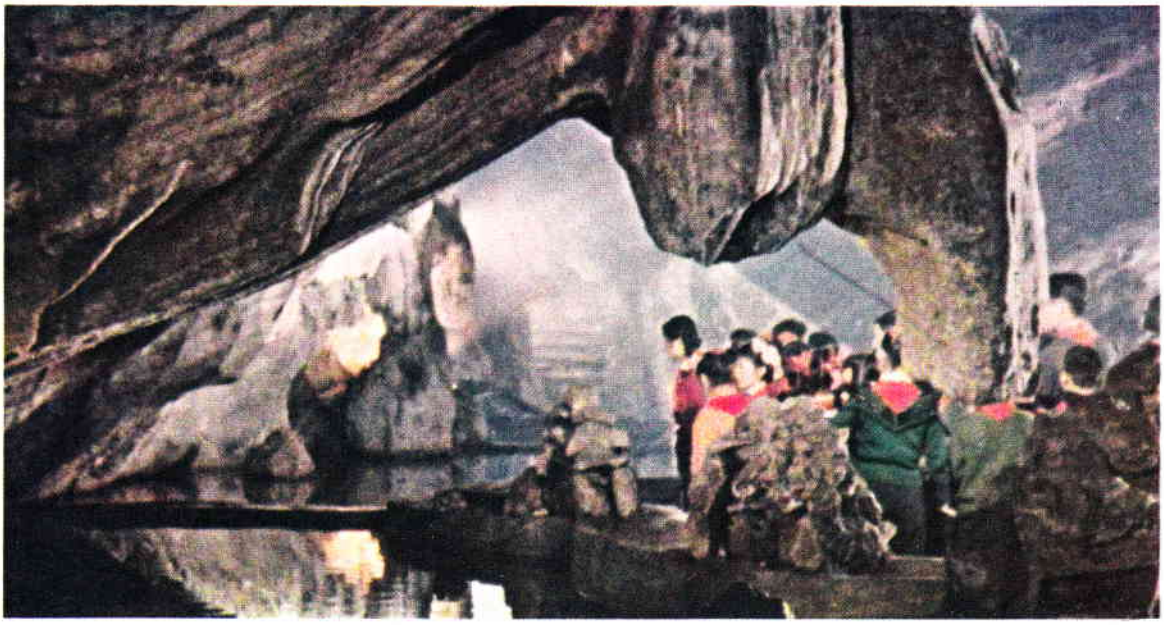
Best-known are the Shanjuan and Zhanggong Caverns. The former, situated in Mount Luoyan some 25 kilometers from the town, is the subject of many legends, the chief one about the poet called Shanjuan for whom it is named. Four to five thousand years ago when the legendary Huanghe River valley rulers Yao, Shun and Yu were transferring their kingship to one another, Yao abdicated in favor of Shun, and Shun in turn tried to give the position to the poet Shanjuan. The latter refused indignantly. "I am free to go wherever I please between heaven and earth, so what do I want with the throne!" Feeling that Shun's words had sullied his ears Shanjuan washed them in a river, then went south to live in seclusion in this cavern.

MORE reliable historical records place the discovery of these caverns some 2,000 years ago in the Spring and Autumn period (770-476 B.C.). Totaling about 5,000 square meters in area, the Shanjuan Caverns are in three tiers, and consist of the upper cavern and middle, lower and water

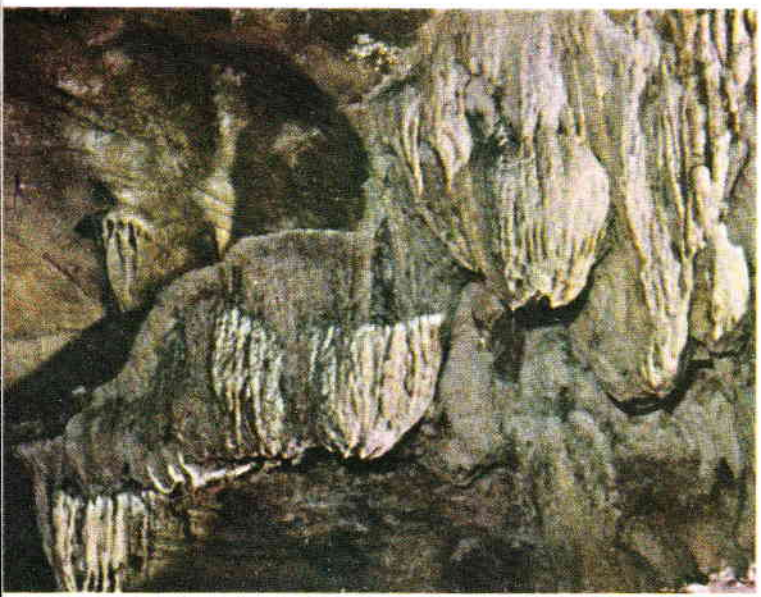
Nature's indoor scenery, Shanjuan Caverns. *Han Qilou*

A stretch of the underground river is navigable. *Jin Baoyuan*

Stalactites reflected in the water create a lotus pond. *Jiang Wei*

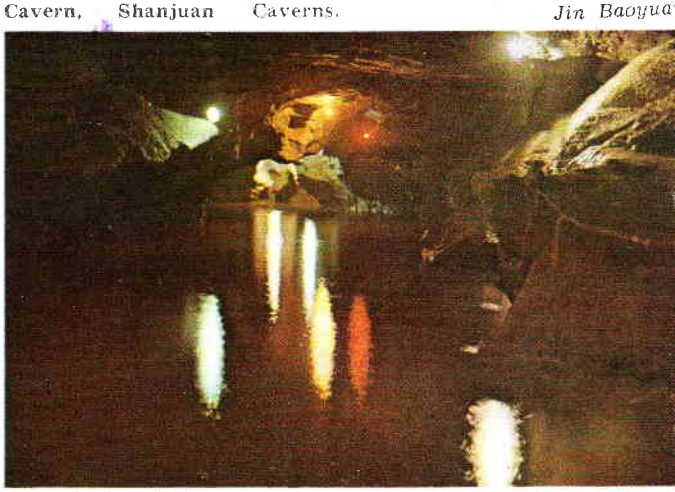


"Foundation pillar" stalagmite, 35,000 years a-growing. *Chen Chunxua*



Hanging "lotus flowers," Shanjuan. *Jiang Wei*

The eerie recesses of the Water Cavern, Shanjuan Caverns. *Jin Baoyua*



caverns. Deep, mysterious recesses, winding galleries, booming cataracts and an assortment of fantastic stalactites and stalagmites combine to create an exquisite fairyland.

Entrance is through the middle cavern. First to strike the eye is a massive seven-meter-high stalagmite called the "foundation pillar." It is thought to have taken 35 thousand years to reach its present size. On the walls flanking the entrance carved inscriptions can be made out, the earliest a poem by a sixth century scholar. As the cave widens further inward, one comes to a rock chamber known as Lion and Elephant Arena. Fifty meters deep and twenty wide, it can accommodate about 1,800 visitors at a time. On either side are two big natural rocks, one strikingly resembling a lion and the other an elephant, when viewed from the right angle.

The upper cavern is shaped like a snail shell. Filled with mist most of the time, it is cool in summer and warm in winter, maintaining a temperature of about 23 degrees centigrade the year round. From the ceiling droop weird stalactites, many resembling such real and imaginary animals as horses and dragons. Spring water seeping out here and there along the walls collects in pools of all shapes and sizes. The two largest are named after Wa Huang and Pan Gu, two figures in Chinese mythology, who are supposed to have bathed here. The goddess Wa Huang was said to have melted rocks to repair a crack in the sky caused by spirits fighting with each other. Pan Gu was the god credited with creating the universe.

A winding tunnel leads from the upper to the lower cavern, down stone stairs passing through four stone "gates." After a heavy rain strange sounds can be heard as one traverses this course. First comes a sound like distant waves and breakers, gradually changing to one of muted wind and thunder, then of rolling war drums and finally of a herd of galloping horses — hence the names of the four gates: Breaker Gate, Wind and Thunder Gate, War Drum Gate and Ten-Thousand Horses Gate. The source of these effects is a waterfall at the end of the tunnel and in front of the lower cavern. After a downpour it crashes down in a foaming torrent, whose reverberations are subtly modified by the acoustics of each stretch of tunnel.

The lower cavern is narrow and about 180 meters long with stalactites of all shapes and sizes suspended from the vault. On the right side a swirl of water plunges from a spring, flowing through twists and turns into a waterway at the bottom, known as the Water Cavern. Roughly 120 meters long, and two to five meters deep, it is large enough for rowboats which are available.

THE Zhanggong Caverns, equally famous, lie some 22 kilometers to the southwest of Yixing. They are entirely different in layout, comprising an interlocking maze of 72 caverns, some within others and each providing a different visual delight.

The total area of the Zhanggong Caverns comes to roughly 3,000 square meters. They can be toured by a kilometer-long route. Entering, one comes first to a spacious "hall," adorned with bizarre boulders, stalagmites, natural pillars, screens and "flowers" of rock. Upward along a spiral stone staircase, one reaches a still larger hall called the Hall of the Sea God. From the vault of the cave perpetually hidden in mist, hang many oddly-shaped rocks reminiscent of garlands or tassels. Two hoary stalagmites tower up like pillars, and a brace of enormous hanging boulders look like palace lanterns. A 12-square-meter pool in the center of the hall duplicates the scene in its mirror-smooth waters.

Many smaller caves lead off from the Hall of the Sea God, each a little world in itself, with its own legends and fables. One such cave, noted for its network of tunnels and galleries, has a rock several meters square projecting from its roof. On this rock are faintly discernible lines like those on a chess board, thus the cave's name Chessboard Cavern. Here, says a legend, the gods came to play chess, and the following story is part of Yixing county lore: In the Tang dynasty (A.D. 618-907) a young scholar visited the Zhanggong Caverns. After wandering about, candle in hand, for a dozen *li* he came upon two Taoist monks playing chess. Seeing that the scholar was tired and hungry, one of the monks pointed to some black mud nearby and told him it could be eaten. The scholar put some in his mouth and found it very tasty. The monk told him that after he left he should take care not to tell any human being about this incident. The scholar bowed his thanks and departed. Hidden in his bosom, however, was a handful of the black mud, which he intended to show to the people in the city. But when he emerged from the cave, the mud had become as hard as stone.

After leaving the caves a short walk brings one to the mountaintop. On a rock wall four characters carved there in the Yuan dynasty (1279-1368) read: "Hai Nei Qi Guan" (one of the most marvelous scenes in China). Looking into the distance, one is not disappointed. Taihu Lake's broad waters, dotted here and there with sails, ripple away into the hazy distance, and blue skies are met by rolling green mountains covered with groves of bamboo, terraced fields and tea plantations — all facets in the sparkling beauty of Yixing. ■

Building Up China's Rail Transport

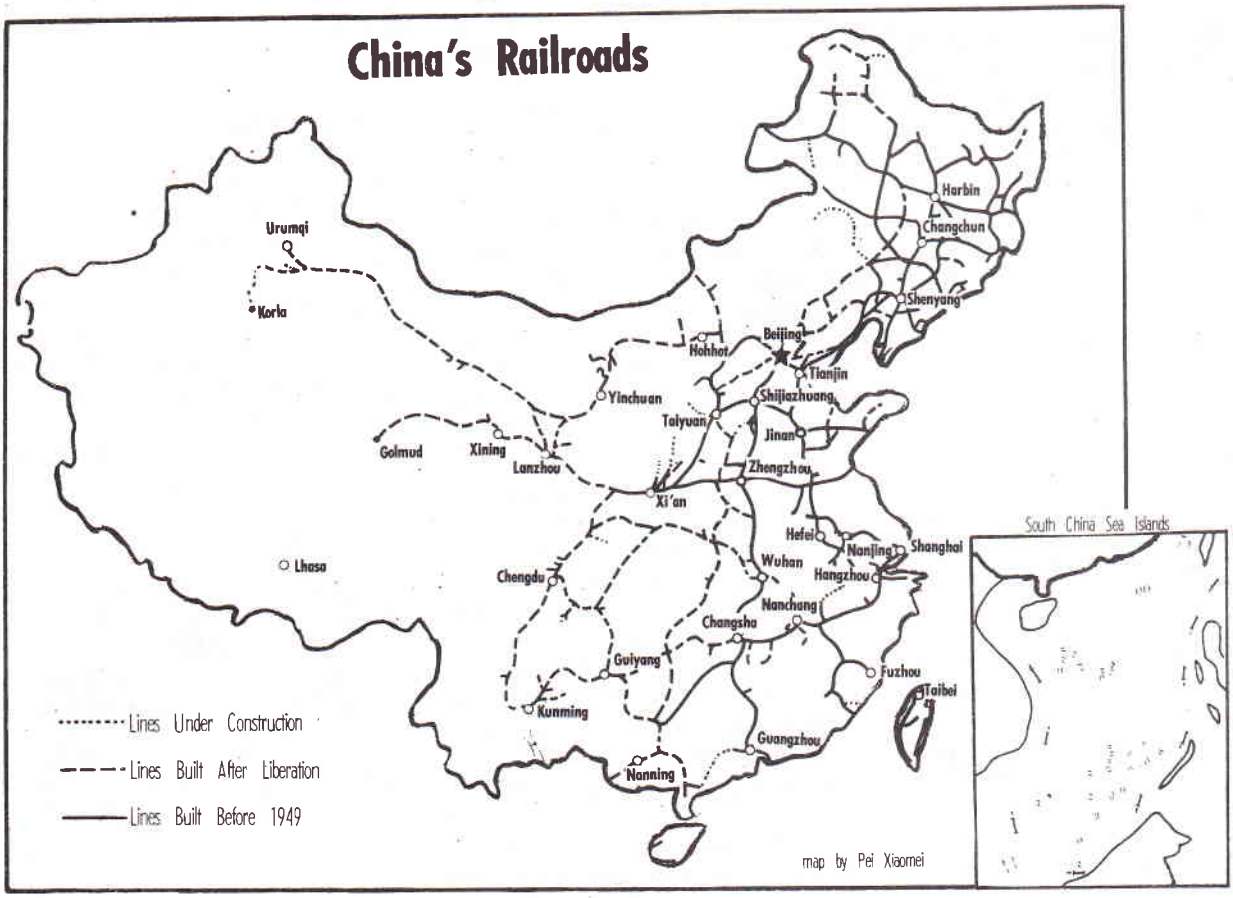
— An interview with Guo Weicheng, Minister of Railways

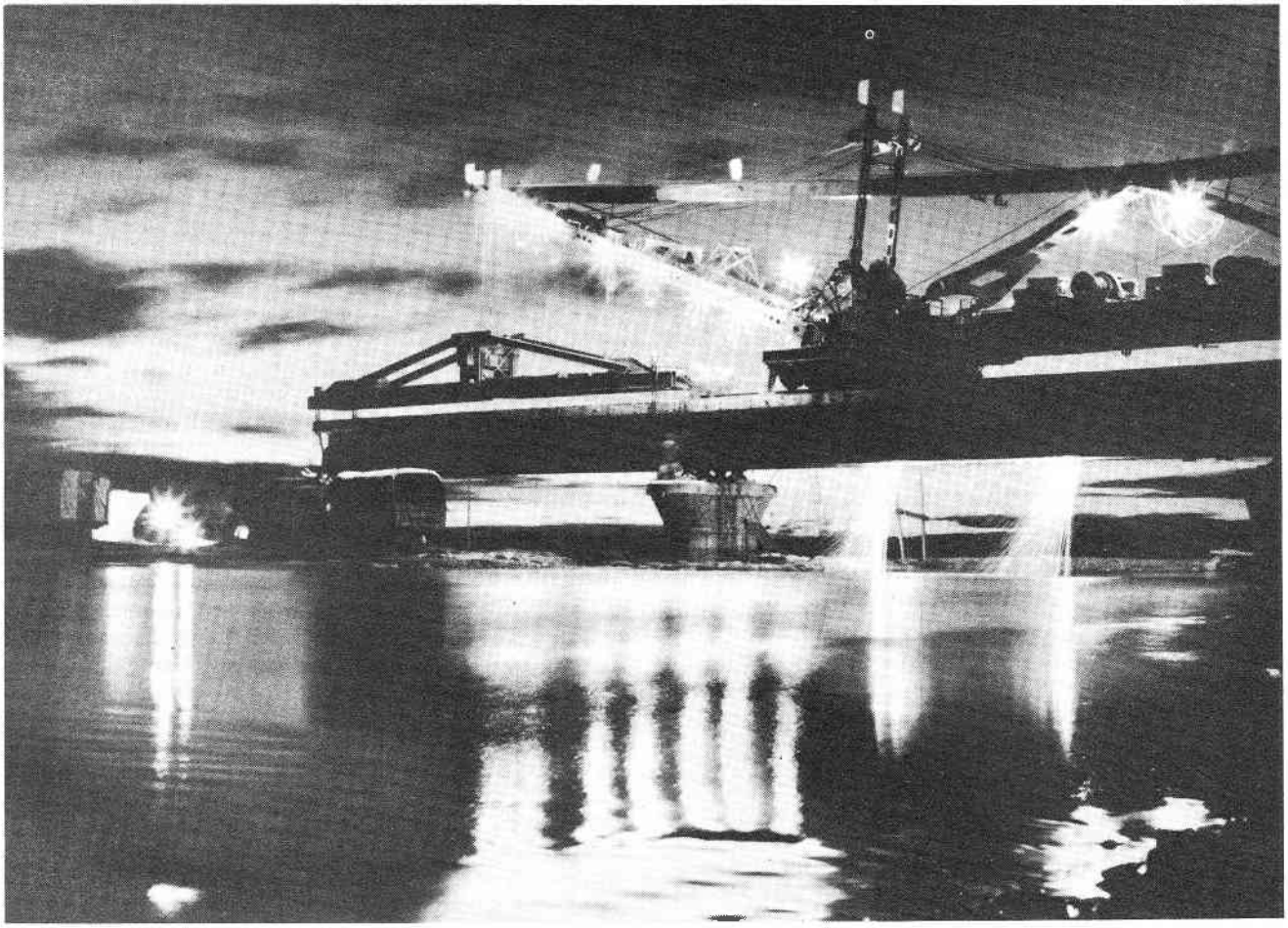
A graduate of Fudan University in Shanghai, Guo Weicheng has been engaged in the reconstruction and development of China's rail system since he became head of the Qiqihar Railway Bureau in 1945 at the end of the Japanese occupation of northeast China. He was appointed Minister of Railways in 1978.

Guo Weicheng, Minister of Railways.

Q. In the 30 years since the founding of the new China, what progress has been made in developing and expanding the railroads?

A. In railroads as in industry and agriculture, China has made great progress. At the time of liberation our huge country, about the size of the whole of Europe, had only 22,000 kilometers of tracks, of which only half were usable. They were of different gauges and in general poor. The control system, communications and signal systems were outdated. The rolling stock was old.





A bridge over the Buha River on the Qinghai-Tibet line being built by the P.L.A. railway corps.

Between 1949 when the railroads were taken over by our new state and last year, 1978, we increased our track in operation to 50,000 kilometers. Large-scale construction was done on a dozen trunk lines in the northwest, southwest and border regions. We also repaired and improved the old ones. All main lines, for example, have been double tracked. Communication and signal systems have been improved, using advanced technology. Some of our main depots have installed mechanized or semi-automated camel-hump marshaling yards to speed up operations.

As to passenger and freight traffic, in 1950 we carried 150 million passengers, and last year 800 million. In the same period the volume of freight rose from 100 million tons to 1,070 million. We've also developed our rolling stock industry, we now produce large numbers of diesel and electric locomotives and other modern items. So we've made considerable progress in the last 30 years. But of course we have a long way to go to catch up with the more advanced countries.

Q. In describing new railway building you emphasized the northwest and southwest regions. Why?

A. The reasons are historical. Before liberation about 60 percent of our lines were concentrated along the coast. Most of those were built by foreign imperialists, to help them exploit our natural resources and seize our territory. The northwest and southwest, where scores of our minority nationalities live, had virtually no railways. In 1950 we began to construct new lines in the northwest. Now we have a rail network there, with its center at Lanzhou in Gansu province.

In the southwest seven main lines were built in Sichuan, Yunnan and Guizhou provinces. They are the Chengdu-Chongqing, Baoji-Chengdu, Chongqing-Guiyang, Guiyang-Kunming, Chengdu-Kunming, Zhuzhou-Guiyang and Xiangfan-Chongqing lines. Together they form a circular network, linking those three provinces with Beijing and other parts of the country.

We have also constructed some electrified lines such as the Baoji-Chengdu and Yangpingguan-Ankang, both already in use. Two more, the Xiangfan-Chongqing line and Baoji-Tianshui-Lanzhou line, are under construction.

Q. And the other areas of China?

A. We've also built some new main lines in the north, east and south. For example, in the Changbai and Greater and Lesser Hinggan Mountains of northeast China, we've built forest railways.

We've converted the old Beijing-Shanghai and Beijing-Guangzhou lines, two of our early main north-south lines, to double track and added several main and branch lines along them, including the Taiyuan-Jiaozuo, Jiaozuo-Zhicheng and Zhicheng-Liuzhou lines.

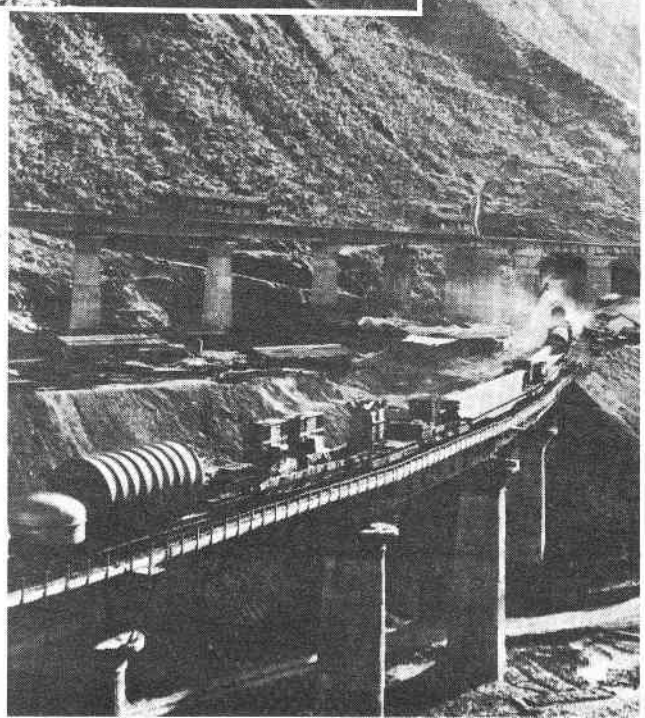
All play a prominent part in helping to develop China's economy, to strengthen her national defense and to promote unity and friendly intercourse among her different nationalities.

Q. What other lines are being built today?

A. All in all, our railway system has not kept pace with our expanding economy and socialist construction. Now we are changing this.

Minority women flash happy smiles: The Chengdu-Kunming rail line brings more goods from industrial areas.

On the Chengdu-Kunming line.



Being built now is a 470-km. line from Turpan to Korla in southern Xinjiang. It is the first line in southern Xinjiang.

Then there is the Qinghai-Tibet line (Xining to Lhasa), the first stage of which, the 830-km. stretch from Xining to Golmud, has already been built. It's a very difficult line to construct as it crosses the "roof of the world."

In eastern and southern China, the 560-km. Anhui-Jiangxi line (Wuhu to Guixi) is under construction from both ends. Its completion will shorten the distance from Nanjing to Jiangxi or Fujian provinces by 300 km. Also newly in operation is the 853-km. line from Zhicheng in Hubei to Liuzhou in the Guangxi Zhuang Autonomous Region.

In the north, the line between Beijing and Tongliao in Jilin province has just been completed and is now in operation. This 870-km. line is the second main line linking north China with the northeast.

There are also branch lines being built from the main mining and industrial centers.

Q. China is vast and immensely varied and complex in terrain. Surely the railroad builders must have had to overcome many problems. Can you tell us about some of them?

A. The difficulties have been many, but by relying on their own efforts and hard work and utilizing the local resources our railway builders have overcome them. This is true of the Lanzhou-Urumqi, Baotou-Lanzhou, Fengtai-Shacheng, Baoji-Chengdu, Yingtan-Xiamen, Kunming-Guiyang, Zhuzhou-Guiyang and Chongqing-Guiyang lines and particularly of the Chengdu-Kunming and Xiangfan-Chongqing lines, which were the most difficult. They cross mountains, rivers, deserts, swamps, permafrost and mud-rock flow areas, seismic belts and other difficult terrain. In some places there is a danger of landslides.

The 669 km.-long Baoji-Chengdu line, built just after liberation, crosses the Qinling Mountains that separate Sichuan and Shaanxi provinces. It has 303 tunnels totaling 84 km. and 994 bridges totaling 27 km. That's an average of 1.5 bridges and half a tunnel per kilometer of line. The line was completed in five and a half years.

The Qinghai-Tibet line passes over a salt lake 32 km. across. The embankment is constructed with halogen rock and gravel.

Perhaps the most difficult line was the 901 km. from Xiangfan to Chongqing, 45 percent of which consists of bridges and tunnels. Our railway engineers and workers have gained a lot of valuable experience.

Q. Some foreign countries now treat rail transport as secondary. They concentrate on air and road transport. Does China plan to do this?

A. Modern means of transport haven't yet been widely developed in China. Railroads are still our main emphasis. Because our natural resources,

mines, industrial centers and ports are scattered over a vast area, transport over long distances is required. Today, railways carry 60 percent of all our passenger and freight traffic.

As this situation will remain for some time, we are making great efforts to expand our railways.

Q. How is China modernizing her rolling stock industry?

A. Again, let's start with history. Before 1949 we only had a dozen repair depots. There was no such thing as a locomotive or even car built entirely in China. About 110 different types of locomotives and 700 kinds of wagons and cars were in use — a motley variety.

China built her first steam locomotive in 1952. In 1958 we began to design and make our own diesel and electric ones. Recently we have made more powerful models. We also make special-purpose cars. Our rolling stock industry has become a comprehensive system which can do both repairs and manufacturing.

Even so we still can't meet the needs of modernization. We are trying to improve our technology and increase production, to catch up with the advanced countries. We will import what technology we need for this.

Q. What did you learn during your recent tour abroad?

A. The four countries we visited — France, West Germany, Belgium and Japan — all have modern railway systems. In the 1950s and 60s they were already using electric and diesel locomotives extensively. We, by comparison, up to the end of last year had only 1,026 km. of electrified track. Steam locomotives are still our main form of traction.

Those countries all have 30-40 percent automatic blocking lines, whereas we only have 13 percent. Trains on their main lines weigh between 5,000 and 10,000 tons, on ours only 3,000 tons. Their highest speed passenger trains go at 160 kilometers per hour and some even reach 200 k.p.h. Our top speed is only around 100 k.p.h. In some of these countries a train departs every four to six minutes, whereas our shortest intervals are twice that.

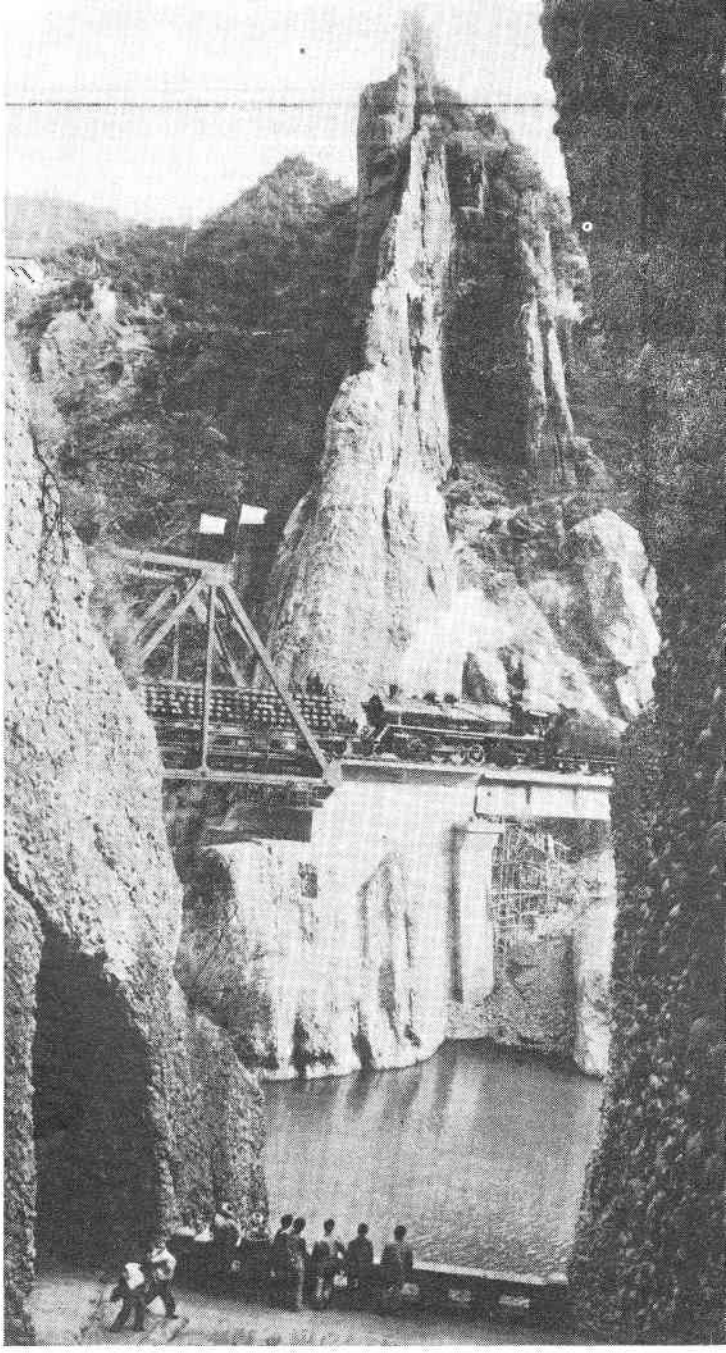
I would like, through your magazine, to again thank these host countries for their thoughtful planning during our visit and for giving us every opportunity to study their railway systems in all aspects. I send my warm greetings to all our friends in the government and rail bureaus who gave us such hospitality.

Q. What measures are you taking now, or planning for the future, to enable China's railways to better aid her modernization?

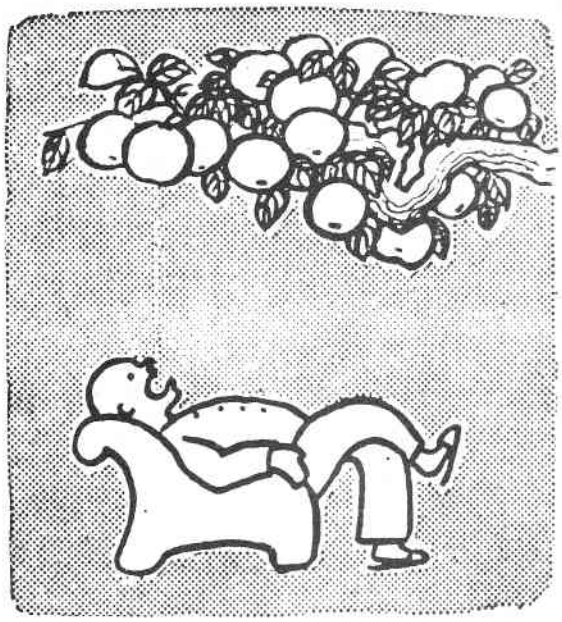
A. While concentrating on modernizing our old lines, we are also building new ones. By improving the old lines, I mean increasing their haulage capacity, train speeds and traffic density. We shall continue to replace the old steam locomotives with electric and diesel ones so that by 1985 these will make up about 60 percent.

Here are some other things we hope to accomplish: Our passenger cars will be lighter and more comfortable and our freight cars larger. We'll increase the percentage of freight carried by specialized cars. Dispatching, station operation and traffic management will be automated or semi-automated on the major lines. By 1985 we hope to have mechanized 80 percent of our loading and unloading, line construction, maintenance and repairs.

We also plan by then to build six more major trunk lines and some branch ones. ■



Difficult terrain crossed by the Xiangfan-Chongqing line. *Photos by Xinhua*



The lazy man's application of the principle of terrestrial gravity to a fruit tree
Li Fengwu

Help! *Miao Yintang*

Good for the waistline but not for the sapling
Li Shiming and Fan Guanglin

Lesson 10

Going to Yangshuo

（加拿大 访 华 旅游团 部分
(Jiānádà fǎng Huá lǚyóutuán bùfen
(Canada visit China tourist group portion
成员 从 桂林 乘 船 去 阳朔）
chéngyuán cóng Guìlín chéng chuán qù Yángshuò)
members from Guilin (going) by boat to Yangshuo)

史密斯：从 桂林 去 阳朔 有 多 远？
Shǐmìsī: Cóng Guìlín qù Yángshuò yǒu duó yuǎn?
Smith: From Guilin to Yangshuo has how far?

王： 坐 船 大约 有 八十 公里。
Wáng: Zuò chuán dàyuē yǒu bāshí gōnglǐ.
Wang: Ride boat about have 80 kilometers.

我们 在 船上 可以 欣赏 漓江
Wǒmen zài chuánshàng kěyǐ xīnshǎng Líjiāng
We at boat on can enjoy Lijiang
的 风光。
de fēngguāng.
scenery.

玛利：漓江 的 水 真 清 啊！几乎
Mǎlì: Líjiāng de shuǐ zhēn qīng a! Jīhū
Marie: Lijiang's water really clear! Almost
能 看到 水底 的 石头。
néng kàndào shuǐdǐ de shítou.
can see to water bottom's stones.

勃朗：更 美 的 还 是 江 两 岸 的
Bólǎng: Gèng měi de hái shì jiāng liǎng àn de
Brown: More beautiful still is river both banks
那些 奇峰 异石。它们 都
nàxiē qífēng yìshí. Tāmen dōu
those fantastic hills (and) strange rocks. They all
有 名字 吗？
yǒu míngzi ma?
have names?

王： 有。你们 看，这 座 山 叫 象
Wáng: Yǒu. Nǐmen kàn, zhè zuò shān jiào Xiàng
Wang: Have. You look, this hill called Elephant
鼻山，因为 它 好象 一 头 大象
Bí Shān, yīnwéi tā hǎoxiàng yì tóu dàxiàng
Trunk Hill, because it looks like an elephant
把 鼻子 伸进 江 里， 小船
bǎ bízi shēnjìn jiāng lǐ, xiǎochuán
trunk stretch river in, (a) small boat
可以 从 象 鼻子 下 通过。
kěyǐ cóng xiàng bízi xià tōngguò.
can from elephant trunk under pass through.

史密斯：前面 那 座 山 好象 一 顶
Shǐmìsī: Qiánmiàn nà zuò shān hǎoxiàng yì dǐng
Smith: Ahead that hill looks like a
帽子。那 叫 什么 山 呢？
màozi. Nà jiào shénme shān ne?
hat. That called what hill?

王： 那 叫 冠岩。 再 往 前，
Wáng: Nà jiào Guānyán. Zài wàng qián,
Wang: That (is) called Crown Rock. Further ahead
就 是 著名 的 九马画山。 在
jiù shì zhùmíng de Jiǔmǎhuàshān. Zài
is famous Nine Horses Picture Hill. At
山 石 上，如果 细心 观赏，就
shān shí shàng, rúguǒ xìxīn guānshǎng, jiù
hill rock on, if (you) carefully look at, (you)
能 认 出 姿态 不 一样 的 九
néng rèn chū zītài bù yíyàng de jiǔ
can recognize out postures not same nine
匹 马 来。
pǐ mǎ lái.
horses.

萨克斯：真 是 太 美 了！
Sàkèsī: Zhēn shì tài měi le!
Sachs: (It) really is very beautiful!

王： 到了 阳朔 景色 更 美。
Wáng: Dàole Yángshuò jǐngsè gèng měi.
Wang: (When we) arrive in Yangshuo scenery (is) more beautiful.
阳朔 四周 都 是 山峰，整个
Yángshuò sìzhōu dōu shì shānfēng, zhěnggè
Yangshuo all around all are hills, whole
阳朔 就 象 一 朵 莲花。
Yángshuò jiù xiàng yì duǒ liánhuā.
Yangshuo just like a lotus flower.

史密斯：听说 中国 古代 诗人 赞美
Shǐmìsī: Tīng shuō Zhōngguó gǔdài shīrén zànměi
Smith: (I) hear China's ancient poets praise
桂林 山水 甲 天下。
Guìlín shānshuǐ jiǎ tiānxià.
Guilin landscape (as) best heaven under.

王： 但 也 有 人 特别 赞美 阳朔
Wáng: Dàn yě yǒu rén tèbié zànměi Yángshuò
Wang: But also have people especially praise Yangshuo's
的 山水，说，“阳朔 山水
de shānshuǐ, shuō, “Yángshuò shānshuǐ
landscape, say, “Yangshuo's landscape

甲 桂林。" 看， 前面 就 是
jiǎ Guìlín." Kàn, qiánmiàn jiù shì
is best in Guilin." Look, ahead is

碧莲峰。
Bìliánfēng.
Green Lotus Hill.

玛利：快 到 阳朔 了 吗？
Mǎlì: Kuài dào Yángshuò le ma?
Marie: Soon arrive Yangshuo?

王： 就 要 到 了。
Wáng: Jiù yào dào le.
Wang: Immediately (we) will arrive.

Translation

(Some members of the Canadian China tour group are going to Yangshuo from Guilin by boat)

Smith: How far is it from Guilin to Yangshuo?

Wang: About 80 kilometers by boat. On the boat we can enjoy the scenery of the Lijiang River.

Marie: The water in Lijiang River is really clear. We can almost see down to the stones on the bottom of the river.

Brown: Even more beautiful are those fantastic hills and strange-looking rocks along the banks. Do they all have names?

Wang: Yes. Look, this hill is called Elephant Trunk Hill because it looks like an elephant stretching its trunk into the river. A small boat can pass through under the trunk.

Smith: That hill ahead looks like a hat. What is it called?

Wang: It is called Crown Rock. Further ahead is the famous Picture-of-Nine-Horses-Hill. If you look carefully, you can pick out nine horses in different postures on the rocks.

Sachs: It's really beautiful!

Wang: When we arrive in Yangshuo, the scenery is even more beautiful. Yangshuo is surrounded by hills. Yangshuo is shaped like a lotus flower.

Smith: I heard that China's ancient poets praised Guilin's landscape as the best under heaven.

Wang: But some people especially praise the landscape of Yangshuo, saying, "Its landscape is the best in Guilin." Look, ahead is the Green Lotus Hill.

Marie: Are we arriving in Yangshuo soon?

Wang: Yes. We'll be there immediately.

Notes

1. **Yào . . . le** 要…了 to show immediate future. For example. **Wǒmen yào dào Yángshuò le** 我们要到阳朔了 (We will arrive in Yangshuo soon.) **Wǒmen tuōyùn de xíngli yào dào le** 我们托运的行李要到了 (Our checked baggage will arrive soon). **Yào . . . le** can be replaced by **jiù yào . . . le** 就要…了, **kuài yào . . . le** 快要…了, **jiāng yào . . . le** 将要…了, **jiù . . . le** 就…了 and **kuài . . . le** 快…了.

2. **Duo** 多 to ask about measurement.

We have already learned something like this in the use of **duōshao** 多少 (how many), as in **duōshao qián?** 多少钱? (How much money?).

Sometimes **duō** is put before an adjective to ask about measurement. For example, **Cóng Guìlín qù Yángshuò duō yuǎn?** 从桂林去阳朔多远? (How far is it from Guilin to Yangshuo?) **Nà zuò shān duō gāo?** 那座山多高? (How high is that mountain?) □

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The Imperial Garden in the Palace Museum, Beijing. *Xie Jun*