

China Reconstructs

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- *Marco Polo on Screen*
- *Success Through Self-Study*
- **Machine Industry
Readjusted**
- **Probing Lop Nur
Mystery**





The Manfeilong pagoda. Xie Jun

VOL. XXXI NO. 4

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Cover Pictures

Front: Marco Polo (Ken Marshall) with Kublai Khan (Ying Ruocheng) in the TV film <i>Marco Polo</i> .
Back: 'Plum Blossoms' (traditional Chinese painting) <i>Guan Shanyue</i>

Articles of the Month

Success Through Self-Study p. 8

For many young people, particularly those who lost the opportunity for higher education during the 'cultural revolution,' self-study has opened the doors to greater knowledge and professional advance.



Readjusting the Machine-Building Industry p. 13

Through reorganization, technical innovation and converting many plants to serve consumer-goods production, the machine-building industry is re-orienting to meet the new demands of China's economy.



The Mystery Lake: Lop Nur p. 18

How three survey teams explored the inhospitable Lop Nur region in China's northwest, solving some mysteries that have puzzled scientists for over a century.



Marco Polo on Screen p. 24

Seven centuries after Venetian Marco Polo visited the court of Kublai Khan, an international team of filmmakers is bringing the story of his adventures to TV screens around the world. The Chinese actor playing Kublai Khan writes of his experiences; the Italian director, the American in the title role and a key Japanese actor are interviewed.

Today's Xishuangbanna p. 48

The pace of development has increased in one of China's national minority areas in the subtropical southwest.



Learning From History

IN this issue we include two pages of photo-coverage of the 30th anniversary celebration of CHINA RECONSTRUCTS held in the Beijing home of its late founder and leader, Soong Ching Ling (Mme. Sun Yat-sen). Our work thus far, achievements as well as setbacks and difficulties, was briefly reviewed in the lead article of our January issue, "Three Decades Mirroring the New China." Summing up the past helps us see our way forward more clearly and confidently.

To use history as a mirror to learn from is an ancient tradition of the Chinese people. For a country like ours, which has kept historical records year by year ever since 841 B.C. — something unique among nations — this is only natural. From the remote past, historical records were called *jian* (bronze mirror) in China, and we have a proverb *jian wang zhi lai*, meaning that reflecting on the past can help one see what is to come.

To do so, and do it in a timely way, is all the more important in this fast-moving modern age, when China is confronted with entirely new circumstances and tasks. She can take no other country as a model in material and moral development, though of course she can benefit from the experience of others. She has had to find her own way, often at high cost.

IN 1911 the great revolutionary Dr. Sun Yat-sen succeeded, after many setbacks, in overthrowing the Qing dynasty, thus wiping out China's 2,000-year-old feudal monarchy. But the country still remained semi-feudal and semi-colonial. Late in life, summing up his experiences, Dr. Sun was able to lay down a correct line for the Chinese revolution of the time — one of cooperation with the Chinese Communist Party and advancing the interests of the peasants and workers. This resulted in the overthrow of the imperialist-backed warlords in 1925-27.

After Chiang Kai-shek betrayed the alliance, the Chinese Communists regrouped their forces and carried on the revolution. Again they suffered many setbacks

owing to rightist and leftist opportunist lines before a valid way forward was found. Toward the end of World War II, under the leadership of Mao Zedong, a thorough review of past struggles was made and the "Resolution on Certain Questions in the History of Our Party" was adopted, outlining the course to establish and build a new-democratic China. It proved valid. The War of Liberation, which was originally expected to last ten years or longer, was won in only three and a half years. The Chinese people stood up. The New China was born.

SINCE the founding of the People's Republic, the task has been even more fundamental and arduous — the socialist transformation of the country. The achievements have been great, the setbacks serious, including the gravest, the "cultural revolution." Again, a close look was taken at the mirror of history. Last year, after a long nationwide discussion, the "Resolution on Certain Questions in the History of Our Party Since the Founding of the PRC" was adopted (in our October 1981 issue, we presented highlights). The document, an honest and realistic reckoning of both successes and mistakes, mapped out a well-reasoned path for socialist modernization suited to the actual conditions of China.

The Resolution was followed by an important report on China's economy made by Premier Zhao Ziyang to the National People's Congress, advancing a ten-point policy for future economic construction (see our March issue for an outline). It was a conclusion from the experience of the past 32 years.

*Where the path seemed to end, barred by
hill and stream,
Another village came in view, with shady
willows and bright flowers.*

These lines from a famous 12th century poem may be said to depict the present mood of the Chinese people. Once more, a searching look at history's mirror has given a new perspective for confident advance. □



India-China Contact

Both India and China are great countries. They have glorious pasts and promising futures. But there is a big communication gap. Apart from other avenues, past cultural heritage and the present developments can be communicated through a magazine like yours. Greater opportunities and easy access should let people in both countries visit each other, and thus stronger, more abiding ties between the two countries can be cemented.

S. B. GOENKA

Calcutta, India

More on Politics

I hope you will print more about Chinese political life. Chairman Ye Jianying's "Elaborations on Policy Concerning Return of Taiwan to the Motherland and Peaceful Reunification" in the November 1981 issue was timely and helpful.

I am grateful to you for your varied layout. The topics in your magazine embrace culture, economics and politics. Articles are well written and objective.

WOLFGANG KÖHLER

Gartenstr, West Germany

Children and Religion

China Reconstructs never bores me. Color pictures help answer readers' questions. The articles are readable. I have a special interest in the Children's Column. China with a large population has set much store by the coming generation, so please devote more pages to reporting this subject.

Readers also want to know more about religious belief in China.

UPIRA SUNGUMA KAGIMBI

Kisangani, Zaire

Source of Knowledge

Warm congratulations on the 30th anniversary of *China Reconstructs*. Your magazine is the best source of knowledge for those who are eager to know of the socialist China. As I am unemployed, I am sorry to be unable to visit your country. But I believe sooner or later I will go to Beijing. I like the articles about a German literature and music concert in Beijing. The Chinese people have cherished the German cultural heritage. Our people should do more to develop and deepen the relationship with China.

GERD WEDEMEYER

Wiesbaden, West Germany

Achievements and Errors

Wen Tianshen's article on the Gezhouba project was excellent. I will watch the performance of this dam over the next few years with interest.

Also interesting was the article by Peng Xianchu on production brigades. I think it is a very good idea to work to a quota and sell what is left. How does the responsibility system work in a bad season? Is the production quota reduced by the state?

Also liked "Summing Up: Mao Zedong, Cultural Revolution, and 32 Years of New China". At least the Chinese Communist Party admits mistakes and learns from them. The "cultural revolution" was irrational but the Chinese Communist Party's succession to power was not.

ALEXANDER FLEMING

Barnet, England

Mount Emei

Our thanks to Guo Zhulong for his beautiful "Marvellous Sights on Mount Emei" in the August 1981 issue. My whole family enjoyed his descriptions of the views, plants, animals and natural optical phenomena. All the pictures are very good. This kind of topic is wanted more often.

JOUKO IMMONEN

Kerava, Finland

Better Insight

I like the diversity of your subject matter. Although I have only received two issues since subscribing, I have considerably deeper knowledge of China than before. "Diversifying the Rural Economy" (Dec. 1981) was excellent and I enjoy reading about trends and progress in the economy. "A People's Cultural Center in Dalian" (Dec. 1981) contributed to my understanding of the function of cultural life in a socialist society.

JOHN R. TODD

Charlottesville, Va. U.S.A.

Eager to Understand

In 1979 I began to read your magazine through a woman who once lived in China. I have long been eager to understand your country. Here people know very little about it. Your publication is very valuable to me, and I look forward to its arrival each month.

JEAN-PIERRE LORA

La Chaux-De-Fonds, Switzerland

China Has Awakened

It has been a short time since Western countries began to pay attention to China. Westerners find that life in China is quite different from

their countries. China has never improved so quickly in technology as she is doing today.

I hope your magazine will tell readers that China has awakened and that she can not only follow and catch up with the advanced but can make inventions.

ANNE-MARIE DEROZIER

Montfavet, France

More Depth Needed

I am impressed with the beauty of the magazine, especially the pictures and the diverse aspects of China presented.

However, your articles could be a bit more profound in treating the real complexities of your revolution and the implementation of Marxist-Leninist thought. It helps us in the West to see realistically how you are wrestling with complex and important questions.

TENNANT C. WRIGHT

Santa Clara, Ca., U.S.A.

Student Readers in Ghana

I am a head of a school where most students are readers of your wonderful magazine, so I took the opportunity to read through one and it impressed me so much that I thought to write and congratulate you on your success.

I hope you will continue in the same way.

BENSON AMANAMAH

Enchi, Ghana

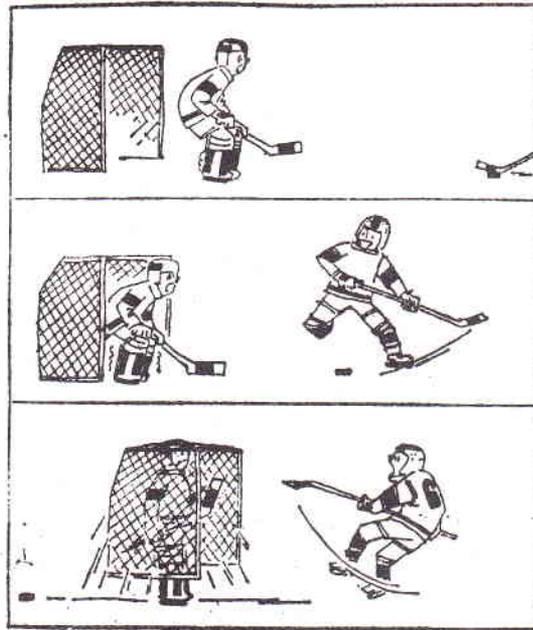
Updating Some Figures

To the Editorial Board of *China Reconstructs*:

The article "Population Planning in China" in the February issue of your magazine was adapted from a paper I presented at the Asian Conference of Parliamentarians on Population and Development held in Beijing in October 1981. In line with relevant statistics for 1980 published last year by the State Statistical Bureau, the following changes should be made in figures given in the article:

1. The number of newly employed persons in cities and towns between 1977 and 1980 was 29,000,000.
2. The increase in population between 1953 and 1978 was 63 percent.
3. In 1980, 93 percent of school-age children were in school; 75.5 percent of primary school graduates entered junior middle school; and 43.1 percent of junior middle school graduates entered senior middle school.
4. The rate of natural population increase in 1970 was 25.95 per thousand.

LIU ZHENG



A sneaky maneuver.
Xu Pengfei

Sports Surge In 1981

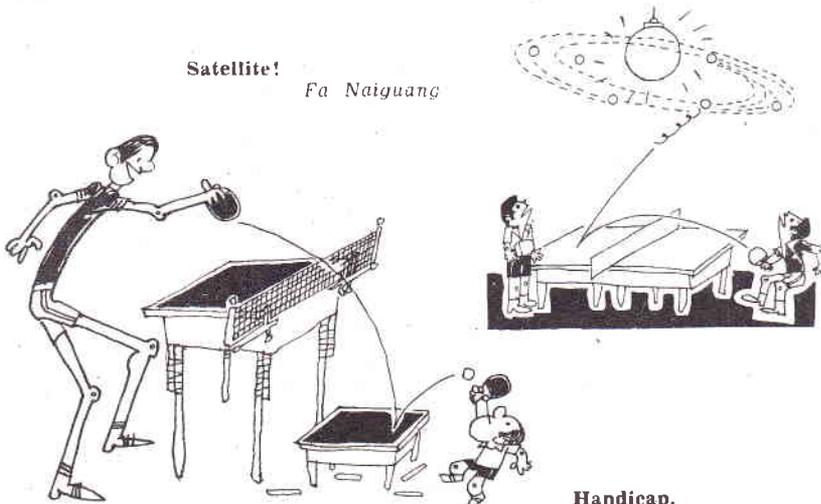
FOR China 1981 was a good sports year. The country won 25 world titles, broke eight and equalled three world records, and took 295 gold medals in world competitions — more than in any other year in Chinese sports history.

Compared with others strong in sports, China still has a long way to go. But for a country long behind in sports, it was a big leap forward.

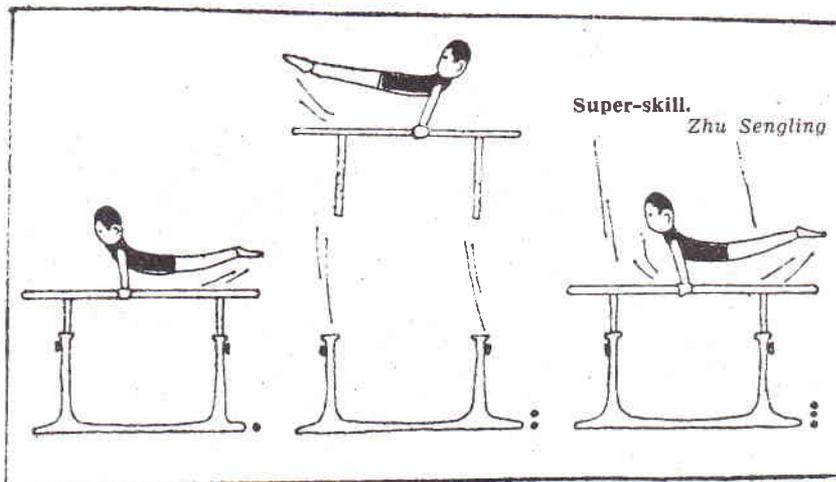
In 1981, China participated in more world sports competitions than any previous year. She kept her lead in table tennis and badminton, and entered the front ranks in such events as women's volleyball, gymnastics, diving, acrobatics, shooting, weightlifting, archery, miniature boat racing and chess.

This sports advance did much to inspire the Chinese people to work hard to develop China vigorously. In turn, popular interest in sports and patriotism will stimulate more development in sports and encourage athletes toward better results.

Satellite!
Fa Naiguang



Handicap.
Fa Naiguang



The 25 World Titles China Won Last Year

Game	Title Holder	Event	Date	Place
3rd World Sparetime Weiqi Championships	Shao Zhenzhong	Weiqi Chess (Go)	March 10-14	Tokyo
36th World Table Tennis Championships	National team	Men's team event	April 13-26	Novi Sad, Yugoslavia
36th World Table Tennis Championships	National team	Women's team event	April 13-26	"
36th World Table Tennis Championships	Guo Yuehua	Men's singles event	April 13-26	"
36th World Table Tennis Championships	Tong Ling	Women's singles event	April 13-26	"
36th World Table Tennis Championships	Li Zhenshi,	Men's doubles event	April 13-26	"
36th World Table Tennis Championships	Cai Zhenhua	Women's doubles event	April 13-26	"
36th World Table Tennis Championships	Zhang Deying,	Mixed doubles event	April 13-26	"
36th World Table Tennis Championships	Cao Yanhua	Women's Springboard event	June 12-14	Mexico City
2nd World Cup Diving Tournament	Shi Meiqin	Men's platform event	June 12-14	"
2nd World Cup Diving Tournament	Li Hongping	Women's platform event	June 12-14	"
2nd World Cup Diving Tournament	Chen Xiaoxia	Men's singles event	July 28	Santa Clara, Ca., U.S.A.
First World Games Badminton	Chen Changjie	Men's doubles	July 28	"
First World Games Badminton	Sun Zhi'an,	Women's singles	July 28	"
First World Games Badminton	Yao Ximing	Women's doubles	July 28	"
First World Games Badminton	Zhang Ailing	Miniature Boat Racing (F2B-class Navigation Models)	August 19-23	Magdeburg, G.D.R.
First World Games Badminton	Zhang Ailing	Women's trios in the all-round acrobatic competition	September 4-6	Widnau, Switzerland
2nd World Navigation Model Championships	Liu Xia	Men's quartets in the all-round acrobatic competition	September 4-6	"
3rd Acrobatic World Cup Championships	Wei Yuming	The 2nd set of women's doubles in individual contest	September 4-6	"
3rd Acrobatic World Cup Championships	Feng Yanfang,	The 1st set of men's quartets in individual contest	September 4-6	"
3rd Acrobatic World Cup Championships	Cai Yu,	Women's skeet team event	October 26	Tucuman, Argentina
3rd Acrobatic World Cup Championships	Liu Yingmei	Individual skeet and trap event	October 27	"
3rd Acrobatic World Cup Championships	Lin Yuanxiang,	Women's Volleyball	November 7-16	Osaka
3rd Acrobatic World Cup Championships	He Jidong,	Pommel horse	November 23-29	Moscow
3rd Acrobatic World Cup Championships	Chen Tie,	Men's floor exercise	November 23-29	"
3rd Acrobatic World Cup Championships	Liang Jiankun			
42nd World Shooting Championships	Wu Lanying,			
42nd World Shooting Championships	Feng Meimei,			
42nd World Shooting Championships	Shao Weiping			
42nd World Shooting Championships	Wu Lanying			
3rd World Cup Volleyball Championships	National team			
21st World Gymnastics Championships	Li Xiaoping			
21st World Gymnastics Championships	Li Yuejiu			



Sun Jinfang, captain of the Chinese women's volleyball team, world champions.



Lang Ping, ace spiker of the Chinese women's volleyball team.

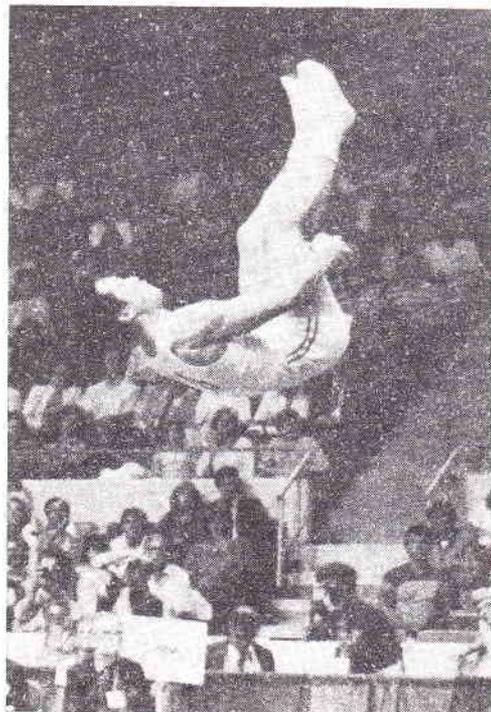
Year's Top Ten Athletes Picked

China had its richest harvest ever in world sports competition last year. Ten top athletes of 1981 were selected in a nationwide poll sponsored by 18 news units in Beijing.

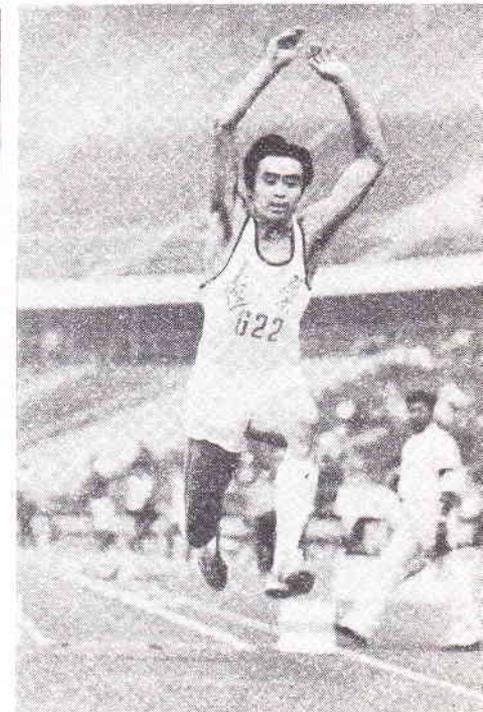
Rong Zhihang, who set the pace for the Chinese football team.



Li Yuejiu, men's free exercise champion at the 21st World Gymnastics Games.

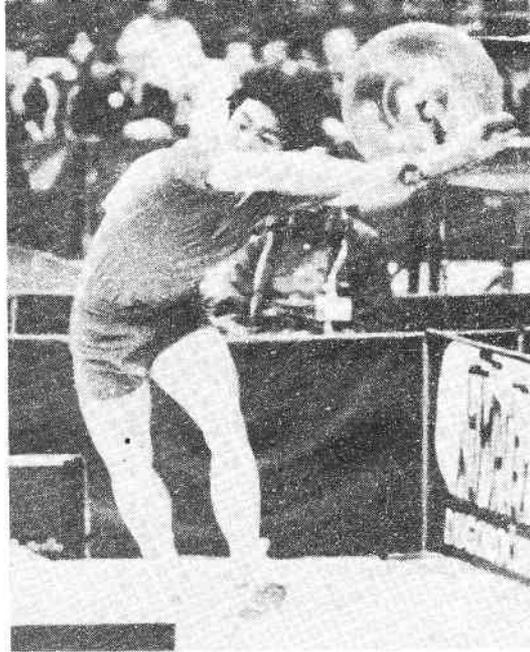


Zou Zhenxian, who captured the triple jump championship in the 11th World Universiade.





Chen Xiaoxia, who won the women's platform diving event at the Second World Cup Diving Championships in Mexico.



Guo Yuehua, who took the men's singles at the 36th World Table Tennis Games.

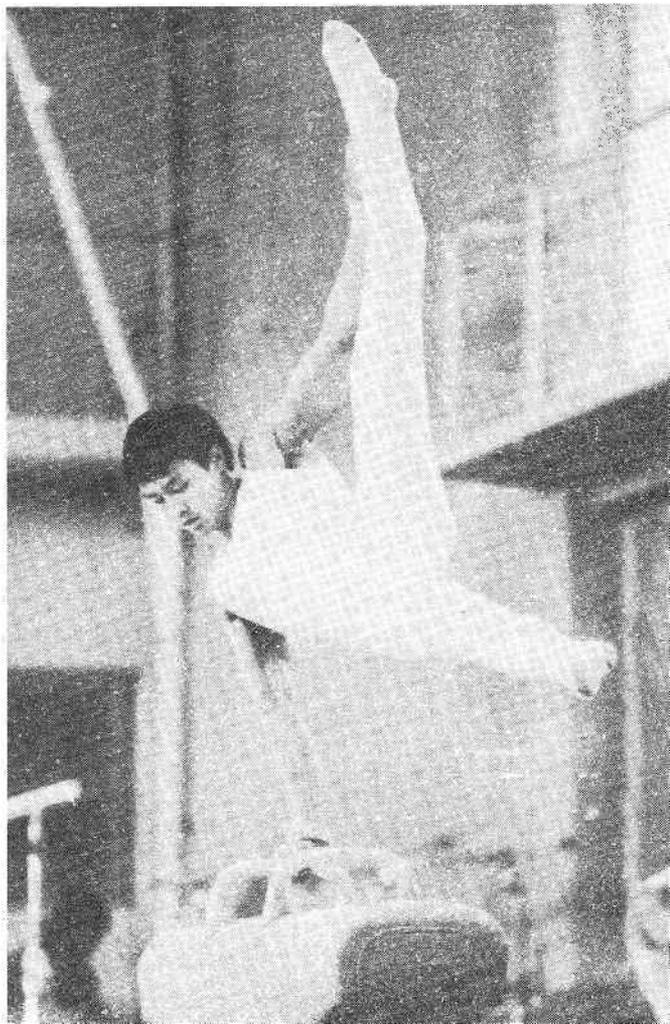
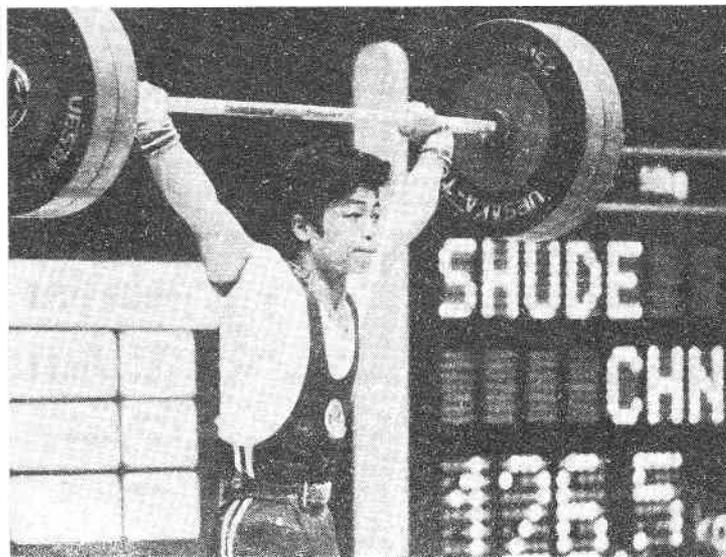


◀ Tong Ling, women's singles champion at the 36th World Table Tennis Matches.

Li Xiaoping, men's pommel horse champion at the 21st World Gymnastics Games.

▼ *Photos by Xinhua*

Wu Shude, who set the world record for the snatch in the 56 kilogram category at the Asian Weightlifting Competitions.



Achievements Through Self-Study

YOU YUWEN

A national conference of self-taught young people was held in Beijing for the first time last December. Because of the shortage of college and university facilities, self-education has become important for training more personnel needed by the country's drive to modernize.

One hundred and six young men and women discussed their experience in self-study at the conference, winning favorable comments from many famous educators. Having received very little training in school, they study hard while working at their present jobs, making great progress and setting a good example for all Chinese youth. Their achievements reflect the kind of spirit and enthusiasm needed by the young people of today's China.

The Need

For her economic buildup, China needs a great force of people armed with scientific and technological knowledge. Of all workers in the country, however, 160,000,000 are between the ages of 23 and 33. These were mainly junior middle-school students when the ten-year "cultural revolution" began in 1966 and subsequently lost the opportunity of further education.

Normally trained forces are also insufficient. After 1966 no regular university student was trained for 13 years, leaving a large gap. Although education was restored in 1976 when the gang of four was overthrown, there are not enough universities and professional schools to satisfy the needs of economic construction or satisfy the desire of young people to learn.

While the number of full-time students enrolled in university has increased by 12 percent annually, only 1.4 percent of the young

YOU YUWEN is a staff reporter for **China Reconstructs**.



Youth technology research group at Shanghai's No. 1 Silk Textile Machinery Plant plays an important role in technical innovation.

people around 18 can have the opportunity to attend. This is very far from enough, even though supplemented now by TV and radio universities, spare-time and correspondence universities. In 1980, for example, 50 percent of all junior middle-school graduates were not admitted to senior middle school and 95.5 percent of senior middle-school graduates failed to enter university. To encourage them to study by themselves not only supplements education but also is an important measure in training enough people to suit China's situation.

Creating More Opportunities

After the downfall of the gang of four, the government once again moved toward socialist modernization. The idea that study was useless, current among students during the "cultural revolution," still has to be eliminated, while at the same time young people need to be encouraged to

acquire scientific knowledge by any means. Books on many subjects have been published for their use and spare-time universities, technical schools and training classes have been set up in factories. Universities have restored entrance exams. In factories, workers' promotions are based on their professional knowledge and working ability, and this has stimulated their enthusiasm for study.

To meet the desire to learn, educational departments give more attention to spare-time education. Question-and-answer services, guidance centers for self-study and associations of self-taught youth have been established to help young people solve their study problems. Radio and TV stations broadcast many lectures on various subjects. Newspapers, magazines and popular science publications maintain columns such as "The Friend of Self-Taught Youth," "To Help You

Study" and "Guidance for Self-Study" to provide information requested, introduce study methods, publicize problems and commend those who have achieved success through self-study.

Scientists and professors volunteer to give classes to these young people and help them solve their problems. Many school teachers hold classes for them after their regular teaching day. In Shanghai a question-and-answer service invited 18 professors, scientists and researchers to serve as an advisory group. In their spare time they read letters from young people and answer their questions, also recommending good books for them to read. The Shanghai Science and Technology Bureau has employed some successful self-taught youth.

In January 1981 the State Council approved on a trial basis a system of exams for self-taught youth drafted by the Ministry of Higher Education. Exams on eight subjects such as mathematics, political economy, philosophy, and Chinese and foreign languages were held last December in Beijing. Those who passed were given certificates equivalent to graduation from universities or professional training colleges. Of the ten thousand who took the examinations, 205 passed three subjects and 46 passed four. Their

achievements have been recognized formally.

Last year the Beijing municipal government issued provisional regulations for establishing private schools. This was followed by the appearance of 31 such schools. Some of them teach junior and senior middle-school courses, some help those who are preparing for university exams and some teach such skills as tailoring, machine embroidery, accounting, calligraphy and painting.

Scientific associations in many provinces have admitted successful self-taught young people as members. The Shanghai Scientists' Association, for instance, has admitted 47 into its various branches in the past two years. This encourages self-taught students.

High Tide

The goal of making China prosperous and modern aroused the enthusiasm of China's young people for socialist construction. Realizing that this is impossible without general knowledge and well-trained scientists, many young people have turned to self-study, becoming enthusiastic participants in spare-time, television, correspondence and other courses.

In 1981 the number attending spare-time universities was 1.3



Lei Anjun, through self-study, has become an expert on tomato-breeding.



Yue Cui, a village girl from Hubei province, passed an agrobiological exam through self-study.

The demand for some books is so great that people form early morning queues at bookstores when new titles arrive.



million. Those attending study classes at the Youth Palace in Shanghai in 1980 alone totalled 1.2 million. Since the introduction of the system of individual responsibility in rural production, many young people have put their energy into scientific farming. Fuyang prefecture in Anhui province, for example, once had only 10,000 people taking part in scientific agricultural research. Today there are 70,000. In Linli county, Hunan province, 109 young peasants went to study in technical schools at their own expense. A correspondence agro-technical school run by the youth organization in Guangdong province has won the hearts of young people in the countryside. Over 300,000 copies of teaching

materials on agrotechnology compiled by the Central Broadcast Agricultural School were promptly sold out.

Talent

Many talented persons constantly enter all fields of work, both in the cities and in the countryside, 54 percent of them self-taught. These include new employees and school graduates waiting for jobs.

Chen Xide, for example, now a young worker in Shanghai, was

only a junior middle school graduate. After seven years of earnest study on solar energy he built a high-temperature furnace using solar energy in 1979. It consists of 1,096 panes of glass in a diameter of 3.85 meters. Temperature at the focus point reaches 1,300°C. His achievement was highly praised by energy experts. Today he is developing a solar energy drying room.

Lei Anjun, 26, is another example. From the Dongru brigade outside Taiyuan, capital of Shanxi province, after he grad-

uated from senior middle school he began to study agronomy, meteorology and horticulture. Meanwhile he worked to master scientific tomato-breeding. Together with several other young people he succeeded in breeding two improved strains of tomato called *Tedan* No. 17 and *Wadan* No. 22. These strains suit local conditions and are pest, disease and pesticide-resistant. They yield large, sweet fruit with a thin skin and fleshy insides. In 1980 the brigade's per-hectare yield of tomatoes reached 290 tons, the highest in the nation.

Yan Jun, 28, who works in the Beijing Radio Components No. 3 Factory, is another example. Through an examination he was promoted from an ordinary worker to engineer. Only a junior middle-school graduate, he taught himself higher mathematics, physics, machine-building and electronics. This he applied to the improvement of his factory's equipment. He has successfully developed 18 pieces of equipment of 12 different kinds. A number of his innovations have come near national and international standards.

Middle school graduates who failed university entrance examinations, and even primary school graduates and disabled persons, have raised their levels through self-study and succeeded in new jobs. Some have mastered one or several foreign languages and translated literary works and historical books. Some have become writers, engineers, agronomists, Chinese medicine doctors, university teachers, or technicians in innovation and scientific farming.

China's poor economic base and large population give problems to young people studying on their own. Many still cannot study successfully by themselves. But their unyielding spirit inspires more and more young people to follow suit in order to make the country more prosperous and turn themselves into persons useful to their country. They deserve great support and great encouragement. □



Shanghai Educational Institute issues university-level graduation certificates to self-taught young people who have passed the appropriate exams.



Retired teacher Jin Zhaoqi conducts a class in the use of the abacus at a spare-time school. Photos by Xinhua



Liu Hong and her father, Liu Yinghan.

Zhang Jingde

Confident Girl

LI JINGTAI

I am going to study American literature from the point of view of traditional Chinese morality in order to bring Chinese views on American literature into international academic circles," said 21-year-old Liu Hong before she left to study in the United States. Her words were full of confidence, not arrogance as some might think who did not know her background and her devotion to the study she has chosen.

Liu Hong had never gone to university. Yet by persistent self-study, at 19 she won a position as assistant researcher in the Tianjin Literature Institute of the Chinese Academy of Social Sciences. In 1981, having read her translation of

Chinese Myths, the English Department of Oklahoma State University in the United States admitted her as an advanced student and invited her to teach composition to its freshman students.

From Deviltry to Hard Work

Liu Hong is from an intellectual family. Her father was a translator of Russian at the Commercial Press. Her mother taught Russian and English at Tianjin Normal College. Her grandparents were scholars. Most children cry for candy in the store, but Liu Hong's parents usually went to bookstores and her prizes were more often paper or pencils.

When she was six, the "cultural revolution" broke out. Liu Hong's kindergarten closed and the chil-

dren were sent home. With her small friends, she played outside all day long and often forgot about lunch. When her mother came home from work in the evening, Liu Hong was dirty from head to toe and sometimes with cuts on her face or hands. Worrying about his daughter in those turbulent years, her father confined her to the house to study, a situation she disliked very much. Once when she found her father had fallen asleep, she locked him in the room from the outside and sneaked out. For this sort of mischief she was scolded many times.

Her father decided to teach her English—his second foreign language. In the cultural revolution years, studying and books were regarded as useless, so that it was very difficult to find a good book for a child to learn from. Her father began with a textbook published in the 1950s. In two-hour-a-day lessons, he soon discovered his daughter's ability to learn a language rapidly. On Liu Hong's ninth birthday, one of her relatives gave her some simplified English stories with explanations of new words and difficult sentences. With great effort and heightened interest, she finished *The Silver Skates* by Mary Mapes Dodge, an American writer. This success made her so happy that she felt she had found a real paradise in books.

In the following five years, she read as many English books as she could. When her father's English no longer could satisfy her desire to learn, she continued studying by reading and listening to English tapes. She read most texts many times, copying them from beginning to end in order to understand them better and remember new words and expressions. The tapes helped her correct her pronunciation. She never let her English study interfere with her primary and middle school classes.

In 1976, when the ten-year "cultural revolution" came to an end, a great number of books banned in those years were published and re-

LI JINGTAI is a staff reporter for the *Journal of Talents*.

printed. Liu Hong devoured Daniel Defoe's *Robinson Crusoe*, Thomas Hardy's *Tess of the d'Urbervilles* and Shakespeare's works. Charlotte Bronte's *Jane Eyre* became a favorite. She copied good descriptions of various human characters and of nature. She could quote whole paragraphs from Charles Dickens' *David Copperfield*, and *Pride and Prejudice* by Jane Austen and others. Carefully studying the authors' methods of writing, she tried to apply them to her own.

Once, back home from seeing her parents off at the railway station, she found that rain through an open window had soaked some books on the desk and in the bookshelves. Knowing how precious they were to her parents, Liu Hong wrote them a letter in English explaining how it had happened and asking them to forgive her for forgetting to close the window. It was the first time she had written something important in English. Instead of blaming her, her parents were happy with her progress in the language and encouraged her to go on with her study.

She spent most of her day reading, reciting and copying. At night, lying in bed, she would first review what she had learned that day, and then pick something to think about in English, calling this "rumination." Sometimes she became so absorbed in English that she couldn't always form a correct Chinese sentence at once when she wanted to speak. Happiness had come to her through hard reading.

Failures

In 1977, university entrance examinations, abolished for a decade, were restored. Liu Hong, now a first-year senior middle-school student, took the exam. After completing all the exam papers, she translated them into English, also adding an autobiography in English. Unexpectedly, her outstanding performance caused the examiner to think she was arrogant. On the ground that she

had not observed the examination regulations, he cut her points below admission standards.

Liu Hong was so frustrated that she fell ill, lying in bed for a month. Comfort and persuasion could not cheer her up. Then one day her father brought her a report by Xu Chi, a famous Chinese writer. She was deeply moved by this story of a young Chinese mathematician, Chen Jingrun, who overcame all sorts of difficulties to become highly successful in his research. She realized that conventional ideas and prejudices were also barriers to her success, and decided to get over them and go on with her study. Though still sick in bed, she translated this 20,000-word report into English in eight days, and sent it to Xu Chi. The writer was touched by the girl's well-done translation and encouraged her to work on.

Unyielding

From 1978 to 1980 Liu Hong took three entrance exams for graduate studies, but each time she was turned down either on the grounds that she was too young or that she had no university experience. Sad at being treated like this, she cried many times when she was alone, although she always told her father that she was too busy to have time to be unhappy.

When the famous Chinese poet Ai Qing read her translation of Xu Chi's report, he wrote to congratulate and encourage the girl. An older scholar told her, "China needs young people who study hard." She put her misfortune aside and worked harder. By autumn of 1979 she had read almost all the works of Charles Dickens, and books about historical figures, geography and history and about a hundred other English classics.

In 1980, Liu Hong took second place in a nationwide examination in English and thus won a position as assistant researcher in foreign literature. Her studies at Oklahoma State University will help to perfect her ability to be useful in China's modernization. □



Yang Fulin works on a high-precision turbine hobbing cutter jointly developed by himself and fellow technicians of the Shanghai Implement Factory.

Xinhua

WHEN the new China was founded in 1949, the country could make almost none of the industrial machinery and equipment needed to develop a modern economy. Since that time, China's technology and productive forces have grown rapidly. Today, some 80 percent of all the equipment used in different sectors of the national economy bears the made-in-China label. "High-tech" successes include complete equipment for oil refineries each processing 2.5 million tons annually, steel mills and automotive plants (1.5 million tons of iron and steel annually and 100,000 trucks), thermal and hydro-power facilities, and a huge variety of advanced precision machinery of all kinds.

In the last few years, however, China has been readjusting her economy. One of the industrial situations to be readjusted is that, for a long period, too much emphasis was placed on heavy industry, including much of the machine-building industry, and too little on light industrial production of consumer goods. And both light and heavy industries had to be restructured and made more efficient.

Machine-building enterprises were faced with the problem of how to sustain and even increase growth at a time when state-set

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Readjusting the Machine-Building Industry

WU SHUREN and LI CHUANG

production quotas for their particular products were being significantly reduced. Beijing's No. 7 Valve Factory, for instance, has now converted itself into a clothing and beverage factory. Though the transition is still in its early stages, overall statistics for the past two years reflect a promising degree of success. While 1980 state production quotas for the industry as a whole were only 54 percent of the 1979 figure, its profits and productivity that year were close to the 1979 level — itself the highest in history. Quality improved, and variety of products — from new-type refrigerators to new-type industrial turbines — was greater than ever before.

With further increases in the production of consumer goods — and of the machinery to make those goods — and higher levels of efficiency, leaders of the machine-building industry confidently project rapid and sustained growth in the years to come.

Restructuring Production

A major problem in the industry was there were too many overlapping authorities in charge of it, each with a large and complex administrative structure. In addition to the 12 national specialized machine-building departments, some 30 others also had some machine-building components. Provinces, counties, and even communes and production brigades operated machine shops under separate administrations. Thus production was not sufficiently concentrated, efforts were often duplicated, and technology was often rather backward.

Prior to 1978, for instance, more than 100 automotive plants had been set up in 26 provinces, municipalities and autonomous regions — usually operating quite independently of one another.

Between 1966 and 1976 more than 1,000 valve factories were started just in Wenzhou prefecture, Zhejiang province, the largest having over 1,000 workers and the smallest only three to five. They operated under different authorities, and did their own research, design and manufacturing, which was a great waste and duplication of effort. Such lack of coordination resulted in an oversupply of many products and the failure of some key machinery to meet technical standards.

For a long time China's machine-building capacity mainly served heavy industry; emphasis was laid on new capital construction rather than technical upgrading of existing enterprises. To

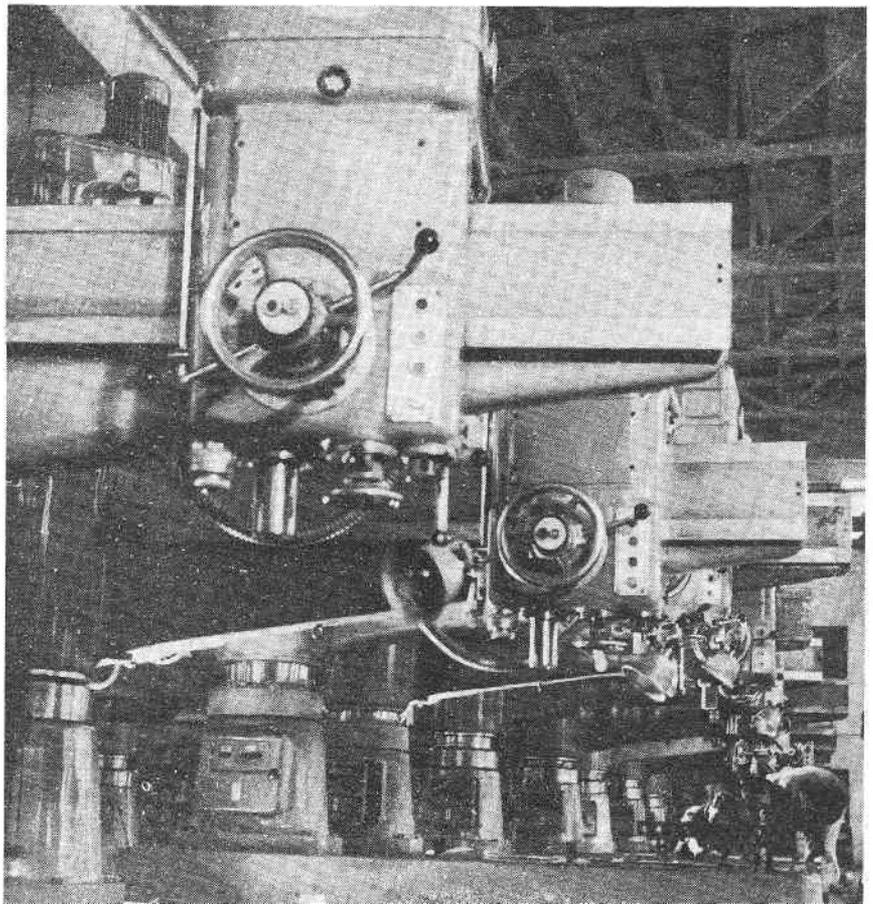
meet the growing needs of agriculture and light industry and to maintain its own growth, the machine-building industry now needs to readjust its range of products and upgrade quality. This requires a general reorientation of direction as well as reforms in technology and management.

Restructuring the Industry

Over the past two years the First Machine-Building Ministry has made considerable progress in coordinating and restructuring scattered enterprises. Units which were not economically viable were merged with other plants, temporarily shut down, or switched in a planned way to other lines of production. So

Automatic radial drilling machines designed and made at the Shashi Machine Tool Plant in central China are now an export item.

Xinhua



were enterprises which caused serious environmental pollution.

Thus, in the automobile industry in the first half of 1981, more than 100 plants were merged into 73, all of them under the supervision of the National Auto Industry Corporation. Three integrated automotive complexes were set up, centered around the No. 1 and No. 2 Automotive Companies in Changchun and in Hubei province and the Nanjing Automotive Plant. In other industries, the General Machinery and Design Company was founded and the China Electric/Coal Joint Company and the Wire and Cable Joint Company are being formed. Some 421 such comprehensive companies and factories now operate under the overall control of the ministry.

The No. 1 Machine Tool Plant in Shashi, Hubei province, used to turn out 300 radial drilling machines annually — far from enough to meet customers' demands. Two other local machine-tool plants, however, were operating under capacity. In 1981 the three plants, plus a foundry, were merged to form the Shashi Machine Tool Corporation. By unifying the management, equipment and work force and arranging for plants to specialize in making different parts, the company was able to produce 1,000 drilling

machines by the end of the year — more than three times as many as before.

Through similar readjustment, a number of enterprises have reduced their consumption of energy and raw materials and markedly improved the quality of their products. In 1980, while the utilization rate of rolled steel increased by 3.3 percent over 1979, it took 7.3 kilograms less coke to produce each ton, and in 1981 further savings were achieved.

Producing New Products

Recently, high-quality canned mushrooms produced by the Jinhua Foodstuffs Factory, Zhejiang province, began to be exported on a large scale. One of the factory leaders says, "We could not have achieved what we have without the readjustment in service orientation of the machine-building industry."

Zhejiang province's output of canned food ranks first in China, but because of a lack of food-processing equipment in the past, quality was not stable. The Zhejiang vacuum products factory had the productive capacity to make the needed machines, but was not allowed to do so by its parent authority, the Machine-Building Ministry. With industrial readjustment, there was a drop in

the demand for industrial vacuum pumps, which it had previously made, and in 1980 the factory shifted to the manufacture of automatic vacuum-seal canning equipment. This equipment has proved to work every bit as well as that previously imported, and has given a big boost to the province's foodstuffs industry.

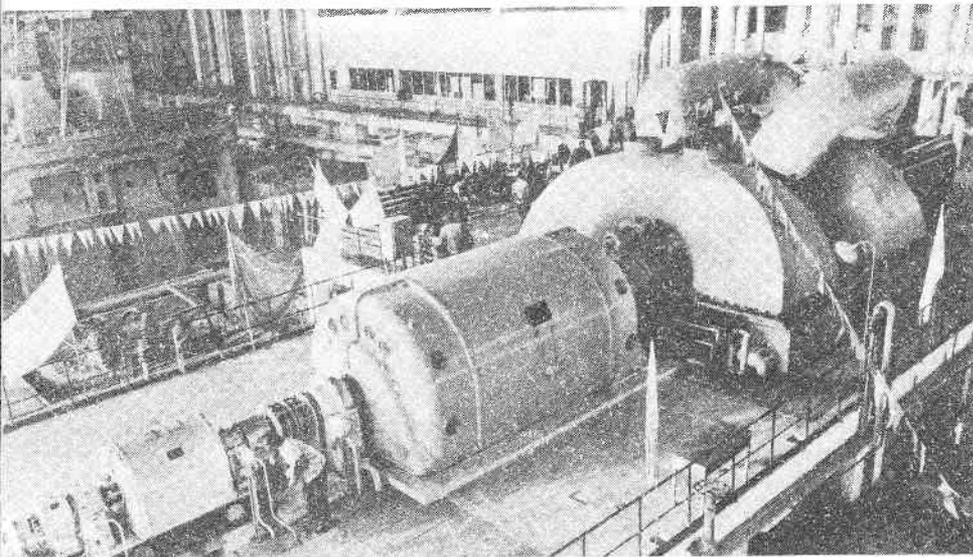
In Tianjin, the First Bureau of Machine-Building found that heavy industrial equipment used in mining and metallurgy was being overproduced and stored in large quantities in warehouses. At the same time, the city's light and textile industries, which were starved for equipment, had to import some key items from abroad because the few factories supplying them had neither the capacity nor the technological level to meet their needs. Over the past two years a number of Tianjin factories have been converted to supply textile and other light industrial machinery. The proportion of the city's total industrial output value accounted for by such machinery grew from 1.9 percent in 1979 to 3.3 percent in 1980 and 8.4 percent in 1981, and will continue to grow until an appropriate balance between light and heavy industry has been reached.

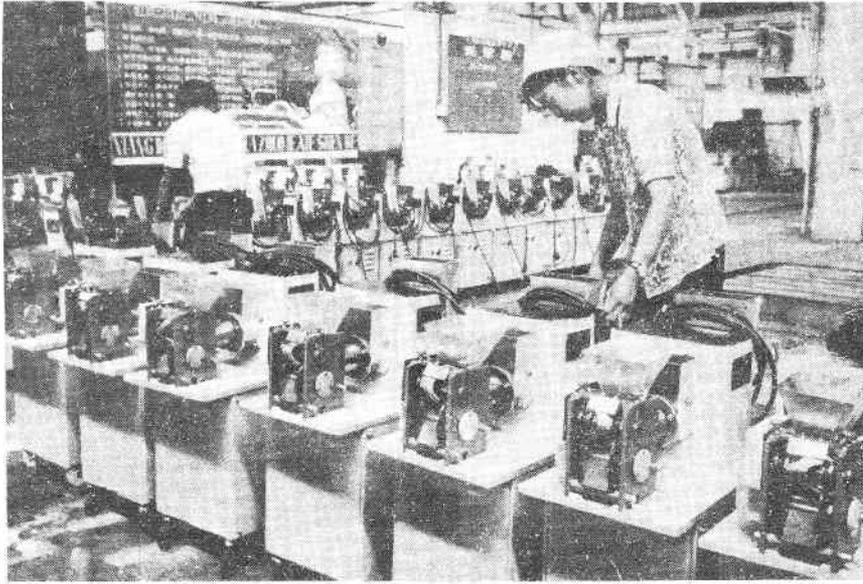
Responding to the Market

A major innovation in the readjustment process is that market forces are allowed a supplementary role within the planned economy. Formerly, factories simply fulfilled production quotas assigned by the state and paid no attention to market needs. Now they have some authority to negotiate directly with customers, which pushes them to improve their products or produce new ones according to market demands.

This has spurred research and innovation, particularly in the heavy machinery and energy sectors. In 1980 machine-building enterprises designed 945 new products — a ten-year record — and in the first eight months of 1981 the number reached 1,400. They included everything from re-

New technology: thermal power plant, one of the largest of its kind with an installed capacity of 400,000 kilowatts, in Liancheng, Gansu province. Xinhua





Panda brand machines, produced by the Beijing No. 1 Machine Tool Plant, make "jiaozi" (dumplings) for cafeterias. *Xinhua*

frigerators to turbines and generators. One notable example, in view of the current drive to save energy resources, is a device to recover part of the energy used in refining crude oil.

The new policy of giving market forces a role under state planning has encountered a number of difficulties. Some units, used to having the state assign them production quotas and buy all their products, resist having to go out and negotiate on their own. Some people doubt whether it is proper to use market forces at all under a socialist system. Some departments in authority disapprove of the marketing of machinery in this way, and so restrict supplies of raw and semifinished materials to factories which take such initiatives, creating serious problems for those factories.

Expanding Exports

Previously the export of Chinese machinery and equipment was not given enough attention, and part of the readjustment aims at remedying this situation. More than 700 machine-building enterprises now specialize in serving the export market, and today over 100 types of electrical machinery are sold in 120 countries and regions. In 1980 the

total value of China's machine exports grew by 57 percent over 1979, and the 1981 figure surpassed the previous year by 33 percent. Exports to North and South America have grown remarkably. The total value of exports of machinery to the United States, U.S. \$800,000 in 1979, grew to \$4 million and \$50 million in 1980 and 1981.

Among all China's provinces, Guangdong has led the way in increasing exports. Of the province's machine-building plants, the number turning out export items has risen from 30 to 122, accounting for 40 percent of the total. Between January and August 1981 the output value of its machine exports increased 8 percent over the same period in 1980.

Fujian province's Mindong Electrical Machinery Plant began to export in 1975 to the value of 120,000 yuan. By 1980 it was supplying nine different kinds of machinery to 20 countries and regions of Asia, Africa and Latin America, and value had grown to 14 million yuan. In 1981 exports accounted for 70 percent of the plant's total output value.

Workers Under Readjustment

In the course of industrial readjustment, some 20 machine-

building factories have been shut down and 98 merged with other enterprises. Obviously this has had a great effect on the lives of the workers. But considerable assistance from the state and the initiative of the workers themselves have eased the transition period.

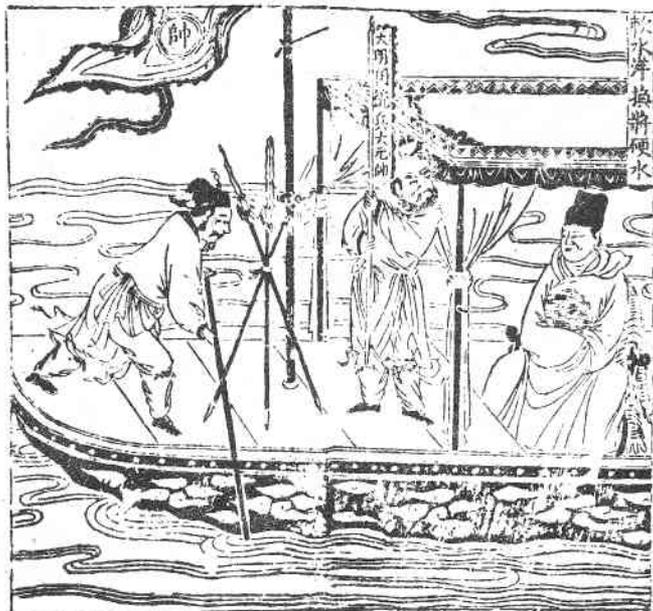
The Beijing Machine Repair Plant, with 870 workers, was ordered to close in October 1979 because there was little demand for its services and pollution was serious. Led by plant manager Chang Dianqi, the workers researched market needs and decided, with the equipment they had on hand, to start making turbine reducing gears, sports equipment and large children's toys. The change was approved, and in 1980 the plant's total output value exceeded its planned production figure by 6.3 percent, and workers earned an average of 150 yuan more per person in bonuses, a figure three times the average monthly wage.

The history of the Beijing No. 7 Valve Factory mentioned at the beginning of the article is along the same lines. The factory was ordered closed because its products were in considerable oversupply. The state arranged for the plant's 370 workers to be transferred to other units, as is the general policy. But 170 of the workers did not want to work at factories further from home. They wanted to stick with the old plant and explore new production possibilities. The state not only supported the decision, but also agreed to pay regular wages and bonuses during the transition period.

Today the former valve factory turns out clothing and beverages, and is back on its feet again. Some workers' incomes are higher than before the change. Zhang Zuoying, a veteran worker, was a bit sad to see the old operation shut down. But she is also optimistic about the future: "Our country is so vast, our population so huge that we have a very wide market. With regard to production possibilities, the sky's the limit!" □

China's Great Navigator Zheng He

QING XIANYOU



IN 1405, about 90 years before Christopher Columbus (c. 1451-1506) discovered the American continents, Chinese navigator Zheng He of the Ming dynasty set out with a Chinese fleet on the first of seven great voyages of exploration. In the next 28 years, his travels would take him to 31 countries in southeast Asia, west Asia and east Africa and open a new era in trade and cultural relations. Even today the people of the countries he visited, especially Chinese residing there, recall his exploits.

Zheng He Park

Zheng He was born in Kunyang, Yunnan province, south of Lake Dianchi. In memory of this great navigator, people of this small town three years ago refurbished Yueshan Hill, which had been neglected for many years, and built Zheng He Park. Located on the Yueshan Hill on the south bank of Lake Dianchi, it contains Zheng He's memorial pavilion and hall and his father's tomb.

A flight of stairs starting from Kunyang Primary School at the foot of the hill, leads up to the park gate. On both sides of the gate are carved ancient ships in full sail.

Covering 17 hectares, the park is blanketed with green grass dotted

with colorful flowers. Pines, cypresses and fruit trees flourish everywhere. From the top of the hill one can admire the natural beauty of the lake and surrounding mountains. A hexagon-shaped pavilion built in memory of Zheng He stands on the lawn. Near it is the Palace of the Jade Emperor which is over a hundred years old and was in an extremely dilapidated state until rebuilding started in 1978. After work is completed in 1982 it will be used as the memorial hall of Zheng He.

The tomb of Zheng He's father, Ma Ha, is surrounded by pine and cypress groves. The grave inscription, carved on a red stone tablet and dating from 1405, is in the calligraphy of Li Zhigang, a famous scholar of the time. On the reverse of the tablet is a record of how Zheng He visited his father's grave after returning from his second trip. The tomb, having been repaired, is now preserved as an important cultural relic by the state.

A pavilion overlooking Lake Dianchi will be built in the park soon.

Life Story

As most of Zheng He's family have left the area, it is difficult to find records of Zheng He's early life in Kunyang. Jingning county has now organized the collection of

materials about his life, and many researchers have come from all over the country for the same purpose. Liu Jiwu, 52-year-old vice-head of Jingning No. 25 Middle School, has compiled voluminous notes.

Zheng He, born Ma Sanbao, was from a poor family of Hui nationality. Both grandfather and father were Muslims who had sailed to Mecca on pilgrimage despite the hazards of the long sea voyage. These journeys aroused Sanbao's curiosity about the sea. At age 12 he was selected to serve in the palace of the Duke of Yan, Zhu Di, in Beijing. Some years later Zhu Di overthrew Emperor Minghui and proclaimed himself Emperor Cheng Zu. Under his rule, Sanbao was promoted to the position of imperial eunuch and given the honorary name of Zheng because he had distinguished himself on the battlefield.

To develop the Chinese economy and trade with foreign countries, Emperor Cheng Zu asked Zheng to lead seven (eight, according to some historians) sea expeditions. The largest of these comprised some 27,000 people including technicians, sailors, interpreters, doctors, carpenters and merchants in over 60 large and more than 100 smaller vessels.

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Zheng He also commanded a number of troops whom he several times led against marauding pirates, thus earning the gratitude of the local people in many countries. The fleet was welcomed everywhere. Chinese goods such as silk, artifacts of porcelain, iron, copper, gold and silver as well as rare birds and animals were traded for precious stones, pearls, spices, ivory and dyestuffs.

Zheng He's expeditions not only developed navigation and geographical knowledge, and expanded China's trade with foreign countries, but also promoted international cultural and economic exchanges. Many countries, after Zheng He's visits to them, sent ambassadors to China in return, thus establishing friendly relations and trade with China.

In Memory of Sanbao

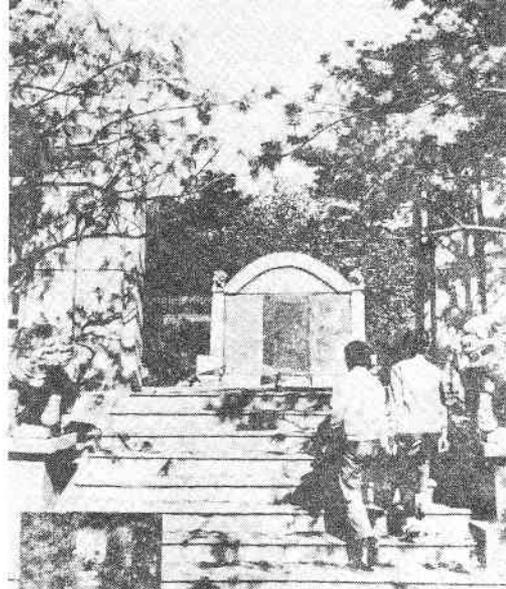
In the countries visited by Zheng He, especially in southeast Asia, stories about the great navigator are still told today. Named after him are Sanbao Harbor, Sanbao Pagoda, and Sanbao Temple in Thailand. In a temple near Bangkok there is a statue of Zheng He, and local people burn incense there in his honor. In Malaysia there is

a Sanbao Town and Sanbao Well. In Indonesia there is Sanbao Long. It is said that Zheng He came here on the thirtieth day of the sixth lunar month, and people of Chinese descent living here come to Dajue Temple to pay their respects to him every year on this day.

One story still told among the overseas Chinese is that on each trip Zheng He would carry with him two things, big white gourds and mud dug from Beijing wells. The gourds were used to hold water on the journey, and since they could float, could also be used as life preservers in case of shipwreck. Wherever his fleet arrived, he would have Beijing mud put in local wells as a reminder of home and, he believed, to help his crew become accustomed to strange conditions more quickly. Many long-time Chinese residents in Thailand still have the habit of bringing home well mud with them on trips.

Valuable Data

Zheng He recorded each of his voyages in great detail and created a set of 24 navigation maps, printed as *Zheng He's Navigation Maps*. Sailing directions, distances, harbors where the fleet anchored, and

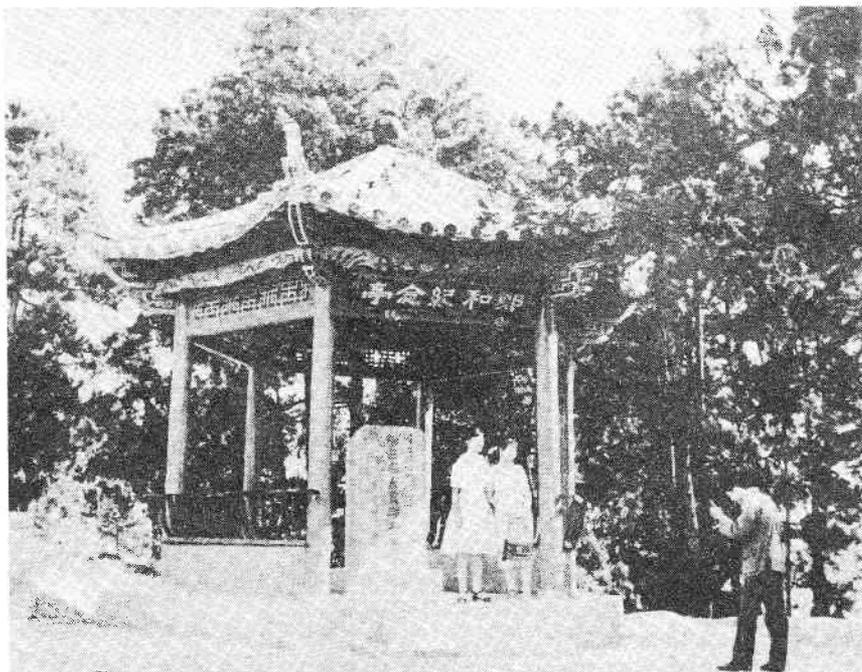


Tomb of Zheng He's father.

the distribution of shoals and submerged reefs were all described. These are China's first maps of ocean geography, and are surprisingly accurate compared to modern maps developed with much more sophisticated instruments. They were incorporated into *Selected Works on the Art of War* by Mao Yuanyi, a great writer of the Ming dynasty. Ma Huan, Fei Xin and Gong Zhen, who accompanied the fleet, wrote books describing social customs and life in the countries they had visited.

Memorial Pavilion to the great navigator inside the park.

Photos by Wu Kun and Zhang Songquan

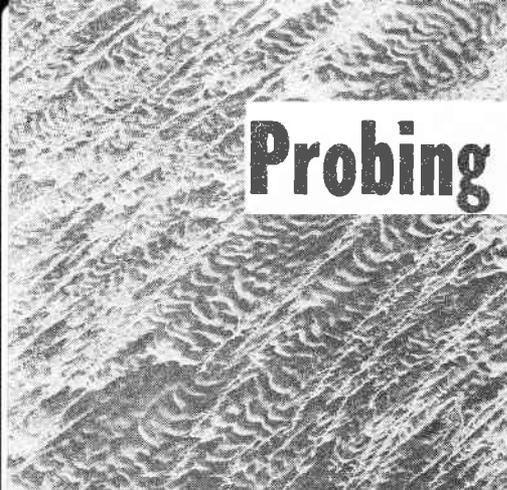


Hometown Revival

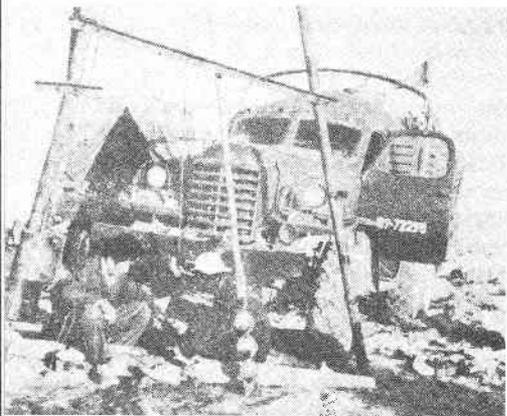
Zheng He's hometown, Kunyang, has a history of over a thousand years. A poor hilly town before liberation, it had only a single road one kilometer long, dirty and full of potholes, and with polluted water flowing everywhere. Life was very hard for the people. Now new buildings stand row upon row from the foot of the hill to the top. The north end of the town is a business center, and at the west end is a water purification plant. Just outside the town are chemical fertilizer plants, a tire plant and other small and medium-sized enterprises. Output value of industry in 1981 was nine times the 1949 figure; 1981 grain output was double that of 1949. Railroads, highways and lake boats link this small ancient town with other parts of China. □

Probing the Mystery Lake: Lop Nur

XIA XUNCHENG



Feather-shaped dunes in the Kum Tagh desert.



Drilling for samples in the lake basin.

THE Lop Nur (Lake Lop) area in the Xinjiang Uygur Autonomous Region in China's arid far northwest has for over a century been the subject of speculation and controversy among scientists around the world. The questions raised could not be easily answered because the extremely harsh natural conditions and rugged terrain have kept out all but a few intrepid explorers.

Much of the mystery settled around the lake itself. Lying on the route of the old Silk Road that linked China through the Middle East with the Roman Empire in ancient times, Lop Nur was clearly identified in old Chinese records and maps as a great salt lake 150

XIA XUNCHENG is head of the desert department of the Xinjiang Biology and Soil Institute of the Chinese Academy of Sciences. He led the second and third expeditions to Lop Nur.

kilometers across. In the late 19th and early 20th centuries, European explorers raised questions about the location of the lake, its nature, and even whether it moved from one place to another in regular cycles.

The debate was touched off by the Russian Nikolai Prjevalski. Investigating the lower reaches of the Tarim River in 1876, he mistook Lake Kara Koshun for Lake Lop and asserted that Qing dynasty (1644-1911) maps of the area were wrong. Eventually the German geographer Ferdinand von Richthofen, Prjevalski's contemporary, argued that the latter's lake was not the one shown on Chinese maps. Early in the present century the Swede Sven Hedin and the Englishman Aurel Stein, both of whom explored the area, claimed that the Chinese maps were originally correct, but that Lop Nur had shifted to Kara Koshun.

In 1980 and 1981 survey teams from the Xinjiang branch of the Chinese Academy of Sciences undertook the most comprehensive scientific expeditions to the area ever made, covering some 5,000 kilometers. These began to dispel some of the "mysteries" of the region. The first, led by Peng Jiamu (see box), located and crossed the dried-up basin of Lop Nur, laying the basis for the surveys to follow.

Disappearance of Lake Lop

Later that same year the second, which I had the honor to lead, set out from Dunhuang in Gansu province, crossed the Yumen Pass, the Shule River, and the Gashun Gobi desert to reach the eastern bank of the lake. The third, in the summer of 1981, started out from that point to cross the lake basin and investigate the lower reaches

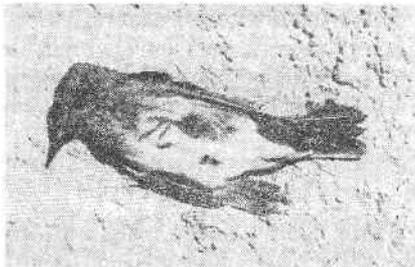
of the Tarim and Kongqi rivers to the west.

As we crossed and recrossed the old basin of Lop Nur, we found nothing but an undulating crust of salt stretching in every direction. Yet there is plenty of evidence that a great lake once existed here. A Chinese expedition which passed through the area in 1959 reported there was still enough water in the lake to attract flocks of migrating waterfowl. Satellite photographs of the area show concentric rings indicating a progressive drying up of the lake. The final dehydration must have been so rapid that the migratory birds did not have enough time to change their flight patterns, and every day during our investigations we saw the desiccated bodies of those who were caught here and died of thirst.

Lop Nur's water originally came from the Tarim and Kongqi rivers, and much of it was diverted after 1949 when large-scale reclamation began on the upper reaches of the rivers. Our investigations confirmed that this, rather than any complex theory of a shifting lake, explains Lop Nur's present condition.

Sven Hedin's theory had been that the lake shifted from north to south and back again in cycles lasting some 1,500 years. According to him, silt carried down the rivers raised the lake bed of Lop Nur, causing the water to flow to a lower place. After some centuries the raised lake bed, eroded by winds, subsided again and the water flowed back into its original basin.

Modern aerial surveys and our own on-the-spot measurements tend to disprove Hedin's theory. The Lop Nur and Kara Koshun are both small local depressions in the middle of the plain. And the elevation of the former's lake bed is 778 meters, the latter's 788



Bird which died of thirst in the dried-up lake basin.

meters, or ten meters higher. So at no time in the recent past could Lop Nur have flowed into the higher Kara Koshun. Moreover, the lower reaches of the Tarim and Kongqi rivers are clear and carry very little silt, so the lake bed could not have been raised in this way. The dry salt crust of the present lake bed is so hard that steel hammers can hardly crack it, making it unlikely that wind erosion could lower its elevation to the extent needed to fit Hedin's conclusions.

The changes in relative sizes of the two lakes can be explained much more simply. In 1921 a dam was built across the lower reaches of the Tarim River, forcing the waters to flow eastward into Kongqi and Lop Nur and shrinking Kara Koshun to the point where it dried completely. Then, in 1952, the Tarim River Dam was built at the mouth of the Yila, turning the Tarim back into its old course and from there into Kara Koshun, which expanded again while Lop Nur grew smaller. At no time, however, did one lake shift its location to another site.

Yardang and 'Dragon City'

"Yardang" in the vernacular of the local Uyghurs means "steep slopes," and is used to describe terrain with closely alternating eroded ravines and ridges. Chinese and foreign scientists who surveyed this region in the late 19th and early 20th centuries borrowed this term, and it gradually came into general use.

Large stretches of yardang, amounting to 3,000 sq. km., cover the northern and eastern sections of the Lop Nur area. These are second in size only to the yardang

in the northwestern part of the Qaidam (Tsaidam) basin, China's largest such area. Every year there are 150 days with Force 5 winds, 80 days with winds of Force 7 or 8, and occasionally winds measured at 30 or more meters per second. These winds rake the ground like enormous steel combs, ripping away loose layers of sand and leaving behind the less erodable clay strata below in ridges and gullies.

During the 15 days it took to pass through the lake area in May 1981, we encountered Force 8 winds on four occasions and constantly had to battle wind and sand. On windy nights our tent shook so violently we had to sit up holding the tent poles until day-break. Once those holding the poles fell asleep and we awoke in the morning with the tent collapsed on top of us. Another time, when a Force 8 wind made driving extremely difficult and setting up our tents and cooking impossible, we had to sit in our cars all night, hungry and exhausted.

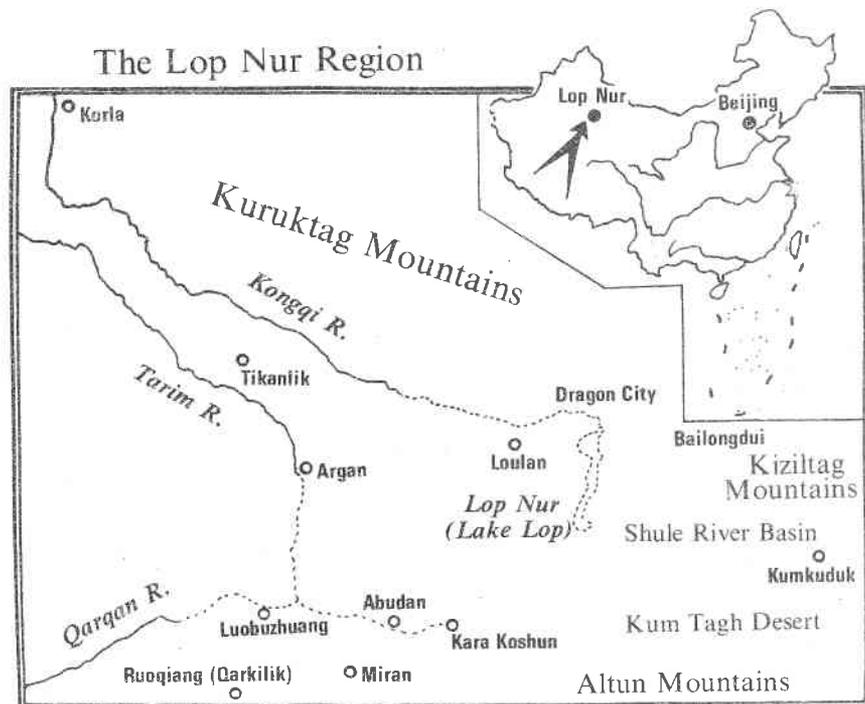
The depth of wind erosion here reaches about 13 cm annually, and it is estimated that a surface layer 5.3 meters thick was carried away between 1919 and 1959. The

yardang stretch out in a roughly northeast-southwest direction, parallel to the prevailing winds.

The formation of the yardang was in the past attributed solely to wind erosion, and such terrain was classified as of the wind-eroded type. But during our current explorations we found, next to mountains, yardang extending in the direction taken by flood waters, and saw marks left by flood waters on some outcroppings. Thus, rainstorms and floods have also played a significant role in shaping the yardang.

A yardang on the northern bank of Lop Nur called "Dragon City", is a spectacular sight. The serried ranks of hummocks and ridges resemble castles, city walls and multi-story buildings divided by streets and alleys. Twisted outcroppings look like writhing dragons. Not far from "Dragon City" is a barely discernible trail, the remains of the old Silk Road. Along it can still be found coins of the Tang dynasty (618-907).

The yardangs made hard going for our jeeps. We were often forced to reconnoiter on foot so as not to end up in a blind alley. Once, after driving for two hours and making 186 sharp turns, we





Peng Jiamu (left) and other researchers during an expedition into the Lop Nur region.

found we had progressed no more than 11 kilometers.

Kum Tagh Desert

Southeast of Lop Nur, at the juncture of Xinjiang with Gansu and Qinghai provinces, lies a vast expanse of desert, the famous Kum Tagh. The northern part of this desert consists mainly of feather-shaped sand dunes, unique in China. Here, on the western side of sand dunes running northeast-southwest lie countless little ridges of sand like the barbs of feathers. The dunes are generally a few to a dozen kilometers long and about 20 meters high.

After threading our way through countless sand dunes, we came upon a different type, formed by the wind into shapes like crouching lions or the pyramids of Egypt. One after another, they stretched into infinity. There were also depressions like vast whirl-

pools in an ocean of sand. The desert is extremely arid, and nothing green can be found, nor any sign of animal life. This is one of the most inhospitable spots in the Lop Nur area.

Yet our survey indicated that this desolate area was part of Lake Lop at the outset of the Quaternary Period (2,500,000 years ago), as shown by the lake deposits that crop up here and there in the desert. Later, as the climate changed, Lop Nur shrank and the ecological environment gradually deteriorated. The once lush vegetation vanished, while strong northeasterly winds chiseled at the lake de-

posits to form the yardang. Loose layers of sand carried by the wind to the northern foot of the Altun Mountains in time turned into the present Kum Tagh desert.

Home of Wild Camel

The wild camel, one of the world's rare animals, is found chiefly in some of the uninhabited regions of China's Xinjiang, and particularly in the Lop Nur depression. Little was known about their mode of life until our surveys. We found the bones of 12 camels which died a natural death. We also encountered a dozen or more live

Scientific Trailblazer

BIOCHEMIST Peng Jiamu, leader of the first major Lop Nur expedition, died as he had lived — exploring China's rugged border regions for the sake of scientific knowledge and putting the welfare of others before his own. Born in 1925, Peng was a graduate of the department of agro-chemistry of Nanjing's Central University, a research fellow of the Shanghai Institute of Biochemistry and vice-president of the Xinjiang branch of the Chinese Academy of Sciences.

In addition to a number of pioneering studies in plant diseases, Peng was famous for organizing and leading multi-purpose scientific expeditions to remote border areas where natural resources had never been adequately surveyed, and for setting up new research bases. His efforts laid the groundwork on which scientists from many different disciplines continue to build. The dangers and difficulties of his work — even a serious bout with cancer — could not keep him from serving science, his country and his people in the best way he knew how.

Over more than two decades Peng conducted 15 field studies of different parts of Xinjiang in the far northwest. The expedition to Xinjiang's Lop Nur region, one of the most rugged and inhospitable places on earth, was his last. On June 17, 1980, he and several companions ran out of water in rocky and arid terrain. Though in poor health and weak from continuous work under difficult conditions, Peng went off on his own to look for water. He never returned.

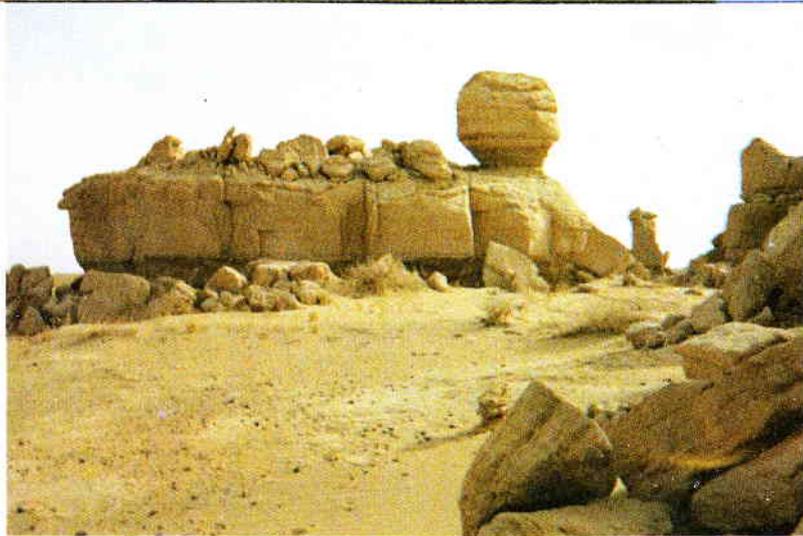
Neither his companions nor the four major search parties sent out over the following six months could find a trace of him. The days following his disappearance had been marked by gale-force winds and massive shifting of sand dunes. The rescuers could only conclude, with sorrow, that he had weakened or fell, and then been buried by sand before anyone could reach him.

Memorial services for Peng Jiamu were held in many places; Shanghai officially named him a "revolutionary martyr." More importantly, as he would have wished, the work he started has been taken up by many other hands, and countless successors travel the paths he blazed. □



“Yardang” formations reminiscent of torpedo boats on the open sea.

Xia Xuncheng



Carved by wind and sand, from a distance this “Yardang” configuration looks like a sea tortoise.

Xia Xuncheng

Wild camels discovered in the lower reaches of the Shule River.

Peng Jiamu



As the lake bottom dries and cracks, salt crusts like this one are thrust up more than a meter above the surface.

Xia Xuncheng



Salt crystals in the lower reaches of the Kongqi River.

Xia Xuncheng



Remains of a reed hut in which the Lop people once lived.

Xia Xuncheng

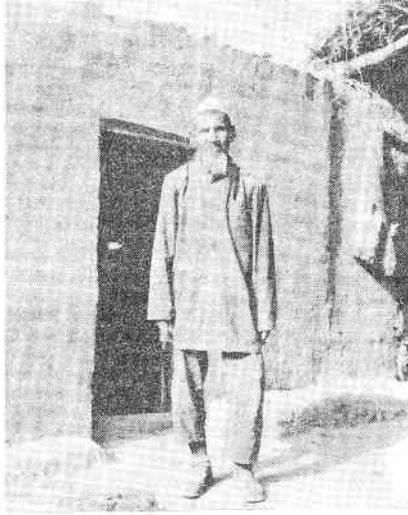
herds, took some valuable pictures of them, and measured the footprints left by them in areas of soft ground. We estimate that there are several dozen herds presently in the area.

The wild camel belongs to the genus *Camelus* of the order Artiodactyla. Its coat is brown, and it has two humps, a small head and long slender neck. It has long legs with larger feet in front than behind. The foot is dish-shaped, and has a thick callus. Two toes on each foot are capped with nails. The animal can thus walk over shifting sands or salt crust with relative ease.

Its mating period begins in March, and after 11 months' gestation the female produces one calf. The reproductive cycle lasts more than two years. The animals feed mainly on starch-rich camel thorns and occasionally on reeds, *haloxylon ammodendron* and other desert plants. They drink little water and in summer and autumn obtain sufficient moisture from the plants they eat. In winter, when the vegetation dries up, they congregate around salt springs.

The wild camel is timid and very alert. When we investigated the eastern part of the Lop Nur and the lower reaches of Shule River in 1980, we often saw herds numbering between seven and twenty camels, but found it very difficult to get near them. The wild camels' keen sense of smell and hearing warned them of our presence when we tried to creep up on them, and they would be up and gone while we were still several hundred meters away. We tried to follow them in our cars, but on the rough terrain they were faster than we. Camel trails, which we first mistook for paths left by human feet, can be found in the lower reaches of the Shule River.

A herd generally consists of about ten camels. The females look after the young, who are pugnacious and often get into fights. When that happens, the females roar at them, or spit mucus and some of the foul-smelling contents of their stomachs until the young scrappers, blinded, have to stop fighting.



Tayir, one of the original inhabitants of the Lop Nur region.

After passing through the Lop Nur area, we arrived at Miran farm, where we met some of the original inhabitants — the Lop people. The oldest among them, 91, was called Tayir, and even the youngest, named Rehanman, was already 70. They told us something about their former way of life at Lop Nur, which has now disappeared.

The Lop People

The Lop people are Muslims, speak Uygur, and are probably a branch of the Uygur nationality. Numbering several thousand in former days, they used to live in the region of Abudan and Kara Koshun south of the lake. They had little contact with the outside world. Around 1920, most of them died as a result of a plague, and the survivors fled from their native land. Tayir was one of those who came to settle down at Miran.

In those days, there was water everywhere in the Abudan and Kara Koshun region. On the banks of the river were reeds, Mongolian gazelle, herds of wild camels and even tigers. Tayir said he had once caught a tigress and two of her cubs. The Lop people lived by fishing, hunting and gathering wild plants.

We found in the lower reaches of the Tarim River the ruins of a number of their square huts made of reeds and plastered with mud. We also picked up fish bones left after the flesh had been eaten. Fishing was done in groups

equipped with dugouts, nets woven out of flax, forks and fish traps. Part of the catch was dried in the sun to be eaten in winter.

In summer and autumn, people survived on wild ducks, such duck eggs as they could find, and the roots of reeds. They did not know how to work the land, and had never eaten grain. Occasional merchants passing through brought them matches and tea in exchange for dried fish and hides.

For a Lop bride — who usually married at the age of 14 or 15 — the groom had to give ten bundles each of flax fibers and dried fish, and two or three hundred wild ducks. A wooden dugout was the main item of family property and an important means of transportation. When a man died he was placed in his dugout and buried together with it. After the Tarim changed its course, water was reduced to a trickle and the land turned barren, to become the desert that it is now — a dead wilderness under a blazing sun.

Building on the Past

The field surveys of the Lop Nur area have been completed and we are now busy collating the data gathered and writing up our findings. Many explorers and scholars have in years past traveled through this region — to pave the old Silk Road, that link of friendship between East and West, and to make investigations for science — and many have spent the best years of their life here, or even left their bones to bleach in the desert.

Among the latter is Peng Jiamu, vice-director of the Xinjiang branch of the Chinese Academy of Sciences and initiator and organizer of the Lop Nur surveys. On June 17, 1980, during a trip through Kumkuduk, the team's water supply ran out, and he set out alone to find some. He lost his way and died there, sacrificing his life to uncover the mysteries of the Lop Nur. Today, we are taking the first step on the scientific foundations he so carefully laid. □

Marco Polo on Screen

YING RUOCHENG



Filming the battle sequence on the Xilinhot grassland, Inner Mongolia.

FOR some months in 1981 I, along with several thousand other Chinese, took part in a great adventure — involving a journey of 700 years to the days of Marco Polo and Kublai Khan, and the excitement of working with professionals from many countries on a film project of enormous magnitude.

The American newspaper *Newsday* in September 1981 called our Marco Polo film “the most spectacular, the most ambitious project in the history of TV films.” This Chinese-Italian effort is the largest international co-production ever for China. Though a number

YING RUOCHENG, noted Chinese actor and translator and one-time editor at *China Reconstructs*, played the key role of Kublai Khan in the Marco Polo film.

of joint projects have been discussed since the establishment of the China Film Co-Production Corporation several years ago, few have been realized because of problems arising from differences in social systems, ideology and taste. No such problems arose on our film. All of us were united in wanting to make a rich, exciting film of high quality on an important theme. How well we have succeeded will be judged by the people around the world who see our work.

International Understanding

I first met director Giuliano Montaldo, the noted progressive Italian filmmaker, when he called some of us together to discuss the intent and meaning of the picture.

One of the things he told us was that the money spent on it (estimated at US \$20,000,000), was enough to build a whole university or hospital. Thus, we had a special responsibility to produce something which would truly help promote mutual understanding among the world's peoples — which was both the basis of our cooperation and theme of the film.

Marco Polo acted as a bridge between the Europe of his day and the Chinese civilization about which Europeans then knew virtually nothing. His *Travels of Marco Polo*, which has enchanted hundreds of millions of readers since it was first written, is more than a great adventure story. It helped break through the shackles on thinking in late medieval

Europe and shed a gleam of light into that relatively dark age. Through this book, Europeans learned for the first time about China's invention of printing, gunpowder and the compass, that "black rocks" (coal) could be used as fuel, and that rich and complex civilizations existed far from Europe.

The book also helped inspire Columbus and other explorers who in the 15th and 16th centuries sought new routes between Europe and Asia. Columbus's own copy of the book, with many notes in his handwriting, is now preserved in a museum in Italy.

The young Marco left his home in Venice at 17 to accompany his merchant father and uncle to China. There he won the trust of Kublai Khan, ruler of China's Yuan dynasty (1271-1368) and was appointed an official of the court. The greater part of our film, like Marco's book, concentrates on his 17-year stay in China, but we also show the European world to which he returned and how he tried to tell his tale. Captured in a war between the city-states of Venice and Genoa, Marco was put in a Genoese prison, where he dictated his memoirs to a fellow-prisoner named Rusticiano. At first the sober truths he had to tell about China seemed like fairy tales to many Europeans; he was mocked as a liar on a grand scale.

The film ends with the aged Marco Polo alone in a Venice street. Thinking back on all he has seen and done, he says, "Many did not believe me — many still do not — but there has never been a man yet, Christian, Saracen, Mongol or pagan, who explored so much of the world as I, Messer Marco, son of Messer Nicolo Polo, great and noble citizen of Venice."

Many Nationalities, One Purpose

To recreate the story of Marco Polo, a great international film force was mobilized. During shooting, four languages were in use — Italian, Chinese, English and Japanese. When location work took us to the grasslands, Mongolian was added. The producer, director and many of the produc-

tion crew members were Italian. They were joined by hundreds of Chinese performers and production staff, and thousands of extras.

American actor Ken Marshall was our Marco Polo, British actors Denholm Elliott and Tony Vogel his father and uncle. Prince Chinkin, Kublai Khan's son, was played by a Japanese, Ishida Junichi, and the emperor (myself) and his court by various Chinese actors. Another American, Murray Abraham, took the part of a Polo family servant.

Besides the principal actors, a number of major Western stars agreed to perform in small roles with only one or two scenes, a tribute to the importance they placed on our picture. Some of them even turned down lucrative offers from other companies in order to work with us. Distinguished British actor Sir John Gielgud played in only one scene as the Duke of Venice. American Burt Lancaster, star of over a hundred films, accepted the part of the Pope, and American Anne Bancroft that of Marco's mother.

Many people have asked me what problems we Chinese encountered in communicating with and working with all these foreign artists and technicians. And of course these questions are valid. Unlike engineering projects, an artistic effort like ours brings up differences in ways of thinking, cultural and esthetic standards, and styles of acting. Difficulties do exist, but from my experience, through cooperation based on mutual respect, a common artistic language can be found.

Most of the *Marco Polo* senior-level and production staff were Italian. Among them were communists and devout Catholics. But these differences caused no unquarable problems among them, because the main theme of the film was supported by all. In the same way, those of us from very different societies and cultures were able to work through any temporary misunderstandings because of our common dedication to the project.

In recent years, films made through international cooperation

Ying Ruo Cheng (the author), Cai Rubing, another Chinese actor, and Ken Marshall relax between shots.





Constructing sets.

Photos by Yu Pengfei and Wang De

have been very popular with people all over the world. I think this is a sign that audiences are dissatisfied with conventional themes and wish to broaden their horizons. But the success of these films also shows that it is possible for artists from very different backgrounds and social systems to get together to create something new and vital.

Mutual Appreciation

As *Marco Polo* is historically based and everyone involved was concerned about accuracy in costumes, settings and so on, questions were continually being raised and then settled through discussion and consultation. As most of the story was set in China, we Chinese had a great deal to say on these points. Italian producer Vincenzo Labella has said that the Chinese specialists, scholars and filmmakers who worked with him contributed a great deal to the truthfulness of the film.

And of course working in China, often at the very sites Marco Polo wrote about, added immeasurably to the authenticity of our scenes. Another advantage of shooting here, I discovered, was that a lot of money was saved. For scenes at Chengde, a summer resort frequented by Kublai Khan, we built an elaborate tent city. I was shocked to hear that this cost 400,000 yuan. But an American colleague told me that if the same sets had been constructed in Hollywood, they would have cost twice as much.

All of the Chinese participants were greatly impressed by the Italian filmmakers. We could see why they have such a high reputation internationally. The conscientious and meticulous attention to detail of the director, cameramen and technical staff was particularly noteworthy.

As an actor, I had regular contact with the makeup section. Every day the noted Italian makeup artist Giuliano Laurenti spent an hour and a half outfitting me with a false beard that he applied in tiny clumps, almost a hair at a time. One of our young Chinese makeup men could not at first understand such painstaking efforts. Chinese theatrical beards come in one piece and are applied very simply. But Laurenti's work paid off handsomely. On screen, the whiskers looked extremely natural and lifelike, even in close-ups.

The same professionalism characterized the cameramen, lighting crew, set designers and others. They took pride in meeting the demands of the director, or of the scene itself, no matter how difficult it might be.

I will always remember an elaborate battle scene we filmed on the Xilinhot grassland in Inner Mongolia. A People's Liberation Army cavalry unit stationed in the area had been asked to perform as a force of thousands of Mongolian warriors. The director and technical staff had gone to great lengths to make the armor and equipment,

right down to the horses' trappings, as authentic as possible.

As we started to shoot that hot August day on the grasslands, all of us were a little worried about the outcome. Complex battle scenes, particularly those involving cavalry, are among the most difficult to shoot at any time. And our PLA men had no experience in filmmaking, to say nothing of wearing armor. As I donned my own armor, which weighed 15 kilograms, my sympathy went out to the soldiers, who not only had to wear the stuff, but to gallop and "fight" in it. Finally, there was the language problem. All the director's orders had to be translated for PLA Commander Li Sheng, who then passed them on to his men through a loudspeaker.

In the event, the scene went surprisingly smoothly. The men charged, wheeled and fought with precision and skill. They really looked like battle-hardened Mongol warriors of 700 years ago. And those who had the special task of falling from horseback managed it without fuss and with every appearance of being dead or wounded. We were all quite elated with the results captured on screen.

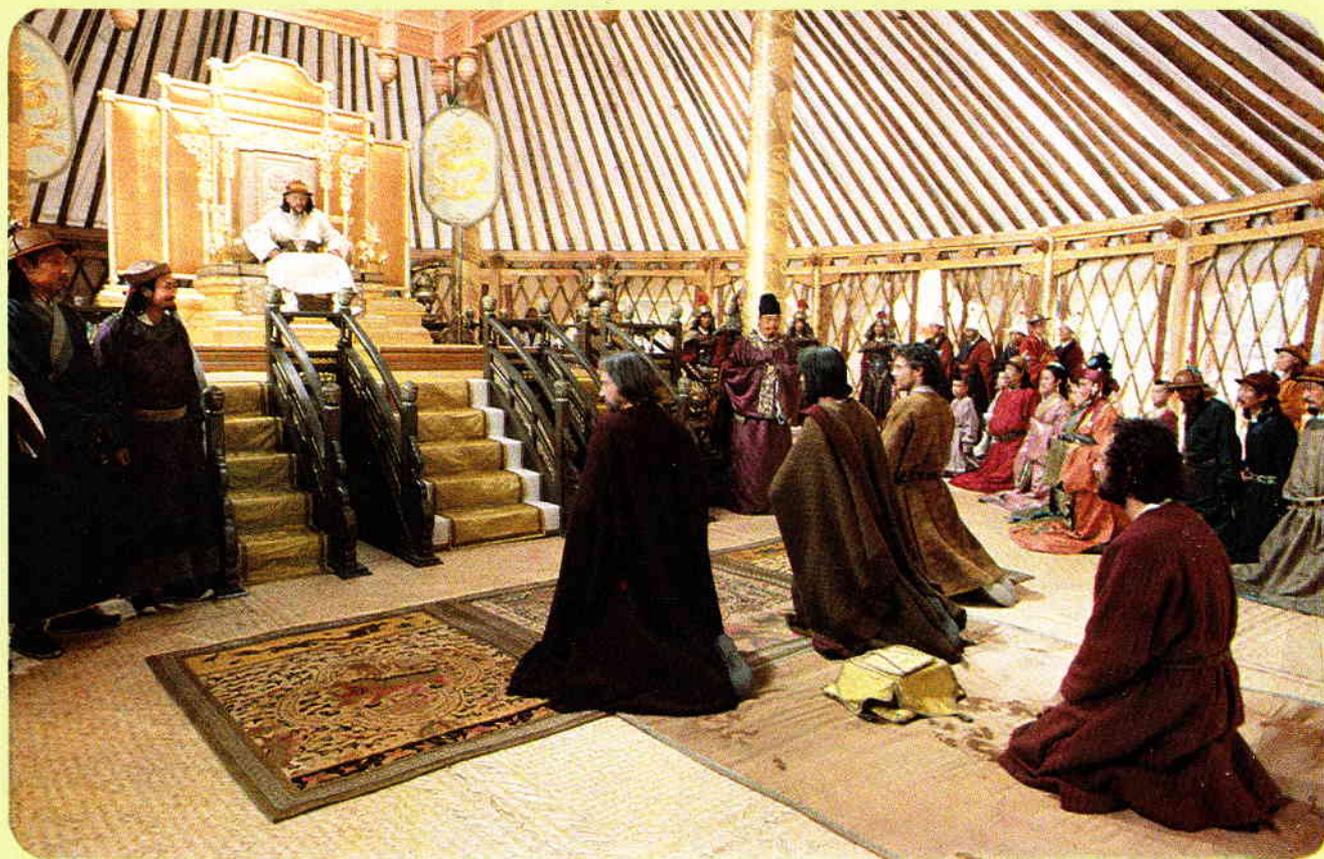
'As Long as Men Have Memory'

A quieter scene, shot near the end of our shooting schedule in Beijing (China's capital in the Yuan dynasty as it is today) lingers in my memory. Marco Polo is taking leave of the emperor after 17 years in China. Kublai Khan, nearly 80, says to him: "I will not see you again, but something of you will remain behind in this land. Your name will live among the Chinese long after I am gone, as long as men have memory. People coming here in your name will need no safe-conduct. You have proved yourself a friend. They will be welcomed as friends."

The film artists from various countries who came here to work on *Marco Polo* are surely such friends, and they will live in our hearts for a long time. □



Marco Polo and his father and uncle carry gifts to their first meeting with Kublai Khan.



The emperor receives the Polos at his palace in Shangdu.



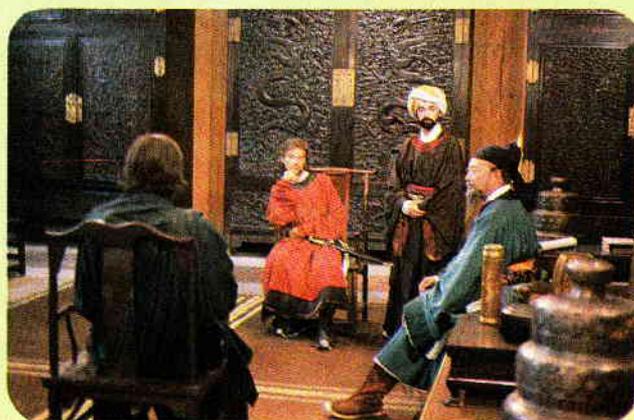
Marco and his family are entertained at a lavish banquet.

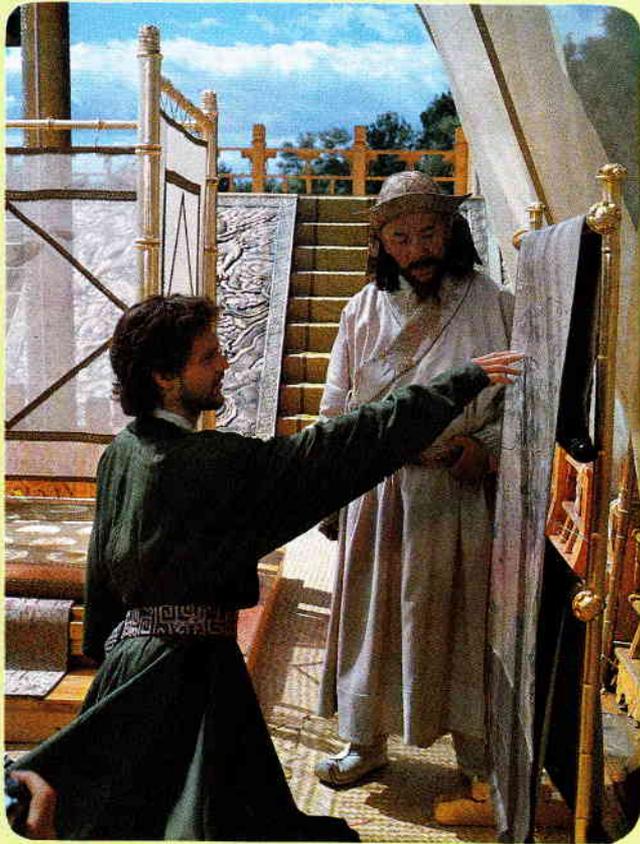


The emperor and his ministers debate the dispatching of troops to Japan.



Marco, appointed an imperial commissioner, interrogates the governor of Yangzhou about the kidnapping of young women for the imperial court.





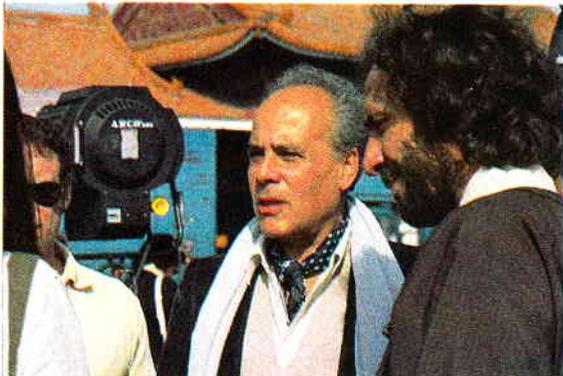
Reporting to the emperor after a tour of inspection.



Princess Cocacin.



The emperor accepts the surrender of Southern Song troops.



Professor Vincenzo Labella, who wrote the script for the film.



Chinese prop man Ma Qiang plays the part of a court protocol official in the film.



Chief cinematographer Pasquale DeSantis shoots an outdoor scene in Beijing.



Make-up man Giuliano Laurenti prepares Chinese actor Ying Ruocheng for a scene.



Director Giuliano Montaldo (left) rehearses Japanese actor Ishida Junichi and American actor Ken Marshall.

Ambassadors of Peace and Friendship

While scenes for the TV film *Marco Polo* were being shot near the Ming Tombs on the outskirts of Beijing, our staff reporters Ximen Lusha and Bao Wenqing interviewed Italian director Giuliano Montaldo; American Ken Marshall who plays the part of Marco Polo; and Ishida Junichi, the Japanese actor playing Prince Chinkin. (The film will be telecast in the U.S. in May, sometime around August in the United Kingdom, and later in other countries.)

GIULIANO MONTALDO

Q: *Why did you want to make this film?*

A: The name Marco Polo is linked with fancy, with travel, adventure, longing to know new things and understand the world. His name is also a symbol of peace. He was different from other Italian travelers, like Columbus, whose voyages led to aggression and conquests.

At present, China is a center of world attention, and Marco Polo was a natural subject for a film with the theme of friendship. His adventures have been put on screen before, but never in China, where they really took place. We wanted to shoot in China, for which we needed and got the cooperation of the Chinese Ministry of Culture and the China Film Co-Production Corporation.

We want our picture to reflect history as it really was. Marco Polo traveled through many countries, and our company has gone on location in Europe, Asia and Africa. We have constructed many sets, plus a huge quantity of costumes, weapons and other props. We hope these tremendous efforts will make our film a success.

Two things are sure to arouse the interest of people around the world: first, Marco Polo and second, China. We are confident of making a fine film which will be enjoyed by both adults and children.

Q: *Have you had problems working in China?*

A: Well, communications and transportation were somewhat difficult. And in the outlying areas particularly, the hotels were not very modern and they served only Chinese food, which we Westerners had to get used to. But these are minor.

At Changling (one of the Ming Tombs) we had some problems at the beginning in getting permission to film, for it is a historical site. Different countries have different customs. In the West, we often set scenes in churches or museums. We know how to conduct ourselves in these places. We assured the Ministry of Culture that we would do no harm. After all, many tourists engrave their names as mementoes; they are more dangerous than we film workers!

Eventually we secured permission and worked with great care. We hold that historical sites belong not only to China, but to the world, just like Rome, Venice or Florence in Italy. They are the cultural legacy of all mankind, which everyone must feel duty-bound to protect.

In a few months, we'll know whether our film is a success. It is the fruit not only of our own hard work, but of the efforts of our Chinese friends. All of us have come to feel like "lesser Marco Polos." Coming from different countries, we have come to know one another and built ties of friendship. And we have improved our film skills.

KEN MARSHALL

Q: *What do you like most about the film?*

A: From the rushes we've seen so far, it looks so real. What Marco described has been recreated for the screen. The scenery, the sets, costumes, armor, all the details are authentic. The whole production has a look of truth. And the camera work is done with such style and beauty.

Q: *You've traveled in three countries making the picture — Italy,*

Morocco and China. What impressed you most about each?

A: For all of them, I'd have to say the people. Perhaps because I'm an actor, I like to observe people — why they do what they do, how they live, how they're different from me, or similar. I've found it's very easy for people, just on a one-to-one basis, to like and help one another. Reading newspapers about conflicts and problems between countries, you wonder how their people could ever like each other. But you get people together, working on something like a film, or a sports meet, something good and meaningful, and they have no problems.

Most people are so isolated, they don't get to travel. All they have in their heads is the negative things they read in newspapers, because negative things are what get reported. I wish more people could travel, and see for themselves.

I like to think Marco Polo felt the same way. His book, you know, is full of all the people and things he saw, but very little about himself — it's not "I, I, I," the way it is with some modern writers. In part that's the age in which he lived, but I also think he was a particular kind of person. He was tremendously interested in the people he met, their fascinatingly different ways of life. He didn't force himself or his ideas on other people. And of course if people see that you're really interested in them, they'll accept you much more readily.

Q: *You're like Marco Polo, aren't you?*

A: A little, I hope.

Q: *What's your impression of Chinese actors?*

A: Very concentrated when they work, committed. They bring a great deal of passion to their parts. They study and work hard, and are very serious. I like their enthusiasm. Actors everywhere in the world love what they do, so we get along well.

Q: Do you find that they sometimes overact?

A: Some Chinese theater acting is very stylized. It seems somewhat foreign to me, but it's part of your tradition. But a good actor is a good actor, whether American or Chinese or Italian. Ying Ruocheng, for instance, does very good and subtle work as Kublai Khan. When his character needs to be very strong, larger than life, as the emperor, that's what he is. But when the scene calls for underplaying, for the more human side, he knows just how to do it. He's really excellent.

In our film, and in the book too, Marco had very strong feelings for Kublai Khan, he idolized him. And from the very beginning I had the greatest respect and affection for Ying Ruocheng (I think it's mutual), so we were able to build on this in our scenes together.

ISHIDA JUNICHI

Q: You play the part of Prince Chinkin, a friend of Marco Polo's?

A: Yes, and the son of Kublai Khan.

Q: What is the prince like as a character in the film?

A: He's very generous, with a high consciousness and a deep understanding of human affairs. He has a strong spiritual dimension, very devout. He thinks deeply about the meaning of the world and people's place in it. In some ways I think I'm like that, I'm touched by the same kinds of things. I've studied Yoga, Buddhism, even Christianity. I sometimes wonder if Vincenzo Labella didn't sense these things in me when he picked me for the part.

Q: Labella?

A: Our producer; he's quite famous in Italy as the producer of films such as *Romeo and Juliet*.

Q: What's your impression of Chinese actors and other personnel?

A: Very *simpatico* — that's an Italian word I've learned, it means there's great harmony, sympathy, between us. I feel great affection for them. I've been working with Ying Ruocheng for four months. Not only I, but our American and Italian colleagues are very impressed with his intelligence, his talent.

Q: And of the Chinese people in general?

A: They work very hard. They seem to have their feet on the ground, they're very down-to-earth. My impression is that their aim is to serve the people, they're not always out for money. Compared with my countrymen, their pace is slower. They're generous with everything. We Japanese are always in a hurry, there's so much tension. Here it's different. Perhaps your way is better, and we could learn from you. □



Portrait of Marco Polo from the first edition of his book printed in 1477 in German.

MANY people all over the world, when they think of China think also of Marco Polo, and when they hear Marco Polo's name think of China. This Venetian of 700 years ago established an indissoluble bond with the biggest ancient country of the East.

YU SHIXIONG is an editor of books on foreign history in the Commercial printed edition of his book printed in 1477, in German.

On Marco Polo in China

YU SHIXIONG

Marco Polo was born in 1254 in a Venetian family, for generations merchants. In 1260, Marco's father Nicolo Polo and his uncle Maffeo went on a trading journey to Central Asia.

Kublai Khan, upon receiving the Polo brothers, was very pleased with their detailed answers to his questions about Western countries and others through which they had passed. He then decided to send an envoy, Kejiada, together with the Polos, to the pope of Rome. On their way, Kejiada fell ill and could not go on. When the Venetian brothers got to the city of Acre (in northern Palestine), news came that the pope was dead, so Kublai's mission could not be executed until a new pope was elected. The two brothers went home and waited. In the meantime Nicolo's wife had died; Marco, his son, was then fifteen.

As there was no new pope even after two years, the brothers resolved to start eastward again, taking with them Marco, a promising young boy who longed to go to China. But very soon, a new pope was chosen and two priests, William of Tripoli and Nicolas of Vicenza, were sent to accompany them to Kublai's court. However, for reasons not clear, the two priests did not finish the journey.

The Polos traveled for three and a half difficult years before reaching their destination. They passed the Iranian plateau and the desert of Central Asia, reaching Shangdu (in Western literature Xanadu) on the northern bank of the Shandian River, twenty kilometers from today's Zhenglan Banner of Inner Mongolia, in 1275. There they were made welcome by Kublai Khan, and Marco Polo was included in the list of his honorary



Illustration for French manuscript of 1400, showing the Polos giving the great Khan a letter from the Pope.

retainers. Kublai, pleased with Marco's brightness and conscientiousness, sent him as an imperial commissioner to Shanxi, Shaanxi, Yunnan, Shandong, Jiangsu, Zhejiang and Fujian provinces. For three years, Marco was governor of Yangzhou on the Changjiang (Yangtze) River. He was also employed by Kublai on distant missions to Burma, Vietnam, the Philippines, India, Java and Sumatra.

Having stayed at the Yuan court for seventeen long years, the three Polos yearned for home, but Kublai did all he could to keep them. At last in 1295, after escorting the Mongolian princess Cocacin to Persia for a dynastic marriage, they returned to Venice.

Telling the West About China

Back home, Marco thought constantly of China and kept telling people of his experience there. In 1298, in a naval battle between Venice and Genoa, Marco was wounded and captured. In the prison he met Rusticiano, also a captive, who wrote down Marco's experiences at his dictation to create the world-renowned *Travels of Marco Polo*, a systematic record of the latter's years in China and in some countries in central, western and southeastern Asia.

The part on China was a vivid and informed portrayal of her society in the early years of the Yuan dynasty. It included things that were not recorded in detail, or in some cases not at all, in Chinese history books, and is still a valuable first-hand account of

those far-off times. It covers political affairs, wars, palace secrets and the prosperous cities of Beijing, Taiyuan, Hangzhou, Suzhou, Yangzhou, Nanjing, Chengdu, Kunming and Quanzhou as they were in the 13th century. Described also were the use of coal in China, her silkworm breeding, coinage, bridge and palace architecture, city planning, municipal administration, social welfare undertakings and afforestation practices.

A vivid passage in the book tells of the Lugou Bridge built in 1192 (which still stands but was then longer than what it is now), recording that it had 24 arches, and was wide enough for ten horsemen to ride abreast. The bridge was made of fine marble, with lions carved on the posts of the balustrades on both sides. When it was seen again, much later, by Westerners, they called it "Marco Polo Bridge." (It was here, incidentally, that the first battle of China's resistance against Japanese aggression was fought in 1937.)

Chinese cookery was also introduced to the West by Marco Polo. Popular to this day in Venice are "Marco Polo Noodles" made in the Chinese way.

In the thirteenth century China's economy, culture, science and technology were among the most advanced in the world. Western Europe was still far behind the East. So many of his claims were doubted in the West. It is said that at Marco's deathbed, friends tried to persuade him to deny what he had said, so as to purge his soul of the sin of falsehood. But Marco flatly declared that his only regret was over telling only half of what he had seen. Marco's determined spirit made many knowledgeable people feel that he had told the truth. More people went to China; and his book became a force that promoted the interflow of communication, economy, culture, science and technology between the East and the West.

Historical Records

There have been six different Chinese translations (five in the

Han language and one in Mongolian) of *Travels of Marco Polo*. The first one was done by Wei Yi in 1913 from William Marsden's English edition *Travels of Marco Polo, The Alien*. The Commercial Press is now translating the version by A.C. Moule and P. Pelliot.

In research among China's own historical records, no reliable account of Marco Polo was found until 40 years ago (1941) when Yang Zhijiu, an expert on the Yuan dynasty (now a history professor of Nankai University), discovered that the names of the three envoys sent to Argon, Persia, mentioned in the Yongle Encyclopaedia of the early 1400s were the same as those mentioned in Marco's account. This Chinese compendium said that in the 27th year of the Zhi Yuan reign (1290) a minister wrote in a memorial to the throne dated August 17 that "Under decrees, Oulatay, Apousca and Coja were sent to Argon in March this year." This discovery won great attention from Chinese and foreign Marco Polo experts.

In 1976 an American professor, Francis Woodman Cleaves, mentioned Prof. Yang's contribution in his article "A Chinese Source on Marco Polo's Departure from China and A Persian Source on His Arrival in Persia," carried in the 36th issue of the *Harvard Journal of Asiatic Studies*. There he quoted and approved the editor's comment on Prof. Yang's contribution in the Chinese magazine *Wen Shi* (Literature and History) published forty years ago: "This is a very valuable contribution. I hope that this will be translated into foreign languages, so that Western scholars too can study this scientific achievement." □

Lugouqiao Bridge (Marco Polo Bridge).



New Petrochemical Complex at Liaoyang

WEN TIANSHEN and PENG JIANQUN

IN China as in most of the world, products made from petroleum derivatives have become part of most people's daily lives. The variety is enormous: synthetic fabrics, plastic shoes, bowls, furniture and utensils, plastic bags and wrapping paper, and the hard structural materials for everything from cars to domestic appliances. Given the appropriate technology, such products can be produced very cheaply and substitute easily for scarce natural counterparts such as cotton, wood and steel. But until recently, China had to import part of the raw materials for these products.

The Liaoyang Petrochemical Materials Company, the country's largest integrated complex of its kind, is part of a major new development in China's economy, a modern petrochemicals industry that will process domestic oil into the raw materials needed to manufacture synthetic products of all kinds.

WEN TIANSHEN and PENG JIANQUN are staff reporters for China Reconstructs.

The site of the new petrochemical company was carefully chosen. Liaoyang, near the Bohai Sea in China's northeast Liaoning province, is located between the industrial city of Shenyang and the Anshan iron and steel center. A major oil pipeline between Daqing Oilfield and Dalian crosses Liaoyang and the city itself has an ample water supply and convenient railway transport facilities. In the vicinity are several oil refineries and textile mills.

Liaoyang Complex

The complex lies southeast of the city on the Taizi River, and is surrounded on three sides by mountains. Its 12 factory units are located just north of one of the city's greenbelts; just south of the greenbelt are new apartment buildings housing 50,000 people, most of them the families of petrochemical workers. There are also commercial, cultural, educational and medical facilities as well as a technological research center.

Construction of the company was started in 1974 and completed in

1980, with full operation beginning in 1981. The technology of this key industry is quite advanced, with some major equipment imported from France, West Germany, Italy and Japan. Some of the petrochemical and all of the communications, power and storage installations are Chinese-made.

Petroleum flows into the complex through large pipes. Centralized, automated controls shunt the oil through the various processing tanks and regulate the successive chemical transformations which turn the oil into such end products as nylon filaments, polyethylene and polypropylene. (These latter two are basic "building blocks," usually in the form of pellets of different sizes, from which a variety of plastic products are made.)

One machine we saw combines different chemicals under pressure in a hopper, screens them and extrudes either short white dacron filaments or long, silvery nylon filaments. Its daily output is about 100 tons of dacron and 20 tons of nylon. The entire company's annual output of synthetic filaments is equivalent to 1,300 million meters of cloth, and the raw materials for plastics the equivalent of 200,000 tons of rolled steel.

Mastering Technology

Assistant chief engineer Ren Daoyuan, a 1940s graduate of Zhejiang University's Industrial Chemistry Department, is an active and outgoing man dedicated to his profession. He was eager to talk about the achievements of workers and technicians in mastering high-level technology. "We have 1,300 engineers and technicians. Most graduated from college during the 1960s — the period of the "cultural revolution" — and at first the leaders were not sure they could cope with such advanced machinery. We found that, whether in short periods of training abroad or in



Cultural and commercial center of the housing development.

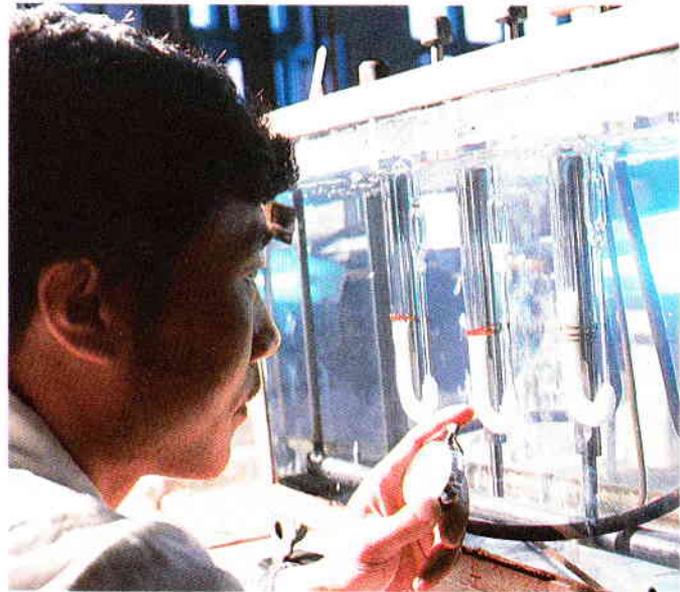
Liu Chen



Inspecting for quality.

Liu Chen

Chemically testing fibers in a laboratory. *Zhao Liyuan*

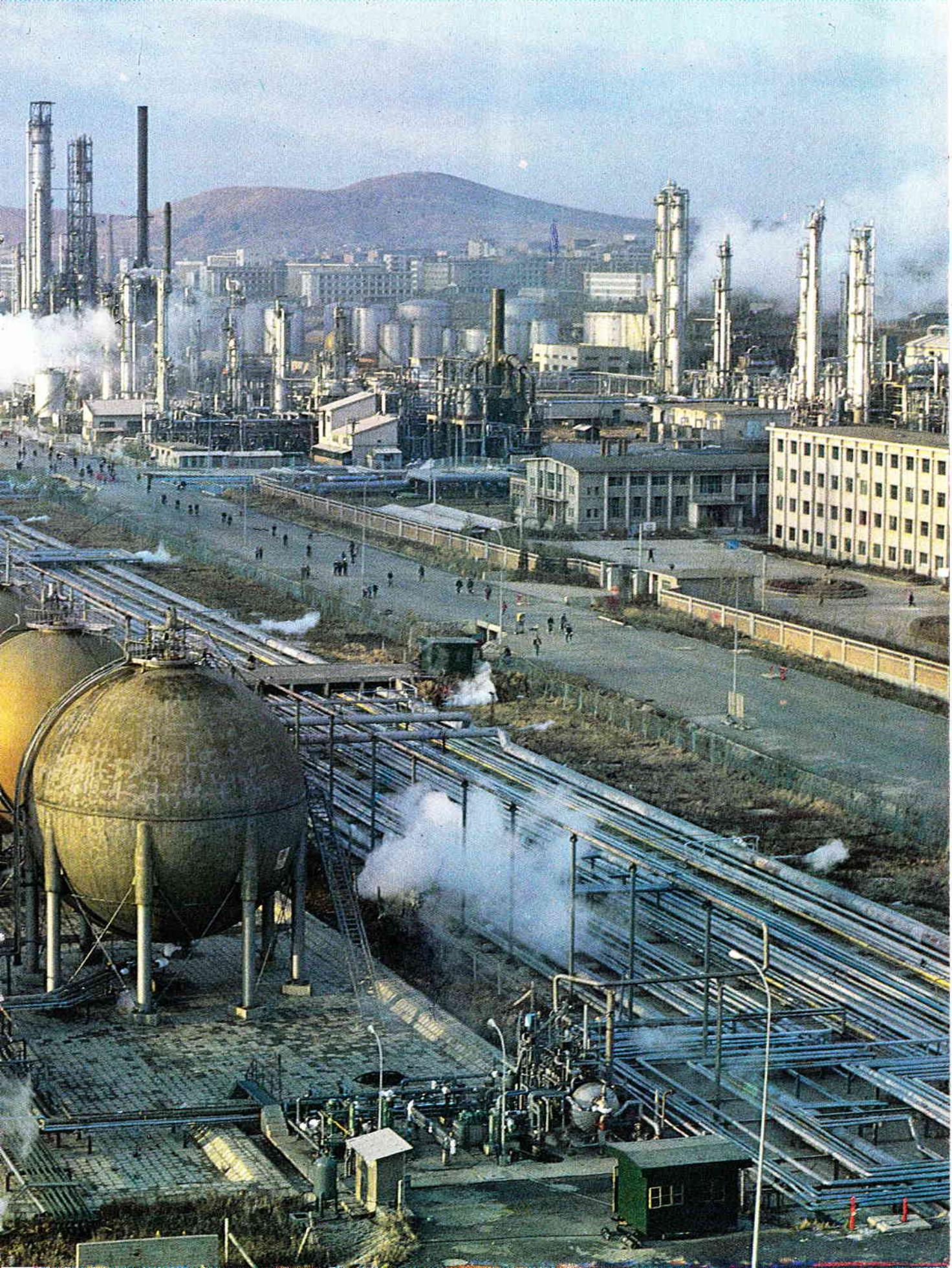


Automated control board of a polyester fiber production line. *Liu Chen*



Liaoyang Petrochemical Complex.
Liu Chen







Company workers are delighted with their spacious new living quarters.
Liu Chen



One of the kindergartens in the residential area. *Zhao Liyuan*

A chrysanthemum show — one of many leisure-time activities for workers.

Liu chen



helping visiting foreign experts install and test equipment, our people worked modestly and diligently to master the technology. Very soon they not only knew all about the equipment, but had also begun to improve and adapt it to our conditions."

At the No. 1 plant, an imported machine needed frequent repairs. The French expert who had helped install it was bothered by the problem, and some time after he returned home he wrote suggesting a new way of operating the machine. But by the time his letter arrived, Chinese engineer Meng Qimei and his team had already solved the problem, and a paper had even been published on their work. They wrote to thank the French expert for his friendship and concern, and gave him a good share of the credit — after all, "a good teacher makes good pupils."

Every day after work, assistant chief engineer Tang Dengzhi lectures workers on the complex automatic control and monitoring equipment. Tang is popular as a teacher, and over a period of time has compiled a long textbook on all the automated equipment in the plant. Thanks to his efforts — and the hard work of his students — over the past five years many workers have learned not only to operate but to repair the devices. More than 10 of the workers have been promoted to positions of responsibility in the various workshops.

Controlling Pollution and Waste

One of the criticisms leveled at petrochemical plants around the world is that they use tremendous amounts of water, energy, and raw materials and often seriously pollute the environment with chemical wastes. The Liaoyang staff are very conscious of this problem and have taken a number of measures to solve it. The complex gets some 250,000 tons of water per day from rivers and reservoirs, but after the water is used it is drained off into a pool in which it is biologically purified at the rate of 1,600 tons per hour. The water can thus be transferred harmlessly back into the general water supply. To keep



Tang Dengzhi, an assistant engineer.
Liu Chen

a check on sanitary standards, fish are raised in the pool and regularly examined for contamination.

Not far from the waterworks is a thermopower plant. The heat generated by the plant, instead of being released into the atmosphere, is used to provide 100,000 kilowatt-hours of electricity and large amounts of steam to the city. A huge pipeline along the roadside directs waste steam to the residential quarters for heating purposes.

Woman engineer Pan Biying and her team have recently devised a method of recycling chemicals used in the production process so that they can be used again and again. The new technique has been applied in the various workshops, and the result has been not just a significant saving on raw mate-

rials and reduction in environmental pollution, but a more stable quality of products than was the case when the equipment was installed.

Living Conditions

Residential quarters consist of a number of well-designed apartment buildings laid out in spacious grounds. Large TV aerials grace the tops of most buildings. From balconies hang braids of green Chinese onions and garlic — favorite ingredients for much northern-style cooking. Apartments consist of 1½ to four rooms, and all are equipped with radiators, gas stoves, and showers or tub baths. Some 10,000 families — about 50,000 people — have moved into the quarters so far, most of them workers and their families who came here before 1975. More buildings are being constructed, and soon those workers who still live some distance from work will move in.

Xue Changhou, 54, is a machine repairman at the complex. During the War of Resistance Against Japan (1937-1945), he had worked as a coolie in a Japanese textile mill in Dalian. At that time three members of his family lived in a shabby room three meters square. He cannot help comparing that time with his living conditions now. Ten members of his family now occupy two flats in the residential quarters, with bright, spacious



Children's ward in the plant hospital.

Zhao Liyuan

rooms totaling 70 square meters of floor space.

Xue's wife is about to retire, and his three sons and three daughters (the eldest a laboratory technician) are all employed at the petrochemical works. Total monthly family income is 750 yuan, including bonuses and nutrition subsidies. Basic living costs such as rent, water, electricity, food, etc., come to only one-third of the total income, the rest being available for clothes and other things the family wants, or for savings. Much of the furniture in the apartments is new, bought at the time of sons' and daughters' marriages.

Two of Xue's daughters talked about transportation between the

work area and living quarters. Every day the company runs 80 buses to bring workers back and forth, including one especially for mothers and babies which drops them directly at the factory nursery.

Xue's one-year-old grandson staggered unsteadily into the room and ran into grandfather's welcoming arms. Gently touching the boy's head, Xue remarked, "Next year this little one will enter kindergarten. Then he'll go to the primary and secondary schools run by our company. After graduation, he'll take the exam for our company's Petrochemical Materials Institute. Oh, he was born at just the right time!"

East Street is the commercial center of the residential area. At the north end of the street are grain, food and meat-processing plants and a brewery. Groceries here are supplied with fruit and vegetables mostly from 22 production teams on the city outskirts. Engineers from the south are pleased to be able to buy bamboo shoots and cauliflower here, which are rare in the northeast. In the southwest section is a 400-bed hospital; its three clinics and nine outpatient clinics serve the whole city as well as the petrochemical workers. The company also runs a dairy and an orchard which supply milk and fruit for the hospital and kindergartens.

'Hundred Flowers'

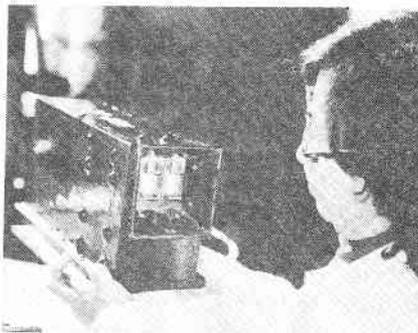
At night the residential area's 4,000-sq.-meter Recreation Center is bright with neon lights. In the theater section, the comic film "Happiness Knocks at the Door" provoked fits of laughter from the large audience. In the games room, chess players frowned in concentration over their matches. In the reading room, a number of people had their noses buried in books.

An arts exhibition had just opened, featuring nearly 100 Chinese traditional paintings, oils and woodcuts, most of them the work of company amateurs and depicting scenes from life and work. A chrysanthemum show was under way in the newly-built street park. To make the residential area even more pleasant, some 70,000 trees and bushes and 400,000 flowers of different kinds are about to be installed. There is also an amateur theater group with more than a thousand active members and dozens of spare-time groups specializing in dance, sports, science and other areas of interest.

The whole valley where the company is located is called "Hundred Flower Village," after a village in the area which after a period of relative poverty has experienced a new burst of prosperity. It would be hard to think of a more appropriate name, for the valley is indeed abloom with "flowers" of science, knowledge, culture, and of busy people leading happy lives. □

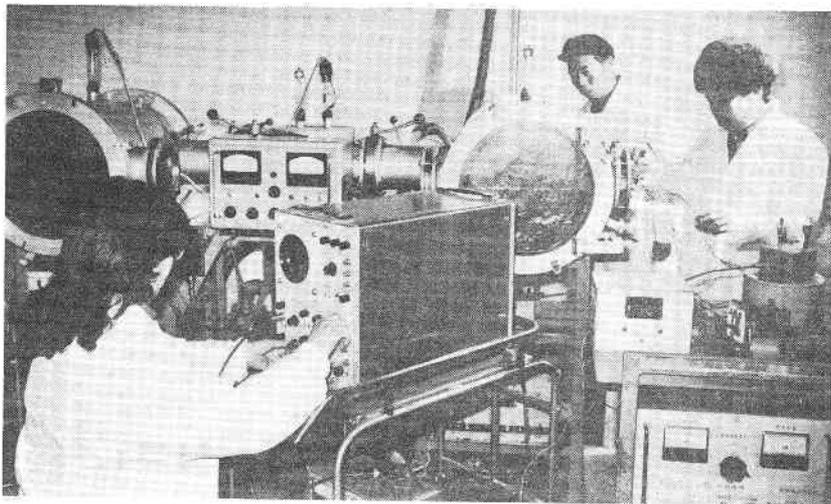
China Constructs Miniature Rockets

Chinese scientists have for the first time developed and tested a new type of miniature electric rocket used to control the altitude and direction of orbiting space satellites. China is the fourth country to have tested such rockets successfully, after the United States, the Soviet Union and Japan.



(Above) Held in the hands of one of its developers is the core of the Mini-rocket which recently made a successful space flight. (Below) Scientists monitor the performance of the mini-rocket by means of vacuum analog equipment on the ground.

Photos by Yang Wumin



Historic Temple Fair

RI NONG

The Songshan Mountains

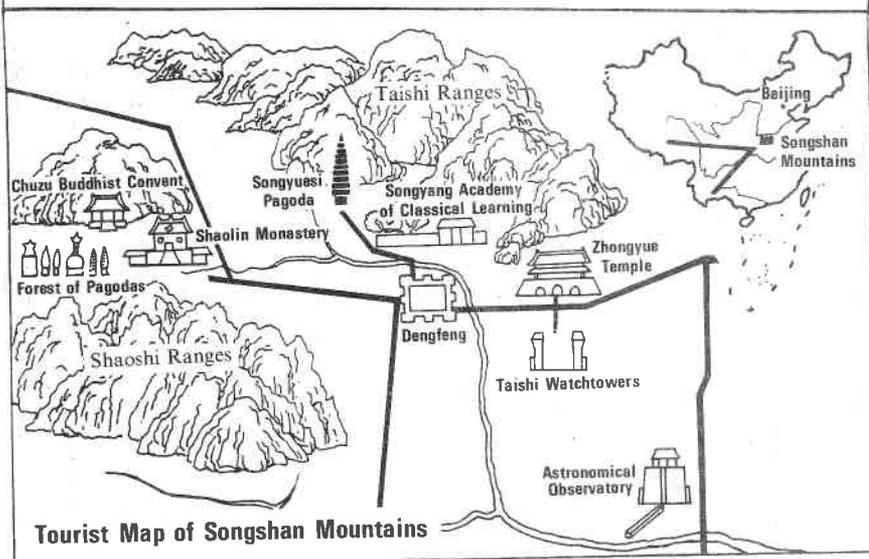
LIU GUOYAN

FIVE mountain ranges (*Wu Yue*) in ancient China were considered sacred. These were Taishan in the east, Huashan in the west, Hengshan (恒山) in the north, Hengshan (衡山) in the south and Songshan in the center (see map).

The Songshans have 72 peaks and extend 60 kilometers in northern Dengfeng county in western Henan province. The area is rich in historic sites and cultural relics. One of the most valuable sites is the oldest monastery of Buddhism's *Chan* sect, the Shaolin Monastery and its forest of pagodas (see the June 1981 *China Reconstructs*). There is the brick pagoda of the Songyue Temple, 15 stories and 40 meters high, built in 520. One of the four academies of classical studies still exists here — the Songyang Academy of Classical Learning built in 484. There is a Yuan dynasty brick and stone astronomical observatory 9.46 meters high built in 1276, Han dynasty watchtowers carved with inscriptions and relief sculptures erected between 107 and 125; three ancient cypresses made "Generals" by Emperor Wu Di in 110 B.C. because they were exceptionally tall.

The Zhongyue Temple is one of the oldest Taoist Temples in China. Other well-known buildings are the Chuzu Buddhist Convent, the Bodhi Damo Cave, and the Yongtai and Fa Wang monasteries.

After 1949, the historic sites and relics of the Songshan Mountains have been renovated and placed under state protection. The Songshan Guest House was erected and new highways built. Buses now take tourists from Zhengzhou to the Songshans' scenic spots.



Tourist Map of Songshan Mountains

SUSPENDED during the "cultural revolution," the famous Zhongyue Temple Fair held every spring and autumn was restored three years ago. Today, in the space around the temple, stalls offering a superb variety of things are set up for this ancient festival.

I visited this venerable Taoist Temple recently. It lies at the foot of the Songshan Mountains in Dengfeng county 70 kilometers southwest of Zhengzhou, capital of Henan province. It is said that Yu the Great established a slave state here several thousand years ago and that Zhongyue, the god of trees and flowers across the land, lived in the mountain. Kings and emperors journeyed here to offer sacrifices. The first temple erected on the spot was built during the Qin dynasty (B.C. 221-207). Because during the Tang dynasty the Empress Wu Zetian (624-705) climbed the mountain several times to worship Heaven, the name of the county became Dengfeng (Climbing the Peak). Thus, the fair grew up around ancient religious pilgrimages.

With the development of the rural economy and the improvement of the peasants' living standards, the Songshan Mountains have been opened as a tourist site. The state has allocated funds for renovating the temple and its relics. New transport facilities, food shops and accommodations have been provided. The 1981 autumn fair, the most magnificent in history, attracted 680,000 persons.

The Ancient Temple

Endless crowds enter the Zhongyue Temple through the Zhongyue Gate. Built during the reign of Qianlong in the 18th century, the present temple covers 100,000

RI NONG is a staff reporter for *China Reconstructs*.

square meters. Its eleven main features include the Tianzhong (Center of Heaven) Pavilion, the Great Hall, the Living Hall, the Imperial Library and the Chongsheng, Junji and Huasan gates.

Local people mingle with sightseers. Older women in black cotton padded coats and trousers decorated with red ribbons or green cypress branches come to pay their



He Yanzhong and his wife choose clothes for their daughter.

by Wang Hongrun

respects to the god with paper money and incense in their hands.

The most lively place is the double-eaved Junji Hall, covering a floor space of 1,000 square meters. In front of it is a brick platform, surrounded by a stone railing similar to the one at the Hall of Supreme Harmony at the Imperial Palace in Beijing. On the platform is an iron lion of the Ming dynasty (1368-1644). Inside the hall a 3.6-meter statue of Zhongyue is flanked by two warrior guardians. Here I saw an elderly woman make her way to the table, pass two small dolls to the Taoist priest and ask him to tie a red ribbon on them for the good fortune of her grandsons, asking him also to choose a name for her newest grandson.

Below the temple, on the way up the mountain, I met seven such women who had just come back from their pilgrimage. They were

neighbors in a village 50 kilometers away. Having finished the autumn harvest, each of them had taken 20 yuan with her to pay for their sightseeing trip to the Zhongyue Temple. When they learned that Dengfeng county had increased its 1981 income by diversifying its economy and expanding its tobacco growing area, the women said, "We must learn from the villagers of Dengfeng county."

The Fair

There were six market sections at the fair — articles for daily use, household supplies, food, tools, domestic animals, light consumers goods and agricultural products. On sale were thousands of industrial, agricultural and sideline products from 400 state-owned stores, supply-and-marketing cooperatives and commune or brigade-run enterprises inside and outside of the province. There were also 300 individuals selling peanuts, fruits, needles and thread, ornaments and even miniature figures of Buddha.

Articles for daily use were sold on the west square in front of the temple. When we got there, sewing machines, bicycles and wrist-watches had all been sold out. In the garments section we saw a woman choosing a black wool coat for her daughter. She paid with 56 yuan which she drew out of a thick pile of notes wrapped in a piece of cloth. We had been to the countryside frequently and knew that a peasant used to receive only 50 or 60 yuan per year. Now, here was one offering that much for one article of clothing. The countryside is progressing!

At the fair we got to know a peasant named He Yanzhong, 38, tall, sturdy and a hard-working, clever farmhand. There are six people in his family, three of them able-bodied workers. Last year they harvested over 3 tons of grain from a half-hectare field, half of which they delivered to the production team and sold as surplus grain to the state. They also received 3,700 yuan from a third of a hectare of tobacco, 700 of which went to the production team according to contract. They spent 300 yuan on a bicycle and a wrist-

watch, and 100 yuan on clothing and other items. At the fair He Yanzhong met an expert in growing tobacco and learned a lot from him. Preparing for another good year and a big income, he was planning to put up a new house. Other peasants at the fair were also planning to build.

In the livestock section we found the donkey, long the major means of transport in the northern countryside, the best seller. We saw a middle-aged peasant spend almost half a day choosing one. Before he decided to buy it, he put his child on the donkey and made it run around to see if it was really good or not. Finally he paid 240 yuan for it. Later we were told that the volume of business for the whole fair for half a month was 2,130,000 yuan, an increase of 43 percent over the previous year.

Entertainment

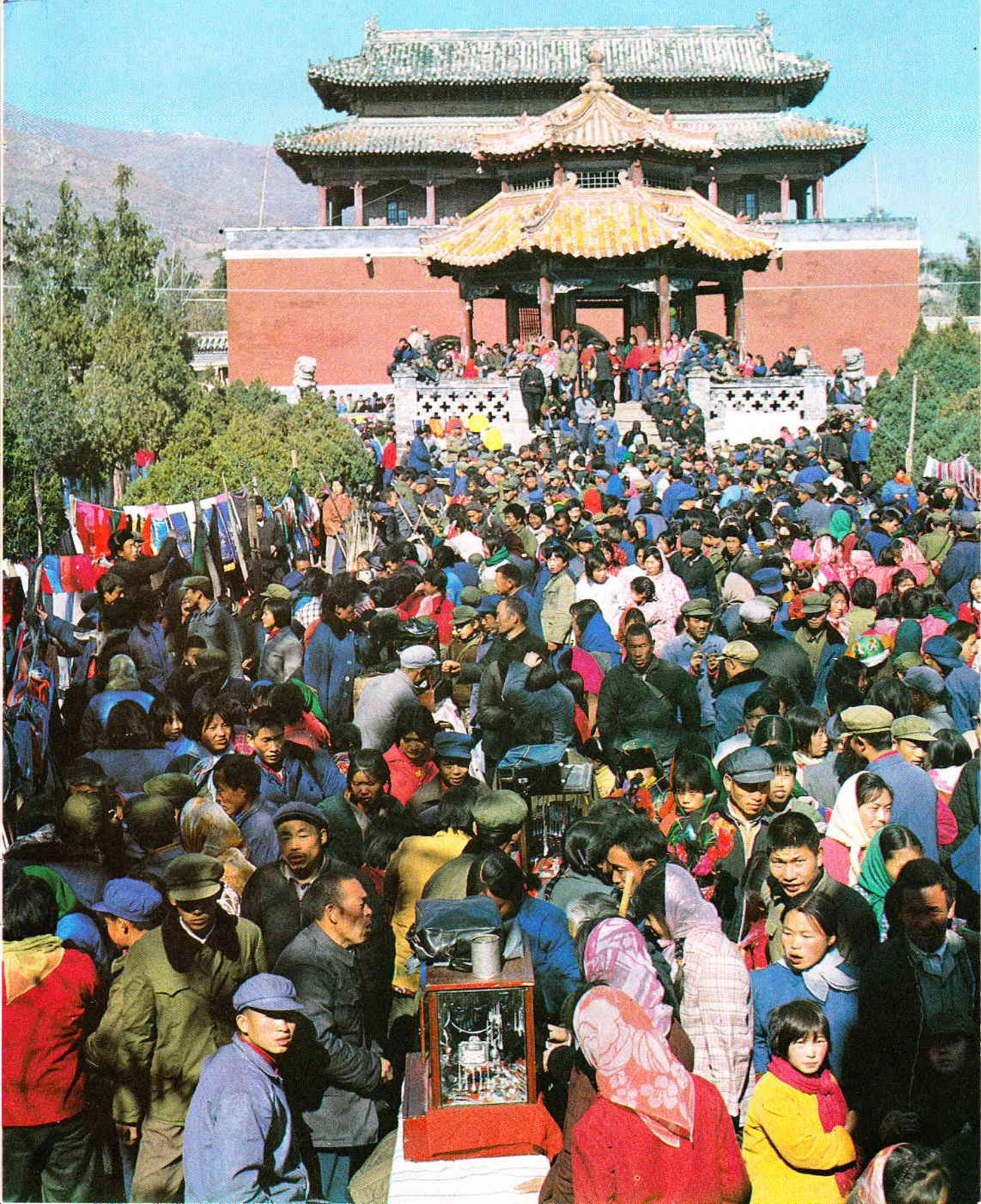
Local opera from loudspeakers and the sound of drums and gongs added a festive atmosphere to the fair. Young people from the spare-time Shaolin *wushu* (martial arts) team gave splendid performances of swordplay, warmly applauded by the spectators. The Shaolin Monastery nearby is a birthplace of traditional *wushu*.

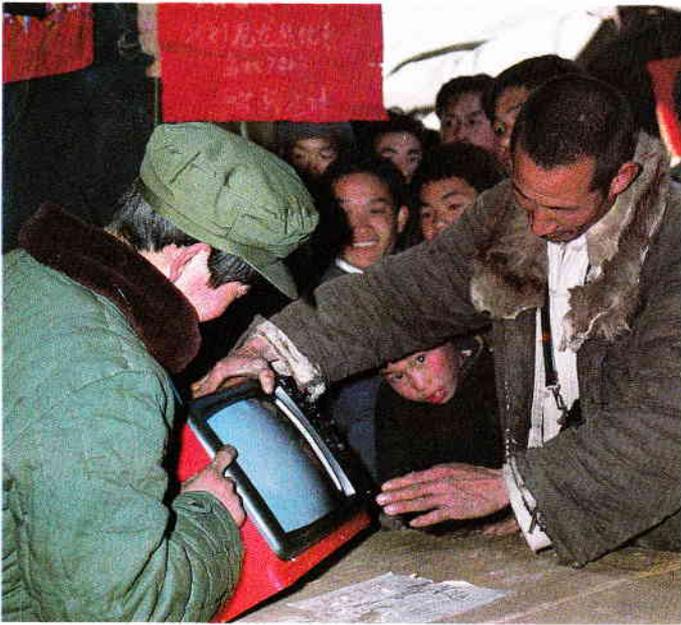
Inside and outside the temple, eight cultural groups gave performances with tame animals, put on acrobatics and local operas, and showed films. Exhibitions of animals and festival lanterns were held. There were also programs by folk artists.

Food stalls crying their wares to customers and the appetizing smell of cooking attracted crowds. When we saw a small restaurant full of people, we found it was selling cooked noodles with mutton. The young cook had gone to Zhengzhou for one month especially to study how to cook this dish the way the local peasants like it.

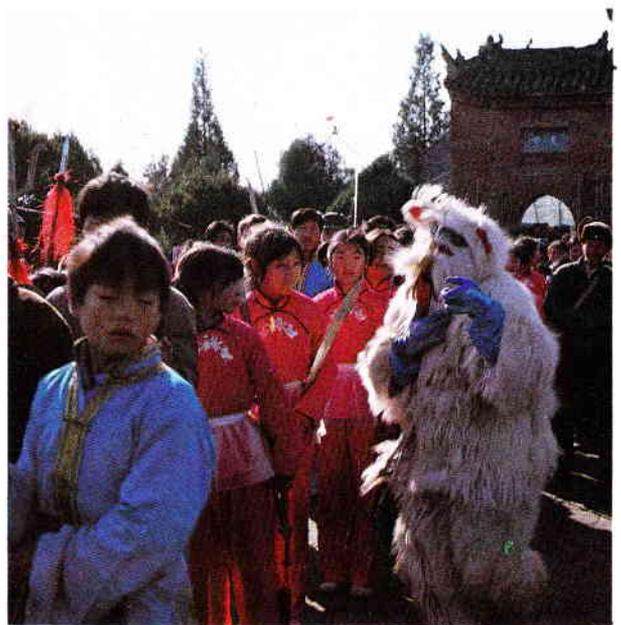
To help and support the fair, the transport service department has provided many buses. Buses arrive and depart from the Zhongyue Temple every ten minutes. We saw guests from the United States, Canada, Great Britain and Japan enjoying the fair. □

A corner of the Zhongyue Temple fair.

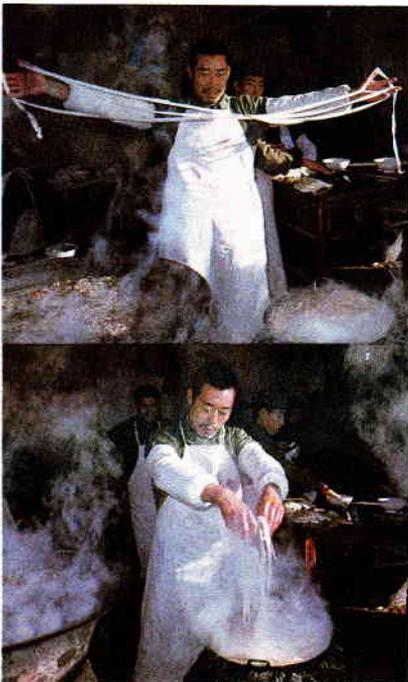




Customers choose TV sets.



Shaolin wushu team demonstrates at the fair.



Hand-pulled noodle stall at the fair.



Main entrance of Zhongyue Temple.

An astronomical observatory built in 1276 during the Yuan dynasty.

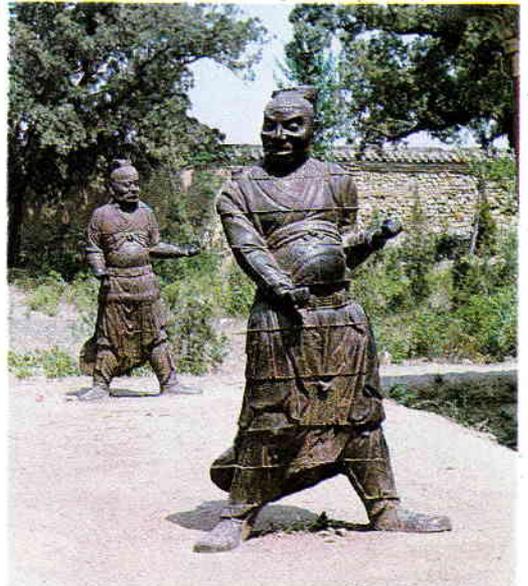


A Taoist priest is caretaker of the temple.



Cast-iron statues of gods dating from the Song dynasty.

Photos by Wang Hongxun

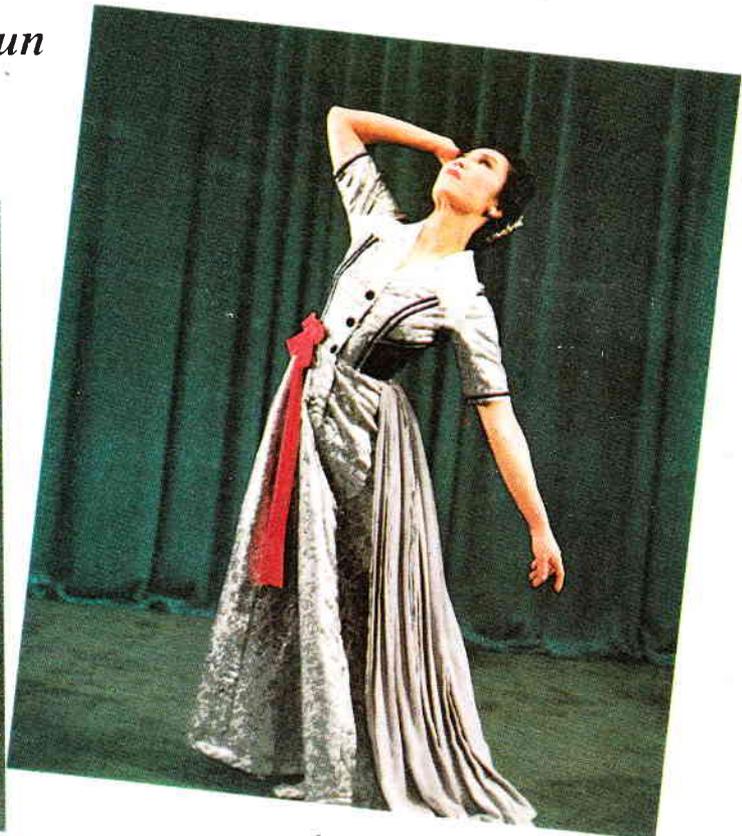




Flying Angels.

Dances Performed by Zi Huayun

The Drunken Sculptor.



Song of Longing for the Homeland.

From Ballet to Folk Dance

WU JIMEI

ZI HUAYUN is one of China's most famous dancers. Even as a little girl before liberation, she liked to dance and had a strong musical talent. After training in ballet and a change to folk dancing, she gave thirty years of new and fresh interpretations to audiences at home and abroad. Still dancing today, she also teaches younger artists, writes, is a poet and does choreography.

The discovery of Zi Huayun's dancing ability can be credited to her early piano teacher. Believing that the girl's love of music and dancing justified ballet training, she took her to an amateur school under a Russian teacher. Zi Huayun soon proved her worth and appeared in the ballets *Sylph* and *Swan Lake*.

As a fledgling dancer with only a junior middle school education, Zi Huayun spent much of her spare time in self-study of liberal arts subjects. She read many Chinese and foreign classical and modern literary works. To deepen her understanding of the different roles she played she attended exhibitions of paintings, photography and flowers.

Hard Training

One winter day in the early 50s when she was 16, Zi Huayun and a companion went in a horse-drawn cart to the town of Jiamusi in Heilongjiang province to seek out an expert in the well-known *Scarf Dance*. Moved by their enthusiasm, this teacher tirelessly coached them in the dance's basic movements. Here, the coordination of wrist strength and breathing

were essential. Zi Huayun would often do a single movement a hundred times a day. This persistence won her great applause in nearly 600 performances of the *Scarf Dance*.

To produce the effect of steady but light and quick steps in circling the stage, she would practice weighed down by cotton-padded clothes, a fur-lined jacket and even with bags of sand tied to her legs. Then, in the actual dance, the lack of weight gave her the feeling of floating and soaring as she swirled the red scarves.

Her decision to turn to folk dancing came at liberation when she saw the festive and exuberant dancing of the people celebrating this momentous event. Folk dancing obviously expressed their feelings better than ballet. She decided to enter the Dance Troupe of the Beijing Central Theatrical Academy.

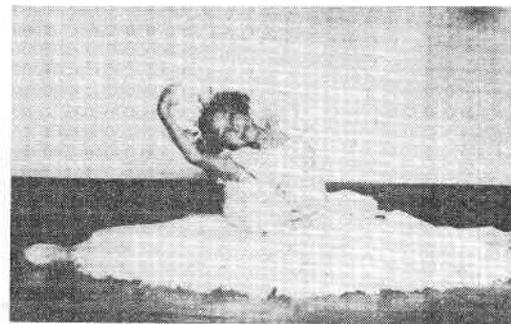
But folk dancing was strange to her. She felt a gap between her feelings and those required of a folk dancer. It would be a painstaking process to master the traditional styles and movements. Worried and puzzled, she asked herself, "Have I made the wrong choice? Should I go back to ballet, or stick to learning folk dancing?"

Zi Huayun remembered the untiring good will of the famous Dai Ailian in teaching her *Dance of the Flying Angels* in the early 50s (a dance derived from Tang dynasty murals in the Dunhuang caves). She recalled her successful performance of this dance at home and abroad, the international award she had won and the prize at a national dance festival. With Dai Ailian's hard work as a model, and drawn by the rich heritage of

art in China, she made up her mind to conquer all the difficulties folk dancing entailed.

Always fighting to capture the exact spirit of the roles she played, Zi Huayun has danced for over thirty years in such pieces as *Moonlight over the River in Spring*, *White Peacock*, *In Praise of the Rainbow*, *The Peacock Dance*, *The Dance of the Lotus* and, of course, the always popular *Scarf Dance*. As a major dancer in the Central Song and Dance Ensemble, she gave performances in many countries in Asia, Europe and Latin America.

Zi Huayun has won honors in recent performances in the major cities of China. With two other dancers, she created a number of dances which audiences like. *Song*



Zi Huayun was already studying ballet at the age of nine.

of *Longing for the Motherland* expresses the feelings of overseas Chinese. *Red Phoenix Turns Toward the Sun* praises the beauty of China's mountains, rivers, and plains. *The Drunken Sculptor* is a satirical drama based on a mask dance popular south of the Changjiang (Yangtze) River. Zi Huayun dances the role of a magistrate in a mask, enthraling her audiences.

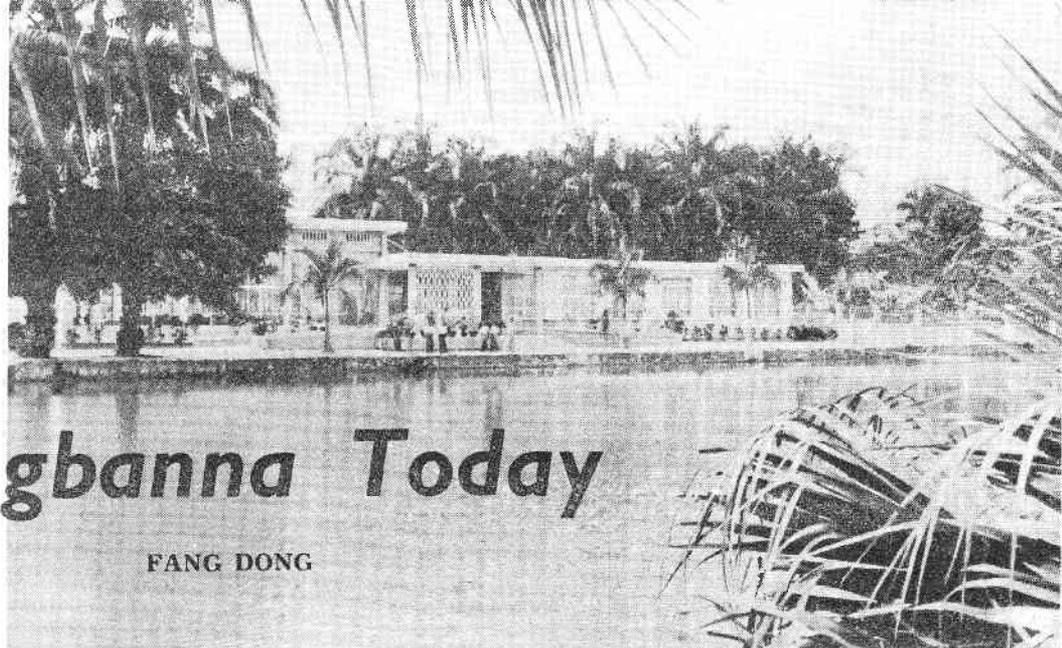
A Teacher

Though now one of the country's most loved dancers, she constantly seeks out criticism, asking younger dancers to point out her faults. Her main aim has become to help raise the level of folk dancing, working with aspiring young people and hoping they will surpass her. This spirit spurs her on. In addition to dancing and writing, she is now doing a dance scenario. □

WU JIMEI was once a dancer and is now an editor of *Dance Magazine*.

The Tropical Crops
Research Institute,
Yunjinghong, Yun-
nan province.

Xie Jun



Xishuangbanna Today

FANG DONG



Local granary is well on its way to being filled.

Wu Dong

THE most beautiful time of the year in Xishuangbanna is in October after the rainy season when everyone is busy with the autumn harvest. This was the season we came to visit it last year.

Four hours by bus through forest-clad mountains brought us to Yunjinghong, the leading township in Xishuangbanna. Suddenly before us was a broad expanse of golden paddy fields with groups of Dai girls reaping rice. From a distance, their tall topknots and colorful, tight-fitting blouses and skirts give them the appearance of the beautiful peacocks which in legend are said to circle over the waters of Jinhu, the Lake of Gold.

FANG DONG is a staff reporter for China Reconstructs.

Long ago the hunter ancestors of the Dais are supposed to have come upon this place while pursuing a golden deer. Entranced by the blue mountains, green forests, golden lake water and fragrant flowers, they named it Meng-balanaya — “wondrous land” and settled down. Another name for this region — Yunjinghong, or City of the Dawn — comes from a story told by the once-oppressed people about a national hero who fought evil forces to win freedom for his people.

This subtropical area has long been known for its plentiful rainfall, fertile soil and abundant resources. But it was only after 1949, when a new chapter was opened in the history of the Chinese people, that Xishuangbanna began to

change into a “paradise on earth”. This process, however, was cut short by the ultra-Left line pursued in the past and especially by the ten years of internal strife during the “cultural revolution”. Even now one can still see the scars.

In this region — administratively known as an autonomous *zhou* — with its 620,000 population made up of some 13 different nationalities, of whom 34.7 percent are Dais, nationality policies were seriously disrupted. The social, economic and cultural features of this remote and backward border area were ignored. Thirty years ago forests covered 60 percent of this “Plant Kingdom”, but burning and felling reduced this to 28.7 percent. Once Xishuangbanna was the largest grain-producing area in southern Yunnan, but for many years its people were reduced to buying grain from the state for food, in some years as much as 12,500 tons.

In 1980 a radical turn for the “cultural revolution” that the government’s policies for minority nationalities and border regions were restored and put back into practice. More flexible policies were adopted for agriculture and the economy. With the system of production contracts with individual households and efforts to diversify the rural economy, signs of new vitality are everywhere.

In 1980 a radical turn for the better took place in grain produc-

tion, followed by further improvements in 1981. In that year each person's grain allotment was between 350 to 400 kilograms, 1,300 hectares of land was reforested, and rubber trees, cotton and tea were planted on 4,800, 1,500 and 10,000 hectares of land respectively.

Industry also made substantial advances. Nearly 200 new enterprises were set up and industrial output in 1980 was valued at more than 60 million yuan, or 29 percent of the total value of output from industry and agriculture. The average income of the peasants from collective undertakings was 94 yuan per capita.

One example of the recent recovery is the Mengzhe Plain in Menghai county. This 16,000-hectare area is one of the four biggest plains in Yunnan province. The Jingdai No. 1 team of the Jingzhen brigade contracted the cultivation of its paddy fields to individual households in 1980, and its sidelines to individual groups or commune members, linking payment to output. Grain output that year was 85.1 percent higher than in 1979 and the average grain allotment per person exceeded 500 kg. If it hadn't been for the damage done in previous years, things would have been even better.

Flourishing Treasure-House

Crossing the 330-meter concrete bridge built in 1964 over the Lancang River which runs through the plain, one comes to Yunjinghong township. To anyone who had been here a few years ago, the changes were immediately apparent. All the major streets in the town have been paved in the past few years and are now lined with new buildings and newly-planted oil palms, betel palms, coconut palms, mango trees and pomelos.

Improved transportation and a flourishing commerce have brought an air of bustling activity. Sunday morning is market day and several thousand people jostle each other in the market square from early morning until noon. Hundreds of

kinds of farm produce and handicrafts are displayed. The buyers are mostly local Dai women as well as women of the Hani, Bulang and Jino nationalities living in the nearby hills. Groups of tradesmen from neighboring counties contribute to the general excitement and color. Around the square stand Dai snack stalls with food so tantalizing that many townspeople regularly have their breakfast here.

The local minority people are no longer satisfied with the traditional range of special goods for minority people, although this has been considerably expanded. Such symbols of progress and modernization as carrier bicycles, sewing machines, radios, wristwatches and tape recorders are in increasing demand. In 1980, for instance, only 20 tape recorders were sold in the whole of Yunjinghong county, but more than a thousand were sold between January and August of 1981. Among the 80,000 agricultural households in the autonomous *zhou*, comprising a population of about 400 thousand, there is an average of one bicycle per 2.1 households, one sewing machine per 3.3 households, a wristwatch per 1.5 households and a radio per 4.7 households.

A couple of years ago there were in Yunjinghong township only seven or eight state stores and four or five collectively-run stores selling goods on commission. All of them closed at three in the afternoon. Now, there are 60 state stores, 38 collectively-run stores, 39 cooperative stores run by young people and 80 stores run by individuals. Many of these stay open until late at night. There are also quite a number of "mobile stores" with goods displayed on handcarts. All this is making for a brisker market and greater convenience for the local inhabitants.

One of the villages we visited was Manjinglan on the Lancang River not far from Yunjinghong. It consists of 137 bamboo houses constructed in the traditional Dai style. Before liberation, this used to be a village of serfs put there to guard the grave of the feudal headman.

In the last few years Manjinglan has become fairly prosperous because of its development of a many-sided agricultural economy, including grain, bananas, rubber, vegetables and sugarcane. It has been cited as one of the region's advanced units in agriculture. Its prosperity can be seen in the fact that 85 percent of the houses are now roofed with tile instead of thatch, and in many of them solid wooden pillars and beams have replaced those of bamboo. In the autonomous *zhou* as a whole, one in every 2.6 households in the rural areas lives in a tile-roofed house.

Standing on the banks of the Lancang River—the largest in Yunnan province, known as the Mekong outside China's borders—one is reminded of the dragon boat races held during the Water-Splashing Festival in April each



The author with Sami, Director of the Buddhist Association at Xishuangbanna.
Qing Xianyou

year. Today, however, a different kind of traffic plies the river. Since 1964, when a 158 kilometer stretch was dredged and made navigable for the first time in history, ships have been sailing up and down the river every day. Apart from the convenience in transportation, this also makes it possible to admire from shipdeck the charming scenery of the mountain-girt plains and the forests with their populations of peacocks and monkeys.

Xishuangbanna's new-found prosperity is due in part to the yearly ten million yuan subsidy it

gets from the state for production and construction. In 1981, the government invited experts to study a long-term development plan for Yunjinghong. Preparations are underway for more visits by tourists and scholars.

The Open-Door Festival

Our visit to Xishuangbanna coincided with the Open-Door Festival, one of the Dai people's major traditional holidays (the others are the Closed-Door and the Water-Splashing festivals). According to old custom, the "doors" are closed every year starting on the 15th of July and "opened" around the 15th of October. The three intervening months are busy farming season and a time of frequent Buddhist religious activities. Adults are forbidden to go on distant journeys or visit relatives, and young people are not to engage in courtship or get married. The intention is that everyone should devote all their time to production and religious matters. After the "doors" are open and until spring the next year is the time for social activities. Superstitious practices have fallen into disuse since liberation but people still keep up the custom of refraining from courtship and marriage and devote themselves to farming during the "closed-door" period.

On the 12th of October we set out from Yunjinghong for the Damenglong commune. This happened to be the first day of the

Open-Door Festival and all along the way from the bamboo dwellings and the forests came the solemn, sonorous rhythms of the *mangluo* gongs and elephant-foot drums. Wherever there were ponds, rivers, or reservoirs, one could see Dai women of all ages bathing, washing their long hair, clothes and household utensils. Young girls were playing and laughing in the water.

At the Menglong people's commune are two famous ancient pagodas, the Bai and Sun pagodas, said to have been built in commemoration of Sakyamuni's arrival here 2,000 years ago to teach the Buddhist scriptures. The story goes that the Bai pagoda was built where that founder of Buddhism left some toe prints, and the Sun pagoda where he left a heel print, and that people later constructed small buildings over the prints to preserve them for worshipers. The old Dai caretaker of the pagodas opened the doors of the buildings to let us see the prints. The toe prints alone were larger than the foot of an ordinary human being.

The Bai pagoda is a single structure, while the Sun pagoda consists of eight smaller pagodas around a larger one. These, together with the eight-cornered pavilion at Jingzhen in Menghai county, are the three most well-known examples of ancient Buddhist architecture in Xishuangbanna. The government has allocated funds for the upkeep and protection of these exquisitely-constructed edifices and many be-

lievers make pilgrimages here every year.

We saw many peasant women climbing up the hills on which the pagodas were built, each with a bucket of sand and a bucket of water slung on shoulder poles. The water they splashed onto the pagodas, for these are given a washing during the Open-Door Festival. The sand they piled to one side of the pagoda to be used later for building a monastery on the top of the hill.

In the village itself, pigs and sheep were being slaughtered and a holiday spirit was in the air. In the daytime, paper pagodas were carried through the streets to the beating of drums and gongs. At night young people danced in pairs under the bodhi trees near the monastery. There was more than usual going on this year because it was the first time the Open-Door Festival was being observed after more than ten years.

In many of the villages the monasteries which had been damaged or destroyed during the "cultural revolution" have been restored. The famous Man Ge Monastery in Yunjinghong, for instance, has been completely renovated and new Buddhist statues sculptured. In Menghai county, we interviewed Sami, venerable director of the autonomous *zhou's* Buddhist association as well as council member and vice-director of the national and Yunnan provincial Buddhist associations. The association is helping the government implement its policies on religion and religious activities returning to normal.

A rubber factory run by a branch of the Jinghong State Farm.

Xinhua

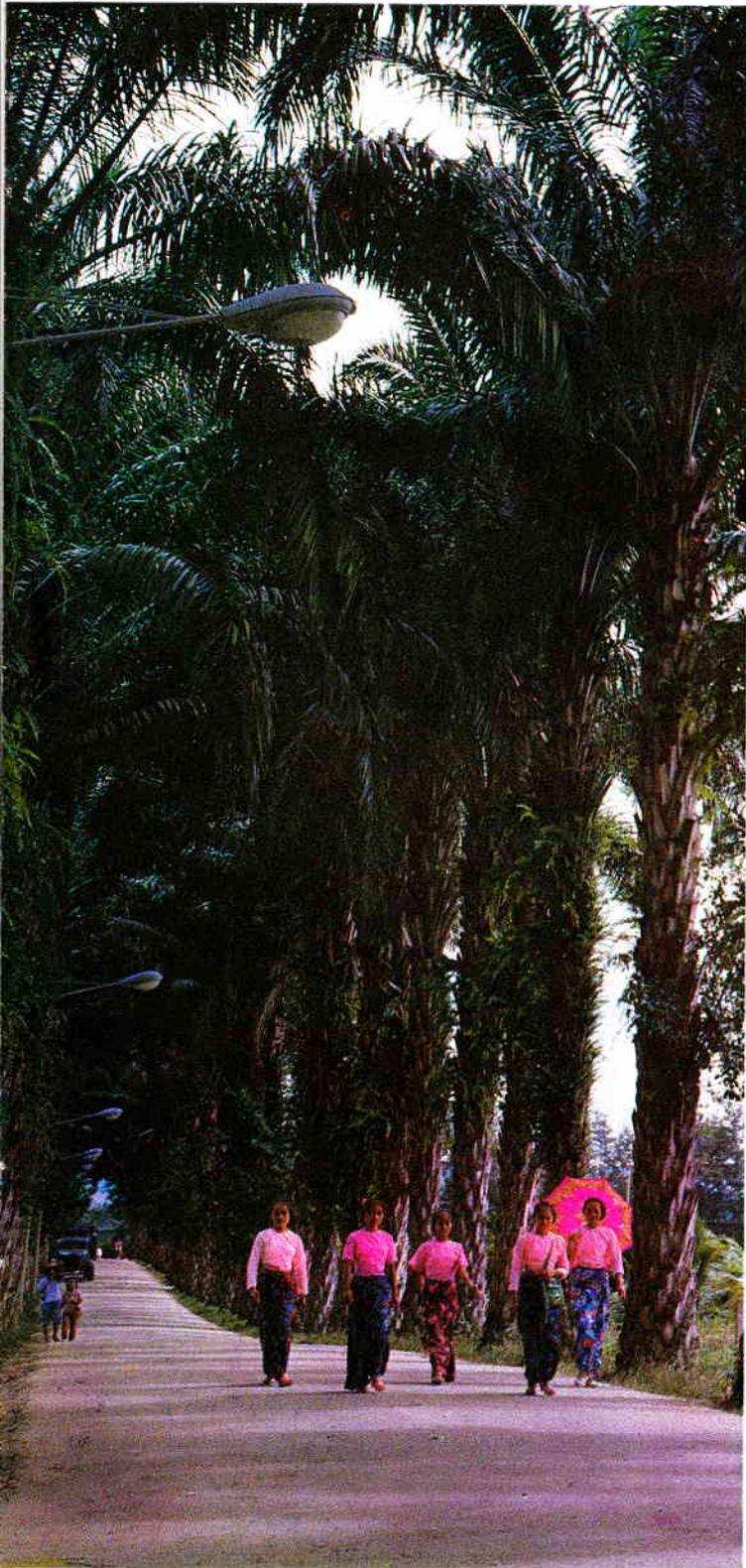
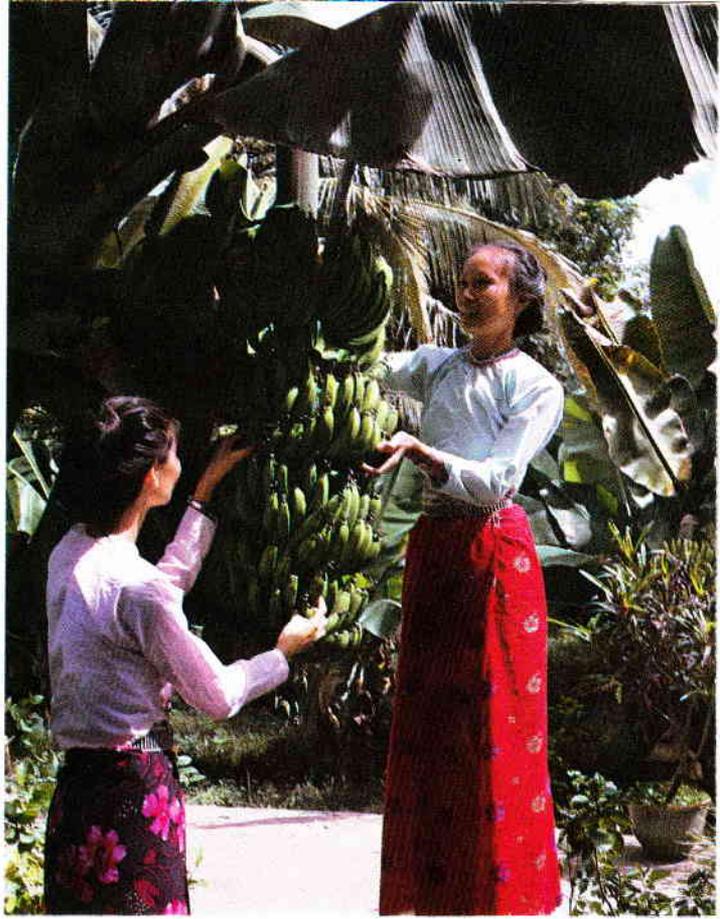


Fruits of Labor

At an international scientific forum on rubber research and development held in Thailand last year, a paper on the cultivation of cold-resistant rubber trees in Xishuangbanna by representatives from the Tropical Crops Research Institute of Yunnan aroused much interest.

The Tropical Crops Research Institute, founded in 1953, was one of the places we visited in Yun-

Harvesting bananas.
Xie Jun



An 800-year-old tea tree in Menghai county. *Zou Liancong*

Palm-lined road.
Xie Jun



By the Lancang River.

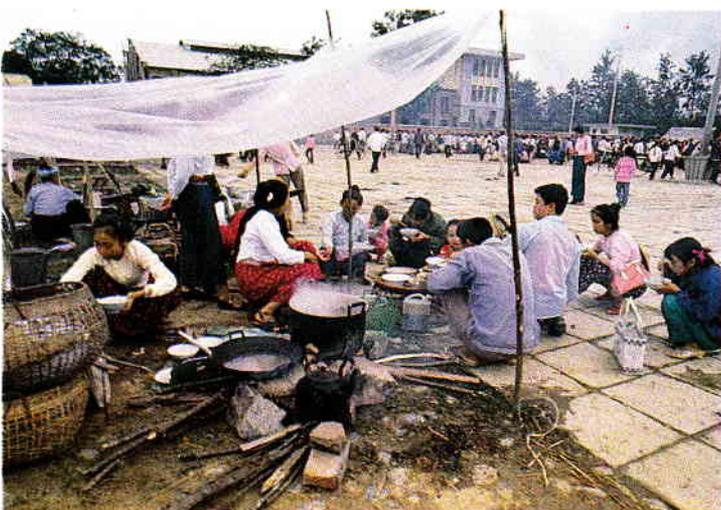
Xie Jun

A food stall in Yunjinghong, the largest town in Xishuangbanna.

Xie Jun

An eight-sided pavilion in Menghai county.

Xie Jun



jinghong. Researchers had started experiments in planting rubber in Yunnan in 1952. That was 459 years after Columbus brought back to Europe the mysterious rubber balls the Indians of the "New Continent" played with, and 75 years after rubber trees were first transplanted to tropical countries in Asia. It was thought at the time that such trees could only be planted in tropical areas of low elevation and latitude and that the 17th parallel was the northern limit. The researchers, however, moved rubber trees to China's border areas between 21 and 25 degrees north latitude and up to 1,000 meters above sea level. The results were good. Rubber is now cultivated on 40,000 hectares of land in Yunnan. In 1980 alone, 4,700 new hectares were planted and many communes have covered denuded hills with rubber plantations. The Xishuangbanna autonomous *zhou* now ranks second only to Hainan Island in China as a rubber producer.

Rubber planting in China owes much to returning overseas Chinese. In 1948 ten thousand rubber saplings from abroad were planted on the Ganlan Plain in Jinghong county. Owing to poor management and the lack of support from the corrupt government of the time, only 80 were left by the time of liberation. This experience was analyzed after liberation by scientists investigating the province's plant resources and it was decided to develop rubber cultivation here.

Home of the "Tea King"

There are about 5,000 higher forms of plant life in this "Plant Kingdom", or about one sixth of the total number in China. Today there are several other units studying the flora of the region, including the Yunnan Tropical Plants Institute of the Chinese Academy of Sciences, the Jinghong Medicinal Substances Experimental Station of the Biological Research Institute of the Chinese Academy of Sciences, and the Tea Research Institute of Yunnan Province.

Menghai county is the origin of the renowned Pu'er tea. In the past few years tea cultivation, which had declined, has made rapid advances not only in Menghai county but throughout the autonomous *zhou*. Ten thousand hectares of land has been planted and one sees new tea plantations on the mountain slopes everywhere. Tea is one of the major cash crops (the others are cotton, sugarcane, rubber and fruit) promoted to help diversify the local rural economy — a measure which has brought enormous benefits to the area. Due to favorable natural conditions, tea bushes grow to extraordinary heights and the leaves are large, fleshy and aromatic. These find ready markets at home and abroad. The name "Pu'er" comes from the fact that in former days, the center for collection and taxation of local tea was in Pu'er, the leading township.

The Menghai tea factory is the largest in Xishuangbanna and famous in Yunnan province. With mechanized and fairly modern equipment, it now turns out 1,500 tons of tea annually, 300 times the amount produced in Menghai before liberation. Of its 700 workers and staff, 41 percent are members of local national minorities. Many communes, brigades and teams in the autonomous *zhou* have built their own plants for the preliminary processing of tea leaves, and a branch of the tea factory has been established in a village of the Hani nationality in the Nannuo Mountains where a good deal of tea is grown.

Tea has been cultivated in Menghai since ancient times. In the 1950s, two old tea bushes were discovered in the Nannuo Mountains, one of them already withered and dead. Scientists found that these had been cultivated and their leaves picked at least eight hundred years ago. The living bush stands 547.95 cm. high, has a trunk 138 cm. in diameter and is known as the "Tea King".

Seven wild tea bushes were found in the 1960s in primeval forests 1,900 meters above sea

Chinese Cookery

Phoenix Prawns

(Feng Wei Xia)

- 2 lb. prawns
- 1 oz. green peas
- 1 scallion
- 1 egg white
- 1½ teaspoons rice wine (or sherry)
- 1½ teaspoons salt
- ¼ teaspoon monosodium glutamate (MSG)
- 1 tablespoon cornstarch mixed with 2 tablespoons water
- ¾ cup chicken stock
- 1 cup melted duck fat (or vegetable oil)

Boil green peas two minutes. Remove and put in cold water. Cut scallion into 1-inch lengths.

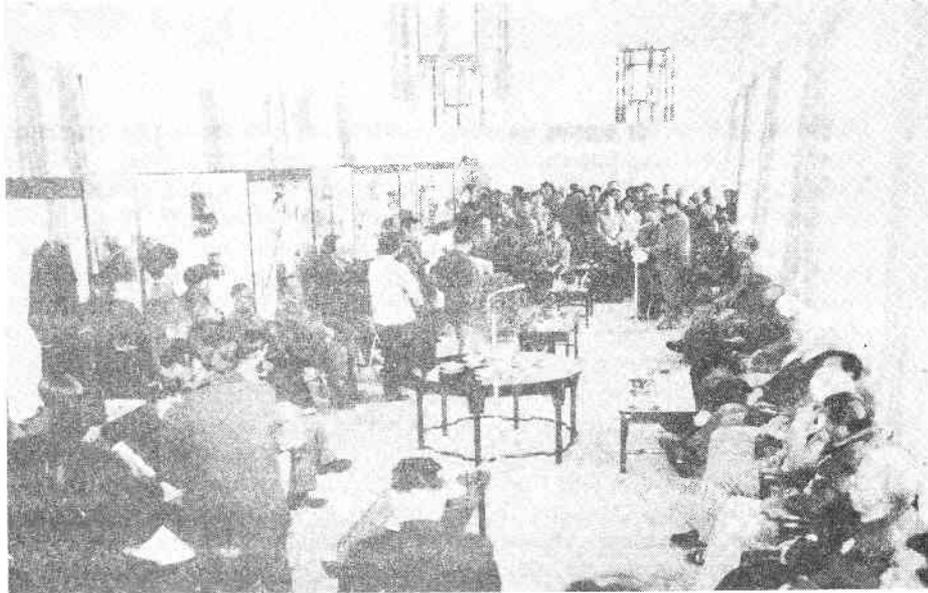
Shell prawns, removing heads but keeping tails on. Wash prawns in cold water and drain. In a big bowl mix egg white, salt and two-thirds of the cornstarch solution and dip prawns in the mixture.

Heat melted duck fat or vegetable oil in a skillet over high heat until it smokes. Add prawns. Lower temperature to medium and deep-fry prawns until the meat turns white and the tails red. Remove and drain. Pour off hot oil.

Add one tablespoon hot oil to skillet. Quick-fry scallions and green peas over high heat for half a minute. Add chicken stock, salt, rice wine, MSG and one-third of the cornstarch solution. Stir sauce over a low fire until it thickens. Add prawns and mix well. Sprinkle hot oil over all before removing from heat. Place prawns and sauce on a large plate and serve at once. Serves four. □

level in the Hesong production brigade of the Bada commune. One of these measures 3.14 meters around the trunk and 32.12 meters high. Estimates put its age at 1,800 years, making it the biggest and oldest tea bush so far discovered in the world. □

On Our Thirtieth Anniversary



At the anniversary celebration.

A meeting to celebrate the 30th anniversary of *China Reconstructs* was held on January 20 at the residence of the late Honorary Chairman of the People's Republic of China, Soong Ching Ling (Mme. Sun Yat-sen). She was the founder of our magazine and, as head of the China Welfare Institute which publishes it, led its work until her death in 1981.

Huang Hua, China's Minister of Foreign Affairs, was the main guest speaker. *China Reconstructs* was appreciated by readers and had won international prestige, he said. One reason was that it speaks through facts. He hoped the magazine would play an increasing part

in promoting understanding and friendship between the Chinese people and those of other lands, and in defending world peace.

The meeting was attended by 400 people, including the entire staff of the magazine. Among the distinguished guests were Xu Deheng, a vice-chairman of the Standing Committee of the National People's Congress, and leading members of government departments and public bodies, as well as noted economists, jurists, writers and artists, many of them contributors to the magazine. Present too were old foreign friends of China who have written for us or helped our work. The gathering was friendly and informal.

Messages of congratulations were received from Deng Yingchao, widow of the late Premier Zhou Enlai, and Zhu Xuefan, both vice-chairmen of the NPC Standing Committee, and other prominent personalities.

A small exhibition covering the magazine's thirty years of work was shown. Viewers were particularly interested in Soong Ching Ling's manuscripts and editorial instructions, handwritten in Chinese and English. Other panels presented the work of the seven editions and readers' letters in many languages.

Displayed in the hall were scrolls by noted Chinese painters and calligraphers done specially for the commemoration. □

Vice-Chairman Xu Deheng (center), and cultural leaders Chu Tunan (left) and Zhou Erfu.

Famed physicist Zhou Peiyuan with veteran friends of China (left to right) Dr. George Hatem (Ma Haide), Rose Smith and Rewi Alley.





Huang Hua, Vice-Premier and Minister of Foreign Affairs, offers his congratulations.



Zhu Muzhi, Vice-Director of the Propaganda Department of the Party Central Committee, also spoke.



Exhibits chronicle the history of the magazine, from its founding in 1952. All seven editions were represented.



Crowding into the main room to hear the speakers.



Guests look over the exhibits and chat with old friends.

On behalf of China Reconstructs, editor-in-chief Israel Epstein speaks at a reception for foreign and Chinese journalists.



A seal inscribed 'Thirtieth Anniversary of the Founding of China Reconstructs' by noted stamp designer Liu Shuren.

Photos by Zhang Shuicheng, Liu Chen, Huo Jianying and Zhou Youma

Understanding About Pigs

MARY SHERIDAN CHEN

POPO (grandmother) is up at 5:30 to get breakfast. I can hear Simei (fourth child daughter) dressing quietly in the dark, and going into the kitchen to help. But until 6:30 I lie drowsing behind the soft folds of mosquito netting draped around my four-poster bed. One padded cotton quilt is warm enough against the nip of October air. The night rain taps to a slow halt on the clay roof tiles, and there is a delicious moment of peace before I scramble for my clothes. I am a Canadian beginning another precious day of my life in village China.

I pull on blue cotton trousers over my rose-colored cotton long johns, and lace up my green canvas shoes. Their ribbed rubber soles will provide sure footing on the village paths, where the clay soil is slippery from the rain.

In the kitchen I pour a cupful of boiled water into an enamel mug and go into the back courtyard to brush my teeth. I greet Popo who is sitting on a small stool chopping up sweet potato vines. She has already placed our breakfast on the table and is now getting breakfast for the family pigs. We comment on the unusual amount of rain during the year (1981), and the earlier than usual chill of this season.

At breakfast we eat rather quietly today. The father has gone off to a meeting at the commune office. The second son takes food to his wife's room, because she's not feeling well. Simei is in her room embroidering for a half-hour before going to work at the village noodle factory. (She is decorating pillow cases for her wedding in the



Breakfast is served.

coming New Year.) Popo, Mother and I eat our rice porridge and *baba* (flat fried bread) with pickled green long beans and fresh ginger as condiments, and chat leisurely. Then I help clear the dishes, wipe the table clean, and go off with the mother to work.

SHUNZHEN is 48 and I am 43, but we go off together like girls — slipping and slithering down the steep path, sloshing and laughing through the puddles. The moist grey haze lifts over the empty winter paddy fields, flecked white here and there by a few ducks and loquacious geese. We turn off the road at a long building of packed earth with a small center courtyard, standing slightly apart from a cluster of family houses.

Shunzhen unlocks the doors, and we go in. This is the pigsty of her production team and she is the keeper. We check the pens — there are some twenty animals left, several having been recently sold. In the kitchen, Shunzhen starts a fire in the stove under the giant iron *guo* (also called a *wok*, a curved iron cauldron shaped the same as the smaller Chinese frying pans in my own kitchen at home). I stir the watery brew of sweet potatoes, greens (chopped leaves and vines), and mash from rice bran, until it heats up — and then we ladle it into large wooden buckets to carry to the pens. My favorite porker at the end of the row is on his hind legs, front hoofs on the wooden rail, snuffling an urgent greeting.

THIS is the job I like best — lifting the bucket of hot feed over the wooden rail of the pen, bunging aside the pink piggy noses so I can pour into the stone trough. I congratulate myself. My aim has improved! The first time I did this job, the pigs got their snouts into the bucket and I poured food over their heads and into their ears. Today their heads remain as shining clean as the rest of them. For these are indeed immaculate animals.

Shunzhen told me: "You have to understand about pigs. They are like people — they like to be clean and comfortable." Every day following their afternoon meal, she hoses them down (there is piped-in running water), and the pens are washed out morning and eve-

ning. The stone floors of the pens slope outward and drain into fertilizer pits. The grounds of the sty are swept up twice a day and lime is used so that there is no odor. This is not only the cleanest sty in the village (I have visited all), but cleaner than those I've seen in Japan, and a far sight tidier than my old haunt back at Cornell University.

The pigs are a white variety — long and lean at the moment. It is the custom here to raise pigs lean to full size, so that their bones will grow long and strong. Thus the steady diet of cooked greens with grain husk for added nourishment. Only in their last few weeks before sale are the pigs fattened up quickly.

ALL of the work in the sty is done by Shunzhen. Last year she raised sixty pigs by herself, earning a terrific profit for her production team. But this year her number of charges have been reduced, and a part-time assistant comes mornings. Right now, however, with half the pigs sold, she works on her own and has time to teach me various tasks.

For example, how to make brooms from wild bushes which dry out stiff and springy, ideal for sweeping the pens. Shunzhen finds the wild seeds on the forest slopes and brings them back to plant in front of the sty. She carries grass for extra fodder, and towering loads of storm-broken twigs and branches from the forest floor for fueling the stove.

I admire and envy Shunzhen's strength as she works. Her body is as young and strong as a girl of twenty, and when she smiles she is just as pretty. At 16 she was the beauty of the village. And although from a poor family, she was the best educated of her generation, having had seven years of schooling. Later she was sent by the village to study infant education in a city institute, returning to teach in the brigade kindergarten.

A couple of years ago Shunzhen took over the pigsty, which had been losing money for the production team, and turned it around to



Shunzhen and the author fill baskets with fermented greens, which are then cooked in the pigsty as feed.

great profit for her unit. She is everything that I admire in another woman: intelligent, sensitive, strong, cheerful, able and energetic — and for the pleasure of her company, as well as for “learning to understand about pigs” — I come to work with her as often as possible.

YESTERDAY, I helped Shunzhen fork green fodder down into a square pit in front of the sty, and pack it down by stomping around on it. We bounced up and down on the springy stuff until my knees felt quite wobbly. Then we covered the chopped greens with plastic sheeting and I shoveled manure on top of it to cause temperature rise for composting. Pit storage of fodder by fermentation is important for preserving winter supplies.

Today Shunzhen sets me to work chopping greens. It is my first time, and I feel quite proud of myself, to be entrusted with the large sharp cleaver. We put a small board on the floor in front of a six-inch-high stool, and Shunzhen shows me how to hold the bunch of sweet-potato vines tight, so that leaves and stems can be shredded without mincing my fingers. I cut cautiously at first — too much lifting my arm, not enough wrist

action. I make silly mistakes, like clearing the chopped leaves away from the board, thinking that I must chop directly on the wood. Shunzhen shows me how to let the pile build up and chop on top of the greens — thus mincing more thoroughly the leaves underneath.

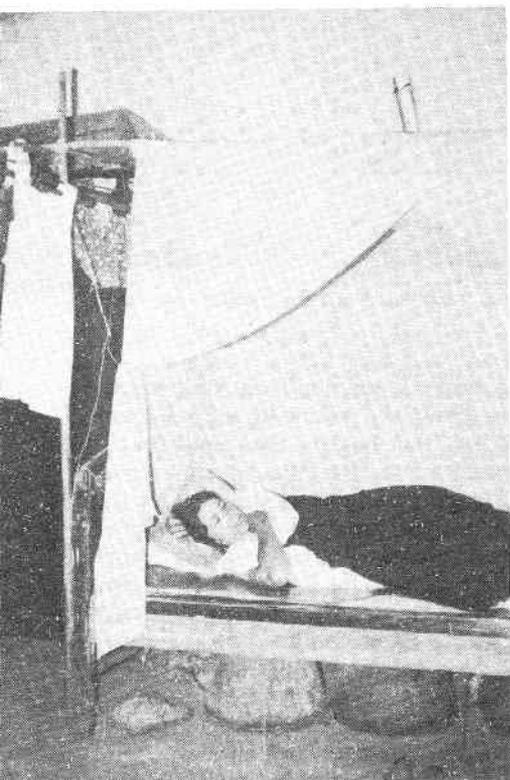
I work steadily, glancing smugly at the diminishing pile of vines beside me and the rising heap of chopped leaves in front of me. I say to Shunzhen that I like to finish a job once I start it, and I'd like to finish these before lunchtime. She says she is the same about her work — to finish each task in a set time — this is a pleasure and a pride.

Then our conversation shifts to something we were saying last night. I had been telling her how some Chinese people in the school where I teach English were surprised at my wearing my village-made clothes to class. They would say: “You're a university professor! How can you come to class dressed like a peasant!”

I think the village tailoring shop has done an expert job on my clothes. So I chided my critics: “Your attitude toward the countryside is really old-fashioned. You don't consider a person's ideas or heart. All you see is the outside. I like these clothes. I can wear

them to teach in Canada, and my students will love it!"

I tell Shunzhen how much it pains me that some of my friends at the school have a snobbish attitude toward the countryside. In Canada — so many of my friends were either born on a farm, or have moved out of town to a farm to escape the furor of urban living.



The four-poster bed in the farmhouse.

Shunzhen says: "Mali — now you understand us." Like other mothers in the village, Shunzhen is disappointed that none of her children entered university, although they did well in school. No people from this village have passed the increasingly difficult university entrance exams of the past two years.

This year I taught English for half an hour every Saturday in the village school to children of the fifth grade — and their pronunciation is now perfect. They learn quickly, eagerly, and intelligently. There is great ability here to be developed. Many of my Chinese friends at the school were enthu-

siastic about my working in the village. But some teachers of literature seemed to feel it decidedly odd that I had voluntarily changed my college major from literature to rural development and work in agriculture. How could I desert what they consider a noble calling, to go work in the fields and pigsties? When I encountered such attitudes, it hurt but all the more confirmed for me the value and importance of my work.

Last night when Shunzhen and I were talking in the kitchen, I told her how grieved I was. I felt how deeply I loved my friends in the village, but also doubted that they understood this. Then Shunzhen leaned over and nudged me. "Mali," she said, "you have a good heart. If you didn't I wouldn't pay any attention to you. I wouldn't even bother to speak to you."

We were sitting close together on two small stools, near the kitchen stove to keep warm. I was washing my feet in hot water in a wooden tub to get ready for bed. Shunzhen added some wood shavings to the fire and stoked the flames. Then she said very softly: "Mali, I understand about your studies and your work. Your work is your family. . . . *Ni de gongzuo shi ni de jia.*"

And so she showed me that I was not after all alone, going to the heart of the matter.

MY thoughts wander back from last night to the chopping business at hand. It is noon, and time to clean up for lunch. I've demolished two-thirds of the pile of vines, not quite my goal, but I nevertheless feel proud. Puffed up, but wanting to appear casual about it I say: "Well, it's taken

me two hours to do half of it. I guess you could easily finish it all in one, eh!" Shunzhen grinned deprecatingly and corrected me: "In twenty minutes."

So much for my self-congratulations! I've chopped 50 *jin* in two hours and she does this in ten minutes. Indeed, working steadily, she and the other expert women can chop up 2,000 *jin* in a day! I gaze at Shunzhen with something like awe. Shorter than myself by half a head — still perfectly rounded and compact of figure, graceful but strong and steady, and modestly proud of this strength — suddenly I feel a flood of gratitude and amazement that Shunzhen can give me her friendship on an equal basis. I am by no means a weakling, but this is a woman who can stretch my pace, certainly wiser about people than I, stronger, more able . . .

Shunzhen is washing out the fodder buckets and I sweep up the floor. We take off our work aprons, slip on our jackets, and Shunzhen locks the wooden doors. Then we head back across the fields towards home for luncheon.

My gaze drifts from the bronze-hued paddies to the vegetable terraces, and to the farmhouses snuggled under the hill among bamboo. Above them the crown of pines on the rim of hills stretches away in verdant spaciousness, and I reflect that — but for an accident of fate and birth, I could as happily be doing Shunzhen's work and she mine. But we have this bond between us: Now I understand about pigs, and Shunzhen understands about my work. And both of us understand about each other. Surely this is the meaning of friendship between people, between countries. □

Professor Mary Sheridan Chen came to China from York University in Toronto, Canada. Her monograph *Peasant Innovation and Diffusion of Agricultural Technology in China* was published by Cornell University in the U.S.A. She visited Jingang Brigade near Chongqing in 1973 and 1978, returning again in 1979 to spend two years studying the village methods of vegetable cultivation, while teaching English in Chongqing.



A Daughter from Nowhere

CAO JUNZHI

Bian Tingmin (far right) with her new mother (second right), grandmother and father.

Gao Liang

In old China it was sheer catastrophe when people had no children to support them in their declining years. With pensions and other forms of social security, this is no longer the case. But there are other reasons for wanting children. Thus it was a great joy for Zhang Xiangling, a woman in her sixties from a Hebei province village, when she recently acquired a "daughter" in her old age.

Zhang Xiangling is three years older than her second husband, Li Hengli. Her mother-in-law is over 80. The three old people lived by themselves well enough, but wished they had a child to make their life livelier and better.

In 1980 many papers and magazines carried articles on how well Zhang Xiangling had looked after her old mother-in-law for 40 years. Zhang Xiangling began to take part in the revolution in 1939 during the anti-Japanese war and became a Communist Party member. One snowy night when she was 18 and with a baby in her arms, she saw her husband off to fight against the invaders. Her husband was killed, and later her son died. She had scarcely recovered from this when her husband's father died too. Comforting her mother-in-law, she told her, "Mama, as long as I am alive I'll take good care of you." In 1969 she married Li Hengli, who

CAO JUNZHI is a staff reporter for China Reconstructs.

treated the old woman as if he were her own son.

Many kilometers away in Shandong province, a pretty 18-year-old girl, Bian Tingmin, was deeply moved after reading the story. "What if Mother Zhang falls ill?" she asked herself. "Who will take care of them?" An idea grew in her mind, until one day she wrote a letter to Zhang Xiangling and asked her to accept her as a "daughter". Finally an answer came — Mother Zhang would be delighted.

But this caused a great argument in Bian Tingmin's family. Her brother said, "We agree that Mother Zhang is a good example to learn from, but your own grandparents need your care too. Why should you leave for a place far from home?"

"You and my sisters and sister-in-law can take care of them very well," she answered, "but the three old people in Mother Zhang's house don't have a young person to look after them. I want to go."

Her grandmother, who had brought her up after her mother died, did not want her to go. Bian Tingmin told her, "I'll never forget how hard you worked to raise me. But Grandfather was killed by the Japanese invaders, just like Mother Zhang's husband. Somehow this links our families together. Going to Hebei province to look after Mother Zhang seems the right

thing to do." Moved by Bian Tingmin's sincerity, her family finally agreed.

So, one day in May 1981, the girl arrived to live with her new "father," "mother" and "grandmother". The quiet courtyard suddenly became lively.

Zhang Xiangling's family hadn't had a daughter for several generations and Tingmin became their darling. Mother Zhang often hugged her and combed her hair for her. The formerly quiet house was now full of songs and laughter. At night the aged grandmother would get out of bed to see that her new granddaughter was well covered. In their love, the three old people would hardly let her do anything around the house. Pretending to be angry, the

Bian Tingmin and her mother at work on the new house. Gao Liang



girl would say, "If you treat me like a guest, I'll leave." They always gave in.

Learning from Mother Zhang how to care for the grandmother, Tingmin poached eggs with a few drops of sesame oil in the morning and took it to the old woman on the *kang*. In summer she prepared watermelon with sugar for her. She took over the cooking from Mother Zhang. Two or three days after her arrival she began to help plant cotton seedlings in the field with her new father. He tried to give her the lighter work, but she wouldn't have it. She told him, "How can I really help the family if I am not good at farming?" Today she has become a good manager inside and outside the house.

The news that Bian Tingmin had volunteered to take care of the three old people quickly spread to nearby villages. Many people thought it was a good sign of the return of socialist ethics after the disastrous "cultural revolution." In those years there had always been some aged people complaining about their children not treating them well. And here was a stranger from another province setting a good example for young people!

Some skeptics wondered about her motives. But Tingmin is the youngest of her brothers and sisters. Her family were very fond of her, even spoiling her. When she left home to look after three old people, it certainly wasn't to find ease and comfort. Bian Tingmin is a quiet but determined girl.

Why did she go to live with Mother Zhang? This is Bian Tingmin's answer: "Everyone should have a high ideal. Some want to climb or make money, but I think I should live for a better aim than *that!* When I wrote to Mother Zhang, we were discussing the meaning of life in my school. I agreed with the idea that it is to make other people happy. Mother Zhang has devoted all her life to the revolution. I think it is my duty to help make the remaining years of these three old people good ones. One shouldn't dedicate one's youth to trivial matters." □

Medical Briefs

Controlling Filariasis

CHINA is making progress in preventing and treating filariasis, the disease caused by nematode parasites in the blood or tissues. The disease takes several forms, the most common involving the lymph glands and connective tissues. One-fourth of all counties where it exists have basically eliminated the disease and two-thirds of the patients have so far been treated.

Filariasis, one of the widespread diseases in the world, first appeared in China more than 2,000 years ago. At one time 30 million people suffered from it. After 1949 the people's government took vigorous steps to prevent and cure it. In the past few years the work has greatly accelerated.

A national working conference on the prevention and treatment of filariasis held in late 1978 decided to organize three-year investiga-



Medical workers in Luoyuan county, Fujian province, check the quality of hetrazan-treated salt in a pickles factory. Hetrazan is used to prevent filariasis.

tion groups to make surveys in 14 provinces, municipalities and autonomous regions. The goal was to lower the infection rate among the people to one percent or less.

In one year, the number of rural production brigades or city residential areas which reached this criterion increased from 80 to 228. All ten counties outside of Shanghai and 40 of the 68 counties in Guangxi Zhuang Autonomous Region have reached this goal. Zunyi and Tongren prefectures in Guizhou province and Longyan prefecture in Fujian province have eliminated the disease. Originally widespread in 74 counties in Shandong province, filariasis was wiped out in all but one in 1981.

Occupational Diseases

A three-year survey of occupational diseases in China has come to an end. This not only gave clearer knowledge of the harm done by poisonous substances such as lead, benzene, mercury, organic phosphorus and trinitrotoluene to workers but in what areas, departments, industries and types of occupations they suffer most. The results also provided a scientific basis for preventive measures.

The project started in 1979 under the guidance of the Ministry of Public Health, the Ministry of Labor, the All-China Federation of Trade Unions and the State Administration of Medicine. Examinations were given to 95 percent of the workers who come in contact with these poisons. The density of such substances in the environment around 98,900 sites was measured with 188,038 air samples. The survey plotted the incidence and rate of occupational diseases caused by these poisons.

The survey greatly aids the prevention and treatment of occupational diseases and labor health work. Public health bureaus or departments of industrial hygiene have been set up in 24 provinces, municipalities and autonomous regions, and health administrations in some industries. These give workers immediate treatment and transfer them to new jobs afterward. Meanwhile they take active measures to control the harmful substances.



Liu Yuqing, veteran radiation specialist from Fuwai Hospital of the Chinese Academy of Medical Sciences, shows local personnel how to read X-ray films during a lecture tour in Qinghai province.

High-Altitude Surgery

THE incidence of congenital heart disease on the Qinghai-Tibetan Plateau is higher than in any other place in China. A number of nationalities live in Qinghai province. Because of poorer medical conditions there, many patients with severe heart disease have to be transferred to larger cities for treatment.

Not long ago a seven-member medical group headed by Dr. Xue Ganxing, a skilled heart surgeon from Beijing's Fuwai Hospital of the Chinese Academy of Medical Sciences left for Qinghai. Most of the group suffered from altitude sickness when they arrived but threw themselves into the work at once.

A shortage of some medical equipment was a difficulty confronting the doctors. At one point

it was necessary to do an operation for a boy who suffered from tetralogy of Fallot. Because of the complicated operation, the diagnosis depended on extensive angiocardiographic apparatus they did not have. After much discussion and innovation of a substitute method, they reached a final diagnosis. The operation was a success and, moreover, was the first one ever done on the plateau. Several more such cases were handled satisfactorily.

The medical group helped raise the skill of the local medical workers by giving them courses on heart catheterization, angiocardiography, laboratory testing, anesthetics, extracorporeal circulation, ordinary heart operations and post-operative care. Dr. Liu Yuqing, vice director of the Fuwai Hospital and radiation specialist, lectured in Xining, capital of the province. In their routine duties the medical group taught their techniques to the local doctors, helping them to lay the ground for future heart operations. The group did 79 operations in 66 days, 97.5 percent of them successful.

Rare Birth Defect Corrected

A small extra head attached to the right side of the face of a peasant in Yunnan province was successfully removed in December 1979 in a Kunming hospital. The patient, 35-year-old Zhang Ziping, lives in a remote mountain village in Huize county, 273 kilometers



Xue Ganxing, a heart surgeon from Beijing's Fuwai Hospital, visits a Tibetan herdsman in his tent in Qinghai province.

northeast of Kunming, and continues to do farm work.

Covered with hair, the extra head was 19.5 cm. in circumference, had twelve teeth, eyebrows and undeveloped eyes, mouth, nose and eyelids. The cranial structure was small but normal, though its brain tissue did not function. Medical experts believe that the case is exceptionally rare not only in China but abroad.

Medical literature over the past 30 years has reported only nine such excisions, among them operations by C.R. McLaughlin in England in 1948, H.G. Beatty in the United States in 1956, and Cihat Borcbakan in Turkey in 1977. The Chinese case had more highly developed accessory organs than the other cases reported.

The operation was done by Professor Wang Damei, 60, of the Beijing Medical College, and Li Bingquan, deputy director of the neurology department of the Kunming Medical College. Dr. Wang discovered the patient when she was on a tour to collect materials for a book. The patient is a deaf-mute but mentally sound. His medical care was free. □



Zhang Ziping before and after the operation.

Drawnwork & Embroidery Decorate Life

WU YUNCHU

I happen to be acquainted with Li Shuping, 35, a woman teacher at the Beijing Huayuancun Primary School. She and her family of three live in a two-room apartment in the south of the city. This is a lower-middle-income family. But when I entered her home, I was attracted by the drawnwork and embroidery. On the wall was an embroidered scene. The table, desk and cupboard were covered with cross-stitch work. TV set had an appliquéd cover. An armchair was decorated with an embroidered piece, and the curtain and sofa mat were crochet.

Today, more and more people like to decorate their homes with traditional drawnwork and embroidery. Since 1979 this has doubled and redoubled sales. The Arts and Crafts Store on Beijing's Wangfujing Street, for example, sold as much in the first eight months of 1981 as in the four years following 1973. National sales volume has increased by 30 percent in the last two years. Tablecloths, bedcovers, quiltcovers, sheets, cushions, sofacovers, curtains, door curtains, aprons and garments of drawnwork and embroidery sell rapidly. Even bags, handbags, caps, lampshades, baby-carriage canopies and slippers are decorated with drawnwork and

embroidery and the designs vary according to the fashion.

Twin Skills

Embroidery in China is more than 2,000 years old. Drawnwork, made by pulling out part of the warp and weft to form lacelike designs, has a stitchwork much like the embroidery of many centuries ago. Thus, veteran craftsmen call them "twin lotus flowers of art". Drawnwork seems to have originated from the eastern coastal regions from the way fishermen mended their nets. European drawnwork, imported into China at the end of the 19th century,

greatly influenced this traditional art. Today, the products of Guangdong, Shandong, Jiangsu, Zhejiang, Shanghai and Beijing are much in demand.

Guangdong's drawnwork is called "flower of the south." An example of this is "Phoenixes Turn toward Peonies," a high-grade tablecloth of organdy. In a composition of eight parts, 604 phoenixes are arranged in various postures, singing or dancing, perching or flying, while 352 peonies are a charming background. One seems to see an enchanting, sunlit scene of spring. It is said that a single phoenix needs 500 stitches. It takes a skillful worker five years to finish the entire piece.

Shandong lacework is praised as "king of drawnwork." There are over 200 varieties. The designs include beautiful heavenly beings, sporting animals, blossoming flowers and exquisite fruit baskets.

Beijing is famous for its appliqué. Specially made gauze is cut in the shape of flowers, then stitched on the cloth. The traditional designs are lively, simple and elegant.

Meeting the Need

China's drawnwork and embroidery are sold in 127 countries and regions. At home, many shops

Li Shuping's home displays many examples of drawnwork and embroidery.

Wu Chuping



WU YUNCHU is a leader in the Dalian Arts and Crafts Company.



Mou Zhiping, an expert in Suzhou embroidery, demonstrates her skill at a national exhibition.



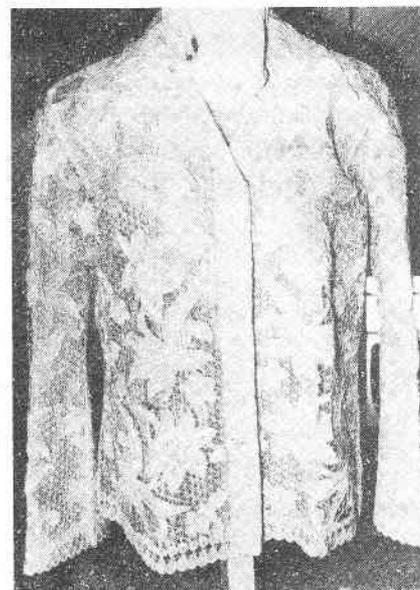
Workers at Beijing No. 1 Embroidery Factory are constantly trying to come up with new designs. *Wu Chuping*

have special counters for these traditional handicraft articles. Beijing's Arts and Crafts Store on Wangfujing Street has the largest quantity and variety in the capital. Liang Xiuwei, a warmhearted salesclerk there, told me, "More than half of our sales are tablecloths."

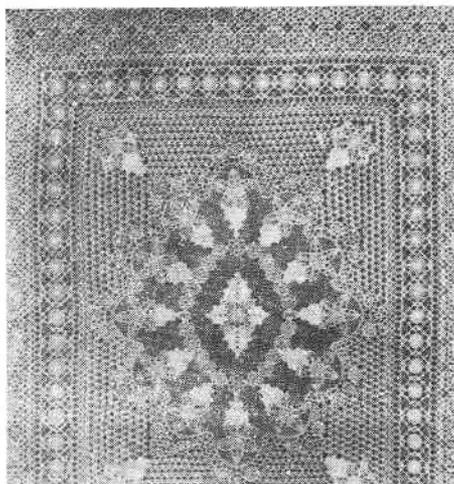
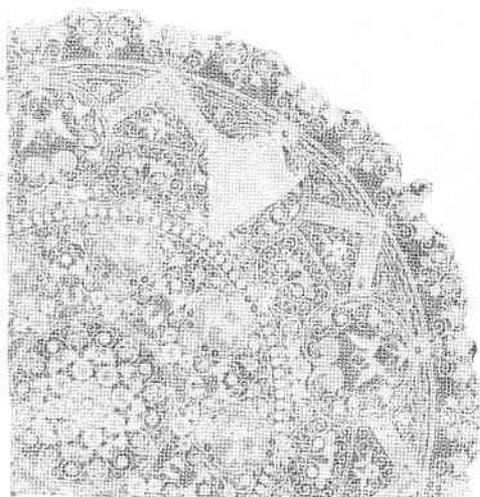
This is a new situation. Further investigation brought out the reason. Within the last two years, Beijing's housing space has increased 30 percent and most families have bought new furniture—desks, dining tables, cupboards, wardrobes, bedside tables, stands, desk and floor lamps. Sofas are common. The need for drawnwork and embroidery steadily grows with the increase in housing. This has caused the Ministry of Light

Industry to pay more attention to their production.

Across the country stress is being put on exploring and sifting the traditional crafts and folk arts of China's minority nationalities. At present there are over 1,000 varieties in 13 categories done by hand and machine. There are 80,000 workers in 400 enterprises scattered in 28 provinces, municipalities and autonomous regions. In addition, about 4,200,000 individuals work outside the enterprises. Many new artists are being trained. The state has set up institutes specializing in embroidery and drawnwork, such as a college of arts and crafts in Jiangsu's Suzhou and a professional high school begun in 1981 by the Beijing Drawnwork Company. □



Varieties of drawnwork and embroidery show the intricate nature of the work and the careful attention to detail.



An Ancient Kingdom on the 'Roof of the World'

RINZIN DOJE and
ZHANG WENSHENG



A scene from a mural of the Red Temple shows a king and queen of the Kuke kingdom welcoming Atisha, a famous Indian Buddhist religious master who arrived in Tibet in 1042.

THE remains of the Kuke kingdom founded in A.D. 923 have been found on a hill in the Ngari prefecture of the Tibet Autonomous Region. The Ngari plateau is the highest on the "Roof of the World." Though the site is large, the layout of the buildings is compact. Skillfully crafted sculptures and murals still exist.



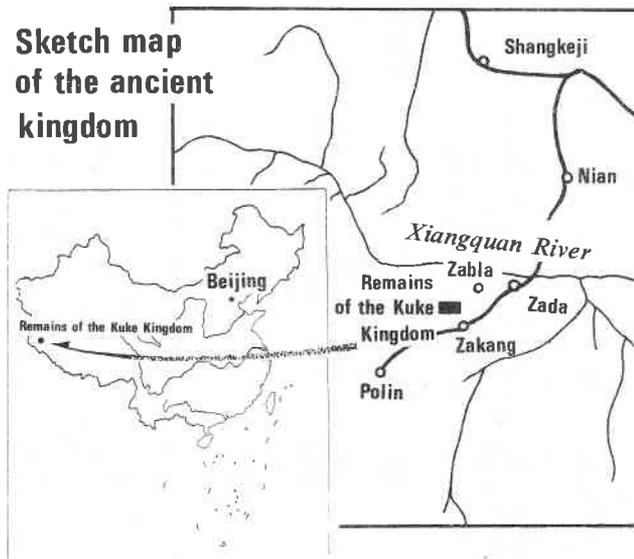
Honor guard for Atisha, the master from India (part of a mural).

Evidence

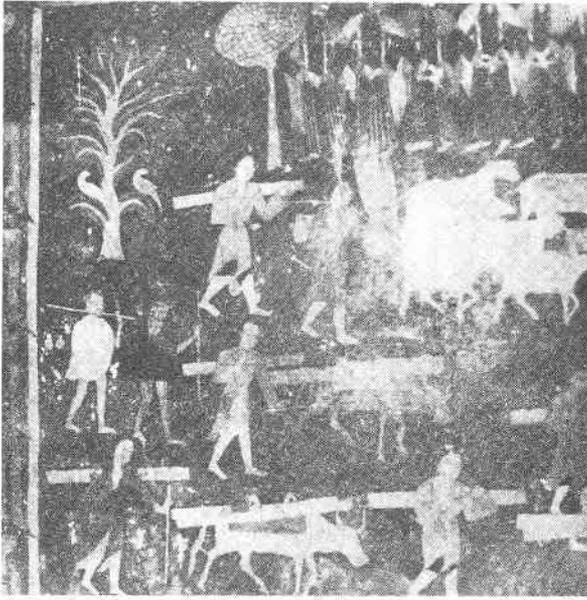
The remains occupy about 18 hectares. Arranged on the slope of a hill, terrace upon terrace, are more than 300 temples and houses, and some 300 cave dwellings, as well as three ruined towers. The

RINZIN DOJE and ZHANG WENSHENG are on the Management Committee of Historical Relics in Tibet Autonomous Region.

Sketch map of the ancient kingdom



Panorama of relics of the Kuke kingdom.



Carrying timber (part of a mural).



Stone relief carvings.

buildings are of earth and wood, connected by underground tunnels extending in all directions. Of these, the White Temple and the Red Temple are well preserved. Covering 300 square meters, each has 36 square pillars with patterns in color and walls painted with murals.

The palaces were built on top of the hill. On the southern side stood the kingdom's largest building, a great conference hall occupying 400 square meters. Flower and animal patterns were carved on the rhomboid coffers and flying eaves

of a small, well-preserved scripture chanting hall. In the center of this hall is a square platform for scriptures. Colorful murals adorn the walls. A few castle-like buildings seem to have had two stories. Window spaces still remain.

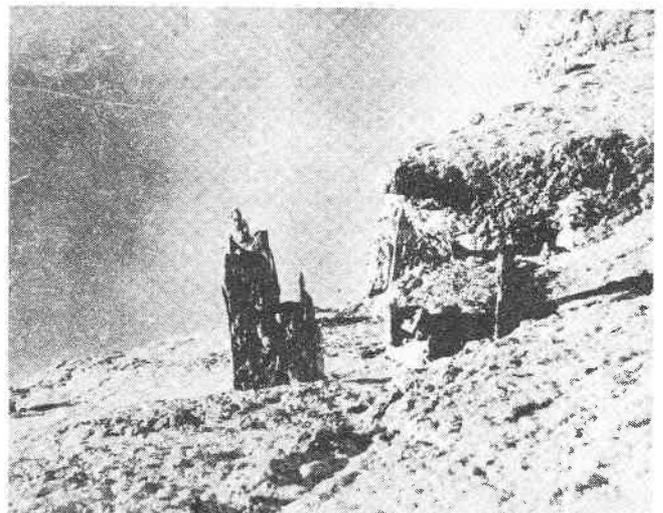
Most of the cave-dwellings were built in semi-circles or squares. Of the three ruined towers, one with a square base is called Longevity Tower. The other two have round bases and are named the Advent of the Immortals. Sections of an earthen wall built for protection around the site still stand except in

a few precipitous spots. Inner and outer city walls stood 200 meters away from the buildings. Lying scattered along the ground below these walls are many large stones on which are carved Buddhist images and sutras. These were apparently set on the top of the walls. Along the middle of the hill runs a fragmentary stone wall which may have been an aqueduct diverting water from the nearby Xiangquan River to the foothill.

Shields, arrows, horse protectors and other pieces of armor were found here and there in the



On the highest spot of the site, portions of the ancient architecture still survive.



Wooden sculptures on the outer wall of Samsara Temple.

remains. The armor was made with small iron plates, possibly silvered, strung together with leather thongs. A suit weighed about 10 kilograms. The horse protectors were made of cowhide with iron plates. Arrow shafts were of bamboo. Most of these were stored in a building on the hilltop.

Murals

The preserved murals still existing are few but rich in content and in color. On the north wall of the White Temple are murals portraying Buddha, heavenly kings and religious stories. There are also portraits of all the Zainbos of Tubo and the kings of Kuke. These carry signatures in Tibetan, including those of Songtsen Gambo (617-650) to the last Tubo ruler, Langtarma (?-846), his son Oisung and grandson Baikorzain. Following him was Gyidenyimagoin, the founder of the Kuke kingdom. The genealogy of the kingdom's rulers follows. No signature can be seen beside any of the portraits after that of Badi, the ninth king.

The mural on the left side of the south wall inside the Red Temple is the most precious one from a historical point of view. It is probably a scene in which a famous Indian master Atisha is invited to do missionary work. People in the picture are handling various objects, beating drums, blowing bugles, driving horses. A group of girls are dancing. Some maid-servants are arranging tables for sacrificial objects. The king and queen sit together, behind them their subjects row by row. In the lower part of the mural are men carrying timber on their backs and others driving oxen with loads of lumber.

The contents of the murals in the small scripture chanting hall represent scenes of paradise, the world, and hell. Buddhas and gods are seen in paradise, naked women in the world, and devils in hell where men are being cruelly tor-

ured. Another scene pictures a Buddha's warrior stamping on an alien god.

History

Existing literature records little of the Kuke kingdom. In the past few years many objects and much information have been obtained by the Management Committee of Historical Relics in the Tibet Autonomous Region from a wide investigation in the Ngari prefecture, mainly on the site of the Kuke kingdom. According to Tibetan historical records, there were 28 rulers after A.D. 923 when Gyidenyimagoin founded the kingdom. The genealogy presented in the murals of the White Temple is close to that recorded in historical books. The murals also contain the portraits of all the rulers of Tubo. It can be assumed that the Kuke kingdom became a separate power after its split from Tubo.

When China was again unified under the Yuan dynasty (1271-1368), the Tibetan Buddhist leader Pagba was appointed by Kublai Khan to take charge of Buddhist affairs and administration work in Tibet. This, of course, included the Kuke area. Tibetan records show that the Kuke kingdom had a firm belief in Buddhism. Kuore, the grandson of Gyidenyimagoin, was so devoted that he became a monk and handed over the crown to his younger brother, Yexeoi. In addition to sending 21 young people to India to do research on Buddhism, the kingdom invited a master to the Ngari area to lecture on Buddhist doctrine. Ladi, Kuore's son, also invited two masters to do missionary work. By 1042, the king Qangquboi had asked for the presence of Atisha. A mural in the Red Temple reflects this and confirms the historical records.

From the existing relics and the level of architecture and craftsmanship, the strength of its economy and technology can be judged. The Kuke kingdom was obviously a powerful local regime in Tibetan history. □

A Factory That Produces Fish

LIU HONGFA

FISH is traditionally the last dish on the Chinese dinner table on festivals and other holidays, especially during the Spring Festival. Pronounced *yu* in Chinese, it also means surplus or good fortune.

Yet fish are always in short supply in the regular state stores, especially live. The free markets sell live fish but the price is higher. Now, a new "fish factory" in Beijing is helping to meet the demand.

The Modern Fish Plant supplies nearby stores with 500 kg. of live fish each week. This is not a big amount but its success has opened up prospects for raising fish in factories and increasing the supply to the cities. The Beijing municipal government is planning other such plants.

Beginnings

Beijing's plant is in an eastern suburb on what was once a tract of rough, low-lying land. Today, the area is a modern residential quarter with 108 apartment buildings, 14,000 people, and stores and service centers.

In 1976, as the quarter was being built, Sun Qisheng, a section leader of the district's Bureau of Aquatic Products, suggested to the city authorities that "it is not enough to depend on fish ponds and net-fish to supply live fish to the city. A plant for raising fish should be set up like those raising chickens to supply eggs."

Sun inspected more than 70 plants, seeking ways to solve water and energy problems. He found 75

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CHINA RECONSTRUCTS

percent of them wasting energy and not recycling water for reuse. He realized that using waste heat and recycling water would keep costs low in raising fish.

Water was a key problem, for Beijing's supply is not yet adequate. He consulted with Zhang Hanchang, an engineer in the Beijing Designing Institute of Forest Products. Together they worked out a proposal for recycling water by biological purification and designed installations for the task. An experiment proved that recycling could cut water usage by 9,570 tons per day.

The 2,000-square-meter fish-raising plant was built in 1981. It consists of shops for raising fish, treating water, producing fry, making concentrated feed, and a laboratory. Today the fish-raising shop has many different species, such as the African silver carp, the grass carp and the blunt-snout bream.

Modern Management

Director Sun, a graduate of the Shanghai Institute of Aquatic Products in 1962, is in his early forties. He has done much research on freshwater fish farming and publicizing it. In 1974 he wrote a book entitled *Introducing the African Silver Carp in Beijing*.

In the Modern Fish Plant's concentrated feed shop, machines press husks, wheat bran, soyabean cake and other materials into pellets. The target of world fisheries today is to find ways to produce more fish with less feed. Concentrating the food helps, but fish are sold at a low price, so concentration has its limits. At present, an increase of 0.5 kg. of a fish in weight requires 1 to 1.5 kg. of feed.

The fish-raising shop is kept at a temperature between 25°C and 30°C. Heat for this is supplied by the nearby Beijing No. 1 Thermal Power Plant from its surplus. The shop has two lines, each with nine fish ponds. Silver carp, the biggest 5 inches long, swim near the surface. Near the bottom are ordinary carp and blunt-snout bream, the largest weighing 0.5 kg. Grass carp live on the outer sides. Because different fish live at different

depths, the plant makes more efficient use of its water by raising varied species in the same ponds. This also increases output. Generally it takes a small carp from three to six months to mature. In the main, the production process in the fish-raising shop is automatic.

The water treatment shop is much larger. It has ponds for catchment, biological purifying, precipitating, and heating and oxygenating underground water and sending it to the fish-raising shop. From there, waste water comes back for purification, precipitation, reheating and oxygenation.

During the growing period, fish deposit large amounts of nitrogenous and amine substances which directly pollute the water. This makes purification necessary. To oxidize and to resolve these harmful substances the plant makes use of germs that grow naturally in the fish ponds. A blower is used to aerate the water. This also allows the germs to grow without any countereffects and the cost is very low. The sediments produced in oxidizing and resolving are used as organic fertilizer for farmland.

Good Points and Problems

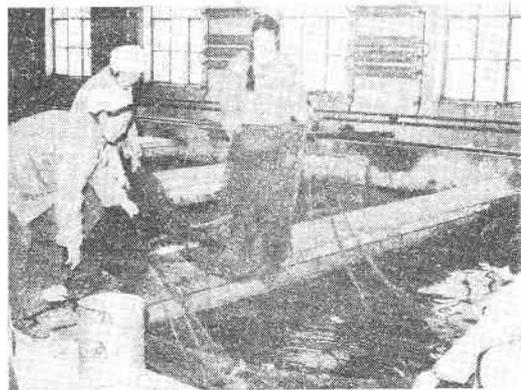
One of the advantages of factory fish raising involves the fact that fish go into a stage of hibernation in winter, during which they grow slowly or not at all. The growing period is about three months in northern areas and less than six months in the south. But factory fish raising regulates the water temperature the year round, thus shortening the hibernation time. This, together with the high density of fish in the ponds, increases output 70 times over that in open fish ponds.

Food pollution is a problem in many parts of the world today. The plant's water is free of pollution. Its biological treatment has no aftereffects. This makes its fish unpolluted and fresher than those from open fish ponds.

A main problem is the plant's large consumption of electricity. The state price per kg. of fish is only from 1.4 to 2.00 yuan. This



Director Sun Qisheng does research on the raising of African silver carp.



Netting fish.



The factory's restaurant. Fish, of course, is the specialty of the house.
Photos by Wang Xinmin

cost factor allows the factory little profit. To solve the problem it has adapted a diesel engine to generate its own electricity. The building of a fish restaurant by the plant is also helping to raise profits. Beijing's experience with fish-raising factories may help other cities increase their supply. □

Tropical Forest Preserve

ZENG QINGSONG

JIANFENGLING, China's largest primeval tropical forest nature preserve, is a wonder-filled paradise of plants and wildlife. Located on the west coast of Hainan Island, it covers 1,333 hectares of rolling hills some 1,000 meters above sea level.

To visit the preserve is to enter a world of undisturbed natural beauty. The eye feasts on exuberant greenery and is soothed by diaphonous mists which collect in the valleys and creep upward over the hills. The ear responds to the melodies of songbirds, the chirp of cicadas and other insects, and the cries of pheasant, civet cats and other forest residents. The more delicate fragrance of flowers mixes with the basic resinous scent of the place. Underfoot is a soft carpet of leaves and twigs.

AS is typical of tropical rain forests, the trees dominate. To reach the sunlight they need, some specimens grow 30 or 40 meters high before they branch out. Some are so big around that four, five, even six people with their arms

outstretched can barely encircle the trunks. Some 270 varieties of trees are found here, including pencilwoods (*Dysoxylum binectariferum*), myrtles (*Myrica adenophora*) and a few peculiar to the region such as *Manglietia hainanensis*.

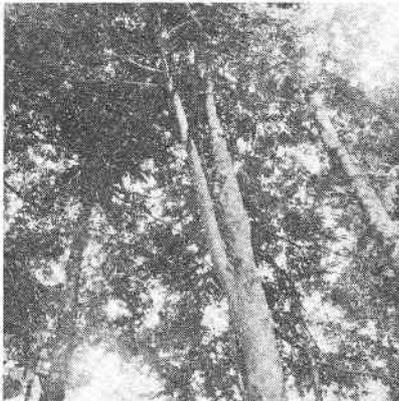
The wood of a number of trees—including a kind of tanoak, *Lithocarpus glaber*, and *Hopea hainanensis*—is famous for its hardness and resistance to insects, moisture and pressure—ideal for making boats and high-quality furniture. Rosewoods (*Dalbergia hupeana*), ormosia (*Ormosia henryi*) and others have fine grains, natural colors and fragrances. No commercial timbering is allowed in the preserve, of course, but it is a laboratory in which scientists and specialists in tree cultivation can study the trees and their natural growing conditions.

Scientists have recently made two significant discoveries at the preserve. A kind of yew (*Cephalotaxus sinensis*) yields a drug which is believed to have anti-cancer properties and is now being cultivated outside the preserve. From the sawed surfaces of another tree, *Vatica astrotricha*,



A Mexican scientist visits the preserve to do research.

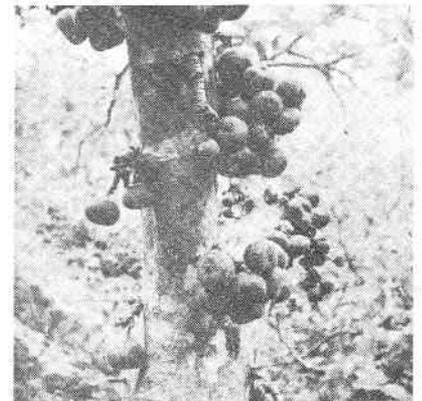
an oily substance can be gathered which is combustible as diesel fuel. The yield is not yet great—about 25-50 kilograms from a mature tree 12-15 meters high—but the promise of obtaining energy from living plants is



The plumfruited cluster-flowered yew, which yields a substance scientists believe may have anti-cancer properties.



A gibbon swings gracefully from branch to branch.



Fruit growing on the trunk of a fig tree.

A Plant That Bites

LIU JIN

BACK in 1916, the troops of a northern warlord were dispatched to the south to fight. They burned, killed and looted wherever they went. In one place they found that a kind of plant which blocked their way could not be destroyed by burning, so the officer ordered his soldiers to pull them out. As soon as they grasped the leaves of the plant, they all cried "Ouch." Grimacing with pain, they hastily retreated.

The plant was the nettle known as "biting dog," a perennial herb. It grows on damp wasteland, so its branches and leaves contain much moisture. One meter in height, its stem is as thick as a finger and its opposing leaves as big as a human palm, with teeth round the fringe. The stem and leaves are covered with stinging hairs, which consist of tip, tube and base. The tip is very sharp, like a hypodermic needle; the tube is hollow, like an injector; and the base is like a small

cup. Once an animal touches the tip, the base releases a venom into the skin of the animal, causing inflammation and severe itching. As a natural protection for the plant, it works very well—no animal will readily touch it again after once being stung.

IN traditional folk medicine it has been used to treat paralysis of the limbs. Fresh leaves are picked and placed on the skin of the affected part, then patted gently in place in the belief that the paralysis will be gradually released. Modern chemical analysis shows that it contains various B-complex vitamins and tannin. It has a certain curative effect in treating rheumatism, diabetes, skin irritations and the bites of poisonous snakes.

The nettle grows in the south of China, being widely spread in Guangdong, Guangxi, Hunan, Sichuan and other areas. Peasants often plant it around their vegetable gardens, orchards or courtyards as a hedge to keep animals out. □

LIU JIN is an editor on the staff of the magazine *Vegetation*.

enough to spur further investigations.

AT ground level and around the bases of trees is another whole world of plants. The trunks and giant tree roots which protrude from the earth provide growing

space for mosses, lichens and parasitic vines including wisteria and orchids of many kinds (such as *Gymbidium dayanum*, *Cymbidium sinense* and *Robiquetia spathulata*).

Unlike ordinary plants, these do not need sunlight to grow, and thus can flourish in the shade beneath the canopy of trees. The same is true of the ferns which grow on the forest floor. Some 300 kinds of medicinal plants and fungi, including *Fomes japonicus* and *Morinda officinalis*, are found here.

The dense forest is also home to a variety of animals—black gibbons, leopards, bears, monkeys, birds of all kinds, and squirrels. The latter, some kinds weighing up to two kilograms while others are smaller than a mouse, add a great deal of life and color to the forest. Unafraid of human visitors, the squirrels leap about and chase one

another, flashing beautiful colors, red bellies or fluffy tails.

The human visitors themselves are well advised to be on the lookout for snakes, for there is roughly one snake for every 0.7 square meter of ground in this paradise, and some are dangerous. Besides the poisonous ones, there are pythons which encircle their prey and squeeze it to death with their strong coils. Pythons here range up to 50 kilograms in weight and several meters in length.

IN a whole day a visitor can cover only a small corner of the forest and is inevitably reluctant to leave. For any person sensitive to the beauties of nature it is a delight. For Chinese scientists and their counterparts around the world, it is a magnet for its rich and valuable biological variety in a perfectly preserved ecology. □



The nettle that defeated an army.

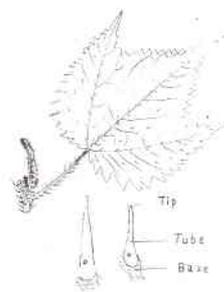
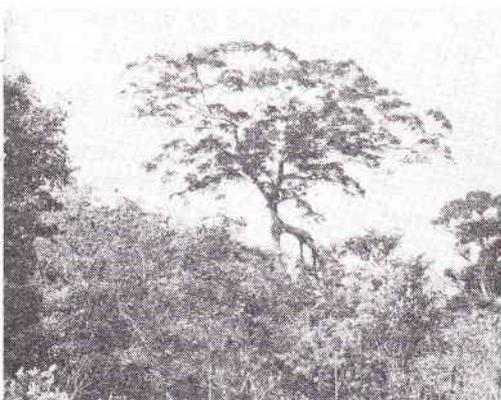


Diagram of nettle's leaf and stinging mechanism.

Sketch by Jiang Daiping



From a distance, a lofty fig tree looks like a deer with spreading antlers.

King Mu and the Queen Mother of the West

WEI TANG



Drawn by Yang Yongqing

KING MU, fifth of his line in the Western Zhou dynasty (11th century-771 B.C.), is known to history as a relatively conscientious ruler under whom people lived stable and prosperous lives.

This ruler is most famous for a great journey westward beyond the bounds of his kingdom. He is said to have started near Luoyang, traveled northward to Shanxi and the Huanghe River valley district and then westward across Qinghai to today's Xinjiang. Many modern historians doubt that he really traveled that far, an enormous distance for those days. The western regions were almost unknown to the people of central China, and fanciful tales about the people and places to be found there were common.

Tales of King Mu, written during the Warring States period (475-221 B.C.), records that far to the west Mu encountered a large lake, called Pearl Lake by the natives, where all kinds of pearls and jade were to be found. The water was clear and full of fish, and Mu had a fine time fishing and enjoying the beautiful scenery.

ONE of the most popular stories about Mu is of his meeting with Xi Wang Mu, the Queen Mother of the West, at her palace in the Kunlun Mountains of Xinjiang. This supernatural figure appears frequently in ancient folklore. In the legend of Chang'e and her husband Houyi, the Sun-Shooter, the latter obtains an elixir of immortality from Xi Wang Mu.

In the *Book of Mountains and Seas* she is depicted as a cruel goddess with a leopard's tail and tiger's fangs. But in the legends relating to King Mu, she is an elegant and charming creature, fond of singing, who captivated her guest.

The Queen entertained King Mu at a banquet held on the shore of Lake Yaochi, feasting him with fabulous fruits and delicacies. Among the dishes were lotuses that bloomed in winter, each pod bearing a hundred seeds, black dates two feet long from trees that bore fruit every hundred years, and crisp, cool peaches that only ripened every 10,000 years. Mu was delighted, and ate and drank to his heart's content. He gifted the queen with jade of exquisitely fine quality and 300 bolts of brocade. At the banquet, host and guest improvised poems for the occasion. The queen's ran:

*White clouds in the sky,
Come from the mountains.
Distinguished guest from a far
land
Separated by mountains and
rivers.
May you live long
And return to us soon.*

King Mu responded with:

*To the east I go,
But I will return,
When my people are pros-
perous
And the country strong.
Wait for three years
Until we meet again.*

King Mu lived for over 100 years, but there is no record of a

second journey to see the queen. On his return to the Zhou capital, his ministers complained that the trip had been too long and too extravagant. The state treasury was almost bare. Faced with the poverty of his people, Mu repented and gave up the idea of further travels. The incident was immortalized in a poem written some 1,800 years later by Tang dynasty poet Li Shangyin (813-858).

STUDYING the most ancient records in which the Queen Mother of the West is mentioned, modern scholars conclude that Xi Wang Mu may well have been the chieftain of a western tribe — possibly a woman, but more likely a man — whose name, phonetically translated into Chinese, suggested a queen mother.

Later ages gradually turned her into a queen-goddess of the west about whom many stories were told. Another monarch, Wu Di of the Western Han dynasty, is said in *Tales of Xi Wang Mu* to have visited the queen and been presented with the magic peaches. She is sometimes called the Golden Mother of Yaochi, who celebrates her birthday every 3,000 years, when the peaches ripen. The peach, emblem of immortality, is even today sometimes served at birthday parties to symbolize long life. □

Lesson 16

Beijing Niujie Mosque

约翰: 刚才咱们路过的 是什么
 Yuē Hàn: Gāngcái zánmen lùguò de shì shénme
 John: Just now we pass is what
 地方?
 difang?
 place?

王大力: 是清真寺。
 Wáng Dàli: Shì qīngzhēnsī.
 Wang Dali: Is mosque.

约翰: 和我们上次参观的佛教
 Yuē Hàn: Hé wǒmen shàngcì cānguān de Fójiào
 John: With we last time visit Buddhist
 庙宇不一样。
 miàoyǔ bù yíyàng.
 temple not same.

王大力: 在结构、布局、装饰方面
 Wáng Dàli: Zài jiégòu, bùjú, zhuāngshì fāngmiàn
 Wang Dali: In structure, layout, decoration aspect
 都不一样。这里是伊斯兰教
 dōu bù yíyàng. Zhèlǐ shì Yīslánjiào
 all not same. Here is Islam's
 的建筑风格。
 de jiànzhù fēnggé.
 architecture style.

约翰: 这座清真寺什么时候
 Yuē Hàn: Zhè zuò qīngzhēnsī shénme shíhou
 John: This mosque what time
 修建的?
 xiūjiàn de?
 built?

王大力: 它创建于公元996年,到
 Wáng Dàli: Tā chuàngjiànyú gōngyuán jiǔjiǔliùnián, dào
 Wang Dali: It first built in A.D. 996 year, until
 现在已经有上千年的
 xiànzài yǐjīng yǒu shàng qiān nián de
 now already have up to thousand years'
 历史了。由于过去连年
 lìshǐ le. Yóuyú guòqù liánnián
 history. Because past successive year
 战争,到解放前这座
 zhànzhēng, dào jiěfàngqián zhè zuò
 war, until liberation before this
 清真寺就已经破
 qīngzhēnsī jiù yǐjīng pò jiù
 mosque already wrecked (and) old

不堪了。
 bùkān le.
 extremely.

约翰: 解放以后这里还有宗教
 Yuē Hàn: Jiěfàng yǐhòu zhèlǐ hái yǒu zōngjiào
 John: Liberation after here still have religious
 活动吗?
 huódòng ma?
 activities?

王大力: 有。中国是各民族平等,
 Wáng Dàli: Yǒu. Zhōngguó shì gè mínzú píngděng,
 Wang Dali: Have. China is various nationalities equal,
 宗教信仰自由。解放后
 zōngjiào xìnyǎng zìyóu. Jiěfànghòu
 religious belief free. Liberation after
 这里又重新修建了。
 zhèlǐ yòu chóngxīn xiūjiàn le.
 here again (was) newly repaired and rebuilt.
 现在每天都有穆斯林
 Xiànzài měitiān dōu yǒu mùsúlin
 Now every day all have Muslim
 前来做礼拜。
 qiánlái zuò libài.
 come (to) do religious service.

约翰: 中国有很多人信奉
 Yuē Hàn: Zhōngguó yǒu hěn duō rén xìnfèng
 John: China has very many people believe(in)
 伊斯兰教吗?
 Yīslánjiào ma?
 Islam religion?

王大力: 主要是回族信奉伊斯兰
 Wáng Dàli: Zhǔyào shì Huízú xìnfèng Yīslán
 Wang Dali: Mainly is Hui nationality believe (in) Islam
 教,别的民族也有一些。
 jiào, bié de mínzú yě yǒu yìxiē.
 religion, other nationality also have some.

约翰: 你去参观过吗?
 Yuē Hàn: Nǐ qù cānguān guo ma?
 John: You (have) go (to) visit?

王大力: 去过。里边的建筑很
 Wáng Dàli: Qùguo. Lǐbian de jiànzhù hěn
 Wang Dali: (Have) go. Inside architecture very
 宏伟,光是礼拜殿就有
 hóngwēi, guāng shì libàidiàn jiù yǒu
 magnificent, merely prayer hall just have

六百 平方米。墙壁上 刻着
liùbǎi píngfāngmǐ. Qiángbìshàng kèzhe
600 square meters. Wall on carved

精美的 阿拉伯文 古兰经。
jīngměi de Ālābówén Gǔlánjīng.
elegant Arabic language Koran scriptures.

参观 的人 要 脱 了 鞋
Cānguān de rén yào tuō le xié
Visiting people should take off shoes

才能 进去。
cái néng jìnqu.
then can enter.

约翰:
Yuē Hàn:
John:

下星期你 陪 我来 参观
Xiàxīngqī nǐ péi wǒ lái cānguān
Next week you accompany me come visit

一次, 好吗? 今天 没有
yí cì, hǎo ma? Jīntiān méi yǒu
one time, all right? Today not have

时间 了。
shíjiān le.
time.

王大力:
Wáng Dàlì:
Wang Dali:

可以。
Kěyǐ.
All right.

Translation

- John: What is the place we just passed?
Wang Dali: A mosque.
John: I thought it was different from the Buddhist temple we visited last time.
Wang Dali: Yes. They are different in structure, layout and decoration. This one is Islamic in architectural style.
John: When was this mosque built?
Wang Dali: It was first built in 996 A.D., so it has a history of nearly a thousand years. Through years of war, by the time of liberation it was in pretty bad shape.
John: Have religious activities been held here since liberation?
Wang Dali: Yes, in China all nationalities are equal and there is freedom of religion. This mosque was rebuilt after liberation. Now Muslims come here every day for religious services.
John: Are many people in China followers of Islam?
Wang Dali: They are mainly the Hui people, but also some people of other nationalities.
John: Have you ever visited the mosque?
Wang Dali: Yes. The architecture is magnificent. The prayer hall alone covers 600 square meters. On its walls are beautifully carved quotations from the Koran in Arabic language. Visitors have to take off their shoes before they can enter.
John: Can you accompany me to visit it next week?
Wang Dali: We don't have time today.
Wang Dali: Certainly.

Notes

1. Niujie Mosque.

The mosque is called this because it is located on Niu (Ox) Street in a neighborhood where many Chinese Muslims live.

2. A certain time stressed by shì... de 是...的.

This sentence structure is often used to stress that something happened at a certain time. **Tā shì zuótiān lái de** 他是昨天来的 (It was yesterday he came). The character **shì** 是, but not **de** 的, is often omitted in both statements and questions. **Zhè zuò qīngzhēnsī (shì) yīqiānnián yīqián xiūjiàn de** 这座清真寺(是)一千年以前修建的 (This mosque was built a thousand years ago).

The negative form is to place **bù** 不 before **shì** 是, and **shì** 是 cannot be omitted. **Tā bú shì zuótiān lái de** 他不是昨天来的 (He did not come yesterday). One cannot say **Tā bú zuótiān lái de** 他不昨天来的.

Everyday Expressions

- 连年 **liánnián** year after year
连年灾荒 **liánnián zāihuāng** famine year after year
连年丰收 **liánnián fēngshōu** bumper harvests year after year
- 信奉 **xìnfèng** believe in, be a follower of
信奉伊斯兰教 **xìnfèng Yísilánjiào** be a follower of Islam
信奉佛教 **xìnfèng Fójiào** believe in Buddhism
- 宏伟 **hóngwěi** magnificent, grand
建筑宏伟 **jiànzhù hóngwěi** magnificent architecture
规模宏伟 **guīmó hóngwěi** on a grand scale.

Exercises

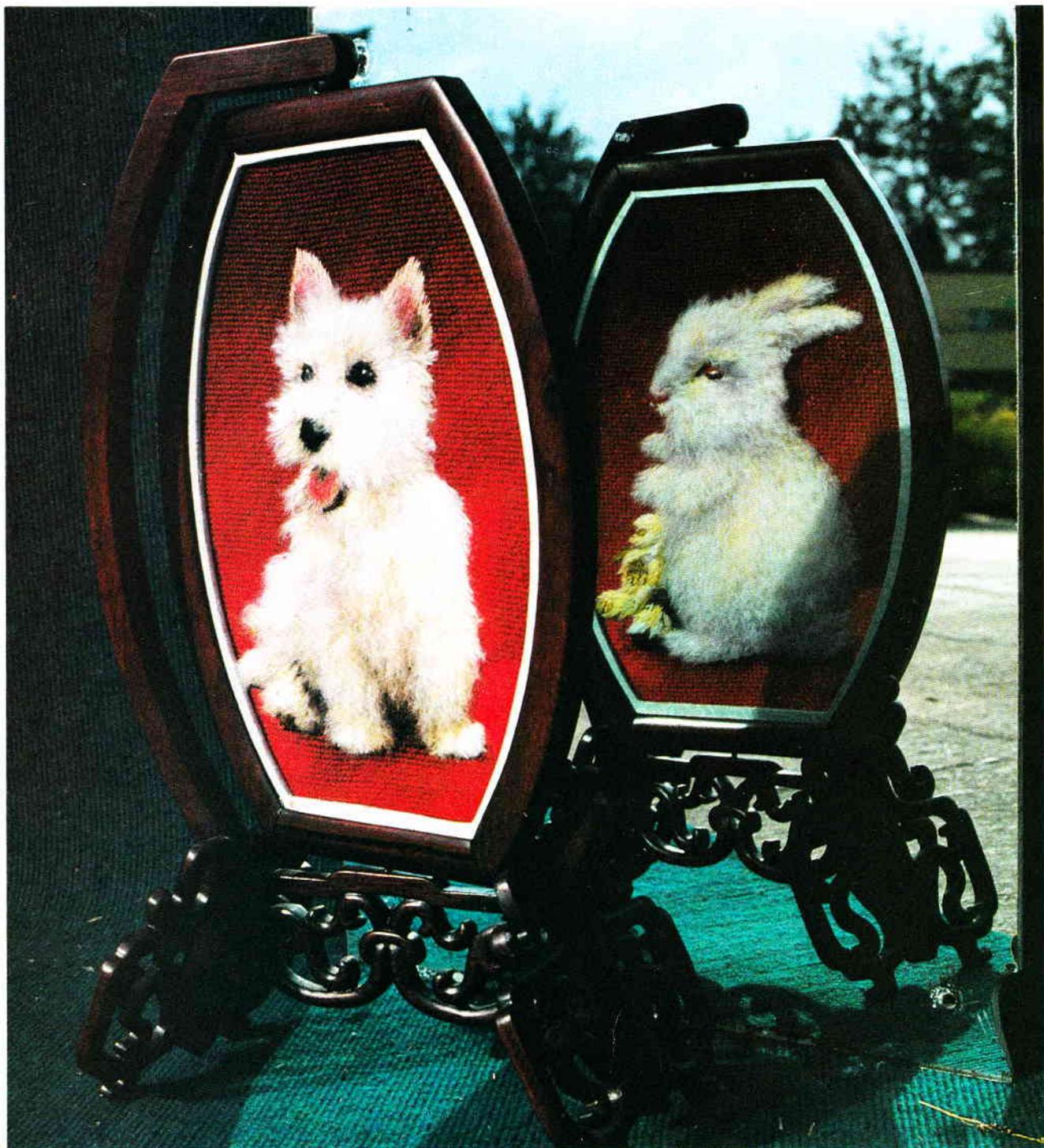
- Briefly describe the Mosque on Niujie Street.
- Write the following sentences using the **shì... de** construction and then change them into negative sentences.

- (1) 我1980年去中国。
- (2) 她去年游览长城了。
- (3) 我上星期接到朋友的信了。

- Read the following passage:
今天我和王大力路过一个伊斯兰教的礼拜寺, 这座礼拜寺跟佛教的庙宇在结构、布局、装饰方面都不一样。这座礼拜寺是阿拉伯式的。有伊斯兰教的建筑风格。这座寺创建于公元996年, 到现在已经有上千年的历史了。建筑很宏伟。每天都有很多穆斯林前来沐浴和礼拜。到了伊斯兰教传统节日, 很多在北京的外国穆斯林也到这里来参加活动。

Correction

In the January 1982 Language Corner, Lesson 13 (p.78), the characters 著名 in the 4th Chinese line of the second column should be 著名.



Two-Sided Embroidery

Many kinds of embroidery go back thousands of years in China. One type, however, using rich and subtle shades of wool to create three-dimensional pictures, was originally adapted from Italian techniques and brought to China in the 19th century.

After liberation, other innovations evolved rapidly. Notable was a technique of double-sided embroidery which shows the same picture on both sides. Recently, it was followed by an even more exacting method of creating a different picture on each side. Subject matter includes animals, birds, flowers, fish, Chinese scenery and famous paintings.

The embroidery above, showing a dog on one side and a rabbit on the other, was displayed at a recent national exhibition. It was created by designer Xu Xunying, a Master of Handicrafts at Changzhou's Handicrafts Research Institute.

十
事
一
精

無道八百

子雲在篇

宣志雲

里寸

心丹

一九八二年

元日

吳稼超撰

吳稼超

南岸陽山吳合照





Year of the Dog

Chinese Women's Team Wins
World Volleyball Championship



International Year
of the Disabled

Conference on Population and Development



CHINA RECONSTRUCTS

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STAMPS OF NEW CHINA

International Year of the Disabled

1981 was proclaimed the International Year of the Disabled by the United Nations. The Ministry of Post and Telecommunications released a stamp entitled "International Year of the Disabled" on November 10, 1981.

The stamp measures 30 × 40 mm. with a denomination of 8 *fen*. *Perf.* 11.5. Color photogravured. Serial number: J. 72 (1-1).

Chinese Women's Team Wins World Volleyball Championship

To commemorate the Chinese women's team winning the 3rd World Cup Volleyball Championship, a set of two stamps was issued on December 21, 1981.

Stamp 1, Fighting tenaciously for supremacy, 8 *fen*.

Stamp 2, To win honor for the motherland, 20 *fen*.

Both stamps measure 30 × 40 mm. *Perf.* 11.5. Color photogravured. Serial numbers: J. 76 (2-1) to (2-2).

Year of the Dog

1982 is a *Renxu* (year of the dog) according to the Chinese lunar calendar. A special stamp was issued on January 5, 1982. It measures 26 × 31 mm. with a denomination of 8 *fen*. *Perf.* 11.5. Color photogravured. Serial number: T. 70 (1-1).

Conference on Population and Development

The Asian Conference of Parliamentarians on Population and Development was held on October 27, 1981, in Beijing, China. A set of two commemorative stamps entitled "Asian Conference of Parliamentarians on Population and Development" was issued that day.

Stamp 1, Coordination, 8 *fen*.

Stamp 2, Enlightenment, 70 *fen*.

Both stamps measure 30 × 40 mm. *Perf.* 11.5. Color photogravured. Serial numbers: J. 73 (2-1) to (2-2).

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