

BEIJING REVIEW



A CHINESE WEEKLY OF
NEWS AND VIEWS



- **Tangshan Rises From Rubble Of 1976 Earthquake**
- **Census Analysis**
- **Economic Indexes**

HIGHLIGHTS OF THE WEEK

New Foreign Affairs and Defence Ministers

Standing Committee of the NPC approves appointment of two key ministers. Their short biographies (p. 5).

China Stands by Thailand

During the visit of Thai Prime Minister, Premier Zhao stressed China's support for the Thai people's struggle against aggression (p. 7).

Sino-Soviet Relations

Statements by Chinese leaders on the principles for normalization of relations with the Soviet Union (p. 8).

Up From the Ashes

Like the legendary phoenix, Tangshan, the north China city

destroyed by an earthquake six short years ago, is rising from its own ashes. Its people have shown unmatched courage as they struggle brick by brick to rebuild their homes, factories and lives, supported by the whole nation (p. 22).

Tibetans Assume Key Posts

Under Party leadership, growing numbers of Tibetans and other national minorities have matured and assumed leading posts in the autonomous region. Second of our Tibet series (p. 14).

What the Census Figures Mean

A demographer discusses the significance of China's recent

census figures, emphasizing the importance of continued population control to economic as well as scientific and cultural growth (p. 13).

Facts and Figures

A new column provides China's major statistics. This week it includes economic indexes for the significant years up to 1981 (p. 17).



Destruction and reconstruction after the Tangshan earthquake of 1976.

Photo by Li Yaodong

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About Weapons Sales

Is it true that, as one foreign journal alleged, one-fourth of the weapons purchased from abroad by Iraq came from China?

No, it is not true. China has not sold any weapons to Iraq because this is incompatible with our principled stand on the war between Iraq and Iran.

China maintains friendly diplomatic relations with both countries and strict neutrality regarding the war between them. This is well known. It is our sincere hope that the two countries will settle their disputes through peaceful negotiations. China will not change

its stand; this has been so in the past and will be so in the future.

The Iranian-Iraqi war is catastrophic for both countries. In the present turbulent world situation, third world countries need to rally together against hegemonism. Both Iran and Iraq are Islamic countries. For them to stop fighting and live in peace is not only in the interests of the people of the two countries, but will help ease the tensions in the Middle East. This also conforms to the common wishes of the peoples of all countries.

— *International Editor*
Mu Youlin

Small Rural Industries

Are China's small rural industries of any real economic significance? As these industries are generally characterized by a high rate of raw material and energy consumption and low efficiency, what are their future prospects?

This is a logical question from the perspective of a developed nation. But one needs only look at the realities of the present-day Chinese countryside to appreciate the importance of its small industries.

These industries evolved from traditional handicrafts and small workshops and developed fairly rapidly after the establishment of the rural people's communes in 1958. By the end of 1981, about 725,000 commune- and brigade-run industrial enterprises had been set up, embracing various trades and employing 19.8 million workers.

Their annual output value totalled 56,200 million yuan, which was one-third of the combined output value of the three-level rural organizations — the commune, the production brigade and the production team.

Small rural industries have had their ups and downs in the last two decades or so, and opinions on them ranged from praise to censure. The late Chairman Mao Zedong described these commune- and brigade-run enterprises as the "hope for a bright future." But in the "great leap forward" of 1958, they became a symbol of a "premature rush to communism" because they were mostly developed by requisitioning the collective property of the peasants without paying any remuneration whatsoever, and during the "cultural revolution"

of 1966-76, many of them came under fire as "capitalist undertakings" simply because they were more profitable than grain production. In spite of all this, small rural industries continued to develop and demonstrated their immense vitality. Since China began to right the wrongs in all fields of endeavour in 1978, the total output value of these small industries has increased at a progressive annual rate of 10 per cent.

Economically, there are several reasons for this rapid development. First, the surplus labour force in the rural areas is expanding and must be employed; secondly, there is an urgent need to tap the abundant mineral and other natural resources, many of which are at present beyond the capacity of big industries in the cities; thirdly, the purchasing power of the vast rural market is increasing; and finally, the rural processing industry, with higher profitability than farm production, can help raise the needed funds for water conservancy projects and farmland capital construction. All these have enabled indigenous small industries to strike root in the rural areas.

They also have become indispensable supplements and auxiliary producers to the big urban industries. In 1981, for instance, some small rural industrial products made up a substantial proportion of the total national output. They produced 19 per cent of the nation's coal; 80 per cent of its building materials (bricks, tiles, stone, lime, etc.); and 34 per cent of its gold. Rural industries also contributed 40 per cent of the garment industry's output, and produced a full

LETTERS

Communist Thought

There are good articles in your issues No. 41 and 42. I had previously come to some of the same conclusions as the article "On the Practice of Communist Thought" (issue No. 42). Party members' daily behaviour and words, I think, should be examples for the masses. Party members must make it their duty to serve the people wholeheartedly and never seek selfish interests or an easy life.

Itsuo Ishida
Sakai, Japan

Socialist Spiritual Civilization

Your article "Socialist Spiritual Civilization" carried in the column "Notes From the Editors," issue No. 40, is clear and understandable. To build socialism, the building of material civilization is necessary, but the fostering of spiritual civilization (culture, ethics, and so on) cannot be neglected. Furthermore, the socialist spiritual civilization, "communist

ideology and morality" in particular, is of great significance in determining the nature of socialism.

"Communist ideology and morality" is something intangible and abstract. Therefore it sometimes engenders empty theoretical discussions.

I hope that you will firmly implement this concept and that your magazine will carry reports explaining the specifics of "communist ideology and morality."

Tomizo Saito
Yokosuga, Japan

Outer Space

It was with great satisfaction I read in "Rapid Growth of China's Space Science" (issue No. 32) of the successful launching of your 12th satellite and of your plans to test more rockets. I have an ardent interest in China and wish her well in all her endeavours especially in space exploration.

Winston C. Kam
Toronto, Canada.

Woodcuts and Maps

The "Art Page" for instance in issue No. 36 of woodcuts is very

interesting and good cultural material.

The maps with some of the articles showing the location of certain cities should be very valuable to students. Short articles are often read, while longer articles are only glanced over.

Our students and faculty are very interested in *Beijing Review* and it is used frequently by our patrons.

Alexander T. Stecker
Salt Lake City, USA

Apartheid, No!

I was interested in the *Beijing Review* article "China Demands Release of Nelson Mandela" (issue No. 33), because it reminded me of the colonial and imperialist times when blacks were sold as chattel. The misery stamped into the souls of the black Africans will last for ever.

Resolutely support political prisoners in Pretoria! Down with apartheid! Nelson Mandela's imprisonment is unreasonable.

Traore Dramrre Kassouru
Ségou, Mali

70 per cent of medium-sized and small farm implements and handicraft articles (basket weaving, embroidery, etc.).

Small industries have helped increase the peasants' standard of living. The output value and fixed assets of commune- and brigade-run industrial and other enterprises each make up over one-third of the total of the three levels of the people's communes. They have, indeed, become a mainstay of the rural collective economy. In 1981, they earned 67,000 million yuan, of which 15,000 million yuan were directly distributed to commune members. This sum was approximately 17 per cent of all collectively distributed funds. The rest was set aside as accumulation funds or for the development of collective welfare. These industries are also a chief source of construction funds for the rural areas and towns.

Although they compare unfavourably with big urban industries in technology, management and efficiency, they are nevertheless a cut above farm production which for the most part still depends heavily on manual labour. In 1981, the average per-worker labour productivity of commune- and brigade-run industries was 2,923 yuan, approximately one-fourth of state-run industries but more than five times that of agriculture.

To date, 80 per cent of the rural industries are not included in the state plan. They market their own products, bear sole responsibility for their own gains and losses, and are regulated by the market. This has given them much leeway in production and management, but simultaneously resulted in a certain degree of economic disarray such as competition with

big industries for raw materials and overlapping construction of factories. It is therefore necessary to strengthen planning, improve their management and gradually raise their technical capabilities. These tasks have been an important aspect of making readjustment in the rural economy in the last few years. Compared with 1980, the number of commune- and brigade-run enterprises dropped by 4.3 per cent nationally in 1981, but their total income rose by 11 per cent. This indicates that the small rural industries have made remarkable progress in improving their economic results.

Through continuous readjustment and improvement, the rural industries will solve their problems and develop steadily.

— Economic Editor Jin Qi

Beijing Review, No. 48

POLITICAL

Standing Committee Sets NPC Agenda

The tentative agenda for the Fifth Session of the Fifth National People's Congress which opened on November 26 was set at the 25th meeting of the Fifth NPC Standing Committee (Nov. 12-19). It included:

— A report by Peng Zhen, vice-chairman of the national constitutional revision committee, on the revised draft of the Constitution of the PRC, followed by discussion and adoption of the new Constitution.

— A report by Premier of the State Council Zhao Ziyang on the Sixth Five-Year Plan, followed by deliberations and adoption of related resolutions.

— A report by Minister of Finance Wang Bingqian on the implementation of the 1982 state budget and on the draft budget for 1983, and corresponding decisions.

Appointments. The Standing Committee meeting approved Premier Zhao Ziyang's proposals to appoint Wu Xueqian as Minister of Foreign Affairs and Zhang Aiping as State Councilor and Minister of National Defence.

Decisions. The Standing Committee members examined and adopted a law on the protection of cultural relics and a food hygiene law.

They also approved a decision to open two inland ports on the Changjiang River in east China to foreign ships. They are Nantong port, with an annual handling capacity of 1.1 million tons,

and Zhangjia port, with an annual handling capacity of 1.5 million tons (see issue No. 36, p. 6). They are 51 and 78 nautical miles respectively from Wusong at the mouth of the river. The opening of these ports will help promote China's economy and increase the volume of foreign trade of the various provinces along the Changjiang River, and will ease the congestion in Shanghai's harbour.

In keeping with China's open policy and international practice, it was decided that foreign ships sailing along the Changjiang must abide by China's laws and decrees as well as the management, inspection

and examination procedures of the appropriate administrative departments and receive mandatory pilotage. In addition, foreign ships must agree to handle Chinese imports and exports and carry passengers to and from China. Foreign ships sailing on the Changjiang River navigation line are not allowed to carry cargo or passengers between Changjiang River ports, including Shanghai harbour.

The meeting also discussed the Organic Law of the NPC, Organic Law of the State Council, and the organic laws of the local people's congresses and people's governments at all levels.

Newly Appointed Ministers



Zhang Aiping, 72, is a native of Daxian County, Sichuan Province. During the Long March, the War of Resistance Against Japan, and the War of Liberation, he served successively as the head of the political department of a Red Army division, division commander of the New Fourth Army and deputy commander of the Central China Military Area. After the founding of New China, he was commander of the Zhejiang provincial military area, followed by successive appointments as Chief of Staff of the East China Military Area and the Third Field Army, Deputy Chief of General Staff of the PLA, Chairman of the Science and Technology Commission for National Defence, Vice-Premier of the State Council and Deputy Secretary-General of the Military Commission of the CPC Central Committee.



Wu Xueqian, 60, is a native of Shanghai. He served successively as deputy director and director of the international liaison department of the central committee of the Chinese Communist Youth League, departmental director and vice-chairman of the All-China Youth Federation, deputy head of the International Liaison Department of the Party Central Committee, and Vice-Minister of Foreign Affairs.

ECONOMIC

Upgrading Small and Medium-Sized Enterprises

The Bank of China decided to provide 1,000 million US dollars in foreign exchange at a preferential interest rate to help upgrade the technology of small and medium-sized industrial enterprises during the Sixth Five-Year Plan period (1981-85).

China has 380,000 enterprises of varying sizes today. While the small and medium-sized ones will rely mainly on their own efforts to solve difficult technological problems, they will also import advanced technologies suited to China's conditions.

"This sum will be sufficient for the technological transformation of 1,000 industrial enterprises, if each uses one million US dollars at a time," said Jin Deqin, President of the Bank of China. "By 1990, about 3,000 factories will have benefited from the programme if the average capital turnover can be made in three years."

The technological transformation of industry is an important step in accelerating the growth of China's economy. Other measures include the construction of key energy and communications projects.

SOCIAL

Urban and Rural Youth Service Teams

A new type of "serve the people" youth organization has emerged in urban and rural China, committed to helping people and promoting better social conduct.

These youth service teams have been organized by the Communist Youth League.

In late October, 450,000 Beijing young people participated in a "serve the people week." Some 40,000 youth service teams visited 18,000 families of revolutionary martyrs, dependants of armymen and childless elderly and sick people, helping with house cleaning, washing and shopping. They set up street stalls to repair bicycles and cut out garments for the people free of charge. Many university students also joined in these activities.

Ten "serve the people" teams of the Changsha Water Company in Hunan Province went from house to house to do plumbing repairs during their spare time, saving many families the nuisance of calling the water company to fix small leaks.

In Wuhan, Hubei Province, 100,000 young people turned out on "communist service day." A crippled young man, Huang Zhong, who insisted on taking part in the service work, repaired 18 radios and tape recorders in one day.

Reports from 13 provinces, municipalities and autonomous regions, including Beijing, Tianjin, Shanghai, Inner Mongolia, Liaoning, Shaanxi, Fujian and Guangdong, show that some 560,000 youth service teams have been set up. These service teams fall into three general categories: first, specialized factory service teams for repairing products made by their own factories; second, temporary service to help people solve periodic problems; third, specific services at fixed locations to care for the sick, the disabled and orphans. These service activities are indeed playing an important role in im-

proving inter-personal relationships and in transforming social conduct.

Young people in the rural areas have also joined this movement. They have organized teams to do farming for families who are short of labour power, funds and skills. During the busy season, they do farm work and household chores for childless, infirm elderly persons who are guaranteed food, clothing, medical care, housing and burial expenses by the people's communes and for the sick and disabled who cannot take care of themselves. In Guantao County, Hebei Province, some 10,000 Communist Youth League members and young people have joined in similar activities.

In Bazhong County, Sichuan Province, tens of thousands of "friendship families" have been set up. Young people who know something about scientific farming pass on new farming methods to their neighbours.

EDUCATIONAL

Education for National Minorities

Four hundred students of minority nationalities are currently enrolled in a special five-year course in China's 10 key institutions of higher learning.

Admitted through a preferential programme that allows these students a lower-than-average passing score on the national university examinations, they receive one year of preparatory training before entering regular course work.

Their programme, which began last September, is part of a national drive to accelerate

the training of minority nationalities in the fields of politics, economics and science and technology. In 1980 and 1981, 446 national minority students were enrolled in the 10 key institutions which, led directly by the Ministry of Education, include Beijing University, Qinghua University, Beijing Teachers' University and Zhongshan University and have students from Tibet, Inner Mongolia, Xinjiang, Gansu, Yunnan and 10 other provinces and autonomous regions.

The Central Institute for Nationalities and nine other institutions have strengthened similar courses in the last few years, and 31 regular universities offer special courses for minority nationalities.

The percentage of minority peoples among university and other students pursuing advanced training is quite small. For historical reasons, culture and education developed slowly in remote areas, stunting the quality of middle school educa-

tion there compared with areas in other parts of the country.

Today local governments in minority regions are seeking methods to improve both primary and secondary education. One important step is to increase the number of minority teachers.

At present, there are only 450,000 minority teachers throughout the whole country, according to Ministry of Education statistics. The 16 provinces and autonomous regions where the national minorities are concentrated have 83 teachers' schools. The Xinjiang Uygur Autonomous Region, with a 58 per cent minority population, has 4 teachers' colleges and 22 intermediate institutes that offer training for primary and middle school teachers. In addition, 266 schools and continuing education classes are available for those already teaching.

As the number of teachers grows, so does the number of badly needed schools in which

children are taught through their own languages. For example, Inner Mongolia now has 459 middle schools for the minority nationalities as against 308 in 1976, and 3,800 primary schools as against 3,000. The number of Korean nationality primary schools in Liaoning Province has grown from 175 in 1976 to 271 and middle schools from 13 to 30.

In the nomadic and remote regions where the population is sparse and travel is difficult, the state has established 1,129 boarding schools for minority children, with free tuition, room and board.

In addition to the costs covered by the state education fund, many provinces and autonomous regions allocate one-third of their state subsidy for construction in minority regions to education.

FOREIGN RELATIONS

China Stands Firmly by Thailand

"The Thai Government and people have made clear their determination to defend their national sovereignty and territorial integrity. I would like to avail myself of this opportunity to state once again: Should the Vietnamese authorities dare to invade Thailand by force, the Chinese Government and people will stand firmly by the side of Thailand and give all support to the Thai people in their just stand of opposing aggression." This statement was made by Premier Zhao Ziyang at a banquet he gave in honour of Thai Prime Minister Prem Tinsulanonda who paid an of-



National minority students in a physics laboratory in the Kunming Medical College, Yunnan Province.



Presenting a bouquet to Prime Minister Prem Tinsulanonda.

ficial goodwill visit to China from November 17 to 20 at the invitation of the Chinese Government.

The two Prime Ministers held talks and exchanged views on questions related to Indochina, particularly Kampuchea. The two sides shared the hope that the three patriotic forces in Kampuchea would further close their ranks, carry on the struggle against Viet Nam and land it in greater difficulties on the Kampuchean battlefield so as to create favourable conditions for a political solution to the Kampuchean issue. The two leaders agreed to continue their support for the Kampuchean people's resistance to Vietnamese aggression and for the Coalition Government formed by the three patriotic forces. They expressed the need for vigilance against a possible new military adventure by Viet Nam and called on the international community to support Kampuchea

and world opinion to exert still greater pressure on Viet Nam.

During their talks, Premier Zhao Ziyang stressed that whether Sino-Soviet relations can improve or not depends on whether the Soviet Union will take concrete actions to remove its threat against China.

Premier Zhao said that the Soviet Union has deployed a large number of troops along the Sino-Soviet and Sino-Mongolian borders, dispatched its forces to occupy Afghanistan and supported Viet Nam in its invasion of Kampuchea. All these, he said, constitute a threat to China. These actions are also manifestations of the Soviet Union's policy of hegemonism and expansionism and Viet Nam's policy of regional hegemonism.

The Premier added that China always stands for developing normal state-to-state relations with all countries on the basis

of the Five Principles of Peaceful Coexistence. There is no change in China's basic position of opposing hegemonism and expansionism. He stressed that China will never attach itself to any big power and that China always formulates its foreign policy independently and in line with the interests of its own people and those of the people of the world.

Deng Xiaoping, Chairman of the Central Advisory Commission of the Chinese Communist Party, met with Prime Minister Prem Tinsulanonda. Referring to Sino-Soviet relations, Deng said: "We are still making contacts with the Soviet Union. But our consultations on the normalization of relations are based on one principle, namely opposition to hegemonism and preservation of world peace."

On Sino-Soviet Consultations

Special Envoy Huang Hua returned to Beijing on November 18 after attending the funeral of President Leonid Brezhnev.

Huang Hua said to reporters at Beijing Airport: "Besides attending President Brezhnev's funeral during my stay in Moscow, I met with Foreign Minister Andrei Gromyko and discussed with him ways of removing obstacles and promoting consultations between the Vice-Ministers of Foreign Affairs of our two countries so as to achieve progress on substantive matters. The second round of consultations will be held in Moscow. Leaders of the two countries attach importance to these consultations."

Asked about the prospects of the consultations, Huang Hua said: "I'm optimistic."

US-Western Europe Relations Eased

STRAINED relations between the United States and its major European allies have eased as a result of President Ronald Reagan's order to lift sanctions against American and European companies contributing to the Soviet natural-gas pipeline.

Reagan announced the decision on November 13, following what he said was "substantial agreement" between the United States and its European allies on the strategic aspects of East-West trade.

"We have agreed not to engage in trade arrangements which contribute to the military or strategic advantage of the USSR or serve to preferentially aid the heavily militarized Soviet economy," Reagan said. Because there are more powerful and more effective measures, he said, the pipeline sanctions are no longer necessary.

The agreement, as reported, includes tightening existing controls on the sale of strategic goods and high technology to the Soviet Union, giving preferential credits and finding a way to reduce Western Europe's dependence on Soviet energy resources.

Fence-Mending Efforts

President Reagan imposed sanctions against US firms after the imposition of martial law in Poland last December. His appeal to West European allies to co-operate was rebuffed. Then in June, following a fruitless effort to reach a limited agreement on East-West

trade at the Versailles summit, Reagan extended the sanctions to the subsidiaries of US companies abroad and European firms holding American licenses.

This unilateral US action angered France, Britain, West Germany and Italy, touching off an exchange of sharp words across the Atlantic. In defiance of Washington's embargo, these European countries continued to honour the contracts they had signed with Moscow. The US sanctions not only failed to achieve their purpose, they hurt both the American and West European economies and created a wide rift in the Atlantic alliance.

The Reagan administration's action also met domestic opposition. The American press warned that the sanctions would harm US industries more than Western Europe.

In the face of resistance at home and abroad, the Reagan administration retreated, seeking a compromise that would restore US-Western Europe ties and reduce domestic resentment.

In early October, US Secretary of State George Shultz met with the foreign ministers of the NATO countries to formulate a common policy on trade with the Soviet Union. This effort was followed by a series of secret talks between US State Department officials and the four major West European countries' ambassadors in Washington, which later were extended to include Canada,

Japan and the rest of the Common Market countries. After several weeks of intensive negotiation, an agreement was finally reached.

Conflicts Still Exist

During these talks, the United States and its allies clashed on some issues. Washington hoped to make a trade-off of lifting its sanctions in return for substantial West European concessions on trade with the Soviet Union. But the West European countries didn't like the US idea; they preferred an agreement similar to the Versailles declaration of June.

France, the most adamant of the allies, maintained that the sanctions were an "obnoxious" US problem that Washington must solve by itself. Soon after Reagan announced his decision to lift the sanctions, the French Government issued a statement saying that France "took note" of the announcement, but was not a party to the agreement concerning trade with Russia.

The disputes between the United States and its allies over the natural-gas pipeline were a reflection of their different interests and views regarding NATO's Soviet strategy. Also, they demonstrated an increasing tendency towards independence of the West European countries, particularly France; it is not easy for Washington to order its allies about. The US Government should learn from this unpleasant experience, should stop interfering in other countries' internal affairs and should avoid such unilateral actions.

Settlement of the dispute over the pipeline issue, coupled with the earlier agreement on

European steel exports to the United States, has temporarily eased tensions between Washington and its European allies. But contradictions still exist and will continue to surface from time to time. Nevertheless, as the two sides have

similar strategic interests and are dependent on each other militarily and economically, neither side will allow their differences to get out of control.

—Zhang Wen

President Zia's Visit to India and Southeast Asia

MY tour of India and Southeast Asian countries to promote mutual co-operation and understanding has been far more successful than expected," stated Pakistan President General Mohammad Zia-ul-Haq at Islamabad Airport on Nov. 13, concluding his visit to India and the ASEAN countries, Thailand, Indonesia, Malaysia and Singapore.

Referring to his first tour of these Asian countries since assuming office in 1977, President Zia said that the exchange of views on regional and international relations indicated a broad spectrum of common viewpoints and helped deepen mutual understanding. Bilateral political, economic, scientific and cultural relations have been strengthened, Zia noted, offering new prospects for their further co-operation.

Kampuchean and Afghan Questions. President Zia said that he and the Thai Prime Minister discussed their respective border problem and found that they are "in the same boat." Both leaders recognized the link between the Soviet invasion of Afghanistan and the Vietnamese occupation of Kampuchea. Pakistan and Thailand have agreed to promote economic co-operation which will eventually lead to political co-operation to deal with their similar border threats.

President Zia and leaders of Indonesia, Malaysia and Singapore agreed that the tense situation in Southeast Asia is the result of foreign armed intervention. They urged all states to "adhere to the fundamental principles of non-interference in the affairs of other states and non-use of force for settlement of disputes." They reaffirmed the UN resolutions on Kampuchea and Afghanistan, calling for the withdrawal of all foreign troops from both countries. They agreed that the Kampuchean and Afghan peoples should have the right to determine their own destiny, that the restoration of their national sovereignty and independence should be guaranteed.

While the Pakistan President was visiting the Southeast Asian countries, the UN General Assembly adopted its fourth resolution on the Kampuchean problem, and was preparing to discuss the Afghan problem. The just stand and views of President Zia and the ASEAN leaders have been widely praised.

Adhering to Non-Alignment Principles and Purposes. In Jakarta, President Zia said that because of superpower rivalry in the Indian Ocean, some of the non-aligned countries have become victims of the big powers' military intervention. Zia and ASEAN leaders em-

phasized the importance of adhering to the fundamental principles of the non-alignment movement and of preserving its independence from any power blocs. Zia expressed his hope that an international conference on the Indian Ocean would be held soon and he affirmed his country's support for establishing the Indian Ocean as a zone of peace and neutrality.

Improved Indo-Pakistan Relations. President Zia also visited New Delhi and had "useful and fruitful" talks with Prime Minister Indira Gandhi on Nov. 1. The two leaders discussed regional and global issues as well as specific bilateral questions such as a non-aggression pact suggested by Pakistan and a treaty of peace and friendship proposed by India. They agreed to establish a joint commission to discuss drafts of these two treaties.

Talking to reporters in Bangkok, President Zia described his talks with the Indian Prime Minister as "a breakthrough" which will improve the atmosphere in South Asia. He hoped that his talks with Indira Gandhi would lead to the formation of a South Asian organization along the lines of the ASEAN. He also expressed the hope that strong ties between the South Asian organization and ASEAN would be established, and the two groups may work together to promote continental peace and progress.

Role of ASEAN. President Zia praised ASEAN as an "effective" and "successful" organization in promoting regional economic and cultural co-operation and development.

During his talks with the ASEAN leaders, President Zia discussed the world economic

crisis and ways of developing bilateral trade and economic relations.

"South-South dialogue must be encouraged," said President Zia. His support for the view

that developing countries should first exploit their own resources before seeking outside help was greatly appreciated by the ASEAN leaders.

— Liu Zhenxue

An End to Korea's Division

SEVEN years have elapsed since the resolution to "create conditions favourable to the independence and peaceful reunification of Korea, to convert armistice into permanent peace" was adopted by the 30th UN General Assembly.

During these seven years, the Government and people of the Democratic People's Republic of Korea (DPRK) have worked unremittingly for the realization of the UN resolution promoting the peaceful reunification of Korea. The DPRK first proposed holding North-South talks in the hope that the dialogue would expand contacts between North and South and pave the way for the country's reunification.

However, US interference and the insincerity of south Korea's Chun Du Hwan clique have prevented implementation of the UN resolution on Korea's reunification. Nearly 30 years after the end of the Korean war, US troops remain in south Korea in defiance of the UN resolution. The Reagan administration has not only gone back on its predecessor's commitment to partial troop withdrawal but has further strengthened US military forces in south Korea while continuing the attempt to create "two Koreas." The US-backed Chun Du Hwan clique, while paying lip service

to preparing for negotiations with the North, has been intensifying its suppression and persecution of patriots. The United States and the Chun Du Hwan clique are chiefly re-

sponsible for obstructing the peaceful reunification of Korea.

The division of the Korean peninsula should end. The Chinese people strongly demand the implementation of the UN resolution on Korea, the withdrawal of US troops and arms from south Korea, and an end to the Chun Du Hwan clique's sabotage of Korea's peaceful reunification. China firmly supports the great cause of Korea's peaceful reunification and is convinced that no force on earth can prevent its realization.

— Ming Ming

Soviet-US Disarmament Talks Lead Nowhere

Fact: Ninety-six per cent of the world's 50,000 stockpiled nuclear warheads are owned by the Soviet Union and the United States. The two superpowers' enormous nuclear arsenals are a constant threat to international security and peace.

Fact: Despite their talk about disarmament, both Moscow and Washington are expanding, and not reducing, their military buildup.

In face of mounting worldwide protest, the two superpowers apparently feel compelled to make some gestures towards disarmament. During the current UN General Assembly session, three disarmament negotiations were resumed — the Warsaw Pact-NATO talks on mutual reduction of forces in Central Europe, the talks on limitation of nuclear arms in Europe and the strategic arms reduction talks (START).

All this glib talk may create the impression that the two superpowers are enthusiastic about reducing their nuclear forces. But reality shows that their words and their deeds are poles apart.

Talks on Arms Reduction in Central Europe

The talks have been on and off for nine years now, and the current round is the 28th. Both the Warsaw Pact and NATO have frequently expressed a desire to reduce the level of military presence in Central Europe, where they deploy 2 million conventional forces. But so far, the talks are still bogged down in old controversies about the scope of the reductions, the manner of implementation and the base figures from which the reductions are to be counted.

The Soviets have stressed all along that the two blocs have roughly equal strength of

ground and air forces in the area and, therefore, their armed forces should be reduced by an equal percentage. The Americans insist that the strength of the Warsaw Pact forces is greater than NATO estimates by a margin of 150,000 to 170,000 troops and that reductions must be made proportionately.

Earlier this year, each of the two sides put forward a new proposal. The Warsaw alliance proposed that Moscow and Washington should first cut their ground forces by 20,000 and 13,000 respectively, then hold further talks and finally reduce their strength to an equal level of 700,000 ground and 200,000 air forces for each side.

Washington proposed the same final ceiling of the two blocs' armed forces in Central Europe, but, according to its calculation, it demanded that Warsaw Treaty Organization withdraw 280,000 troops in seven years.

The two sides have wrangled incessantly over these issues without any real progress in the talks.

Nuclear Arms Cut Talks

The Vienna talks on limitation of intermediate-range nuclear weapons in Europe and the START also are deadlocked because both the Kremlin and the White House simply do not want to reduce their nuclear strength, but instead each hopes to bargain for something from the other. The basic US policy towards either the limitation of intermediate-range nuclear weapons in Europe or the reduction of strategic

nuclear forces is to pare down the Soviet superiority in land-based missiles. On the contrary, the Soviet principle is to try by every means to maintain such superiority and prevent the United States from further improving its nuclear technology. Their intentions can be clearly seen in their disarmament proposals.

On the issue of intermediate-range nuclear weapons in Europe, President Reagan's "zero plan" was designed to diminish Soviet land-based missiles in the area, including SS-20, SS-4 and SS-5. It proposed that Moscow dismount these missiles in exchange for Washington's non-deployment of Pershing II and cruise missiles. The Soviet proposal was aimed at freezing the NATO forces at their present level by obstructing Washington from deploying new types of missiles in Europe and to reduce the area's nuclear forces, including British and French nuclear forces on their own soils. Under this proposal, the powerful Soviet SS-20 missiles would be untouched.

On strategic nuclear forces, according to Reagan's plan, Soviet land-based missiles and the number and payload of nuclear warheads would be slashed considerably while the US nuclear forces would not be much affected. Obviously, Washington wants to maintain its strength by reducing Soviet superiority.

In contrast, the Kremlin insists that the primary target should be to freeze existing nuclear arsenals at their present level and to prevent them from being modernized. The aim of the Soviet proposal is to keep its superiority in land-based missiles and curtail the US drive for nuclear armament improvement.

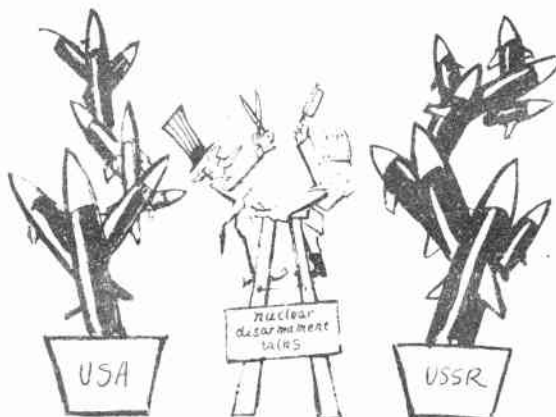
Both Washington and Moscow are sticking to their propositions and waiting for opportunities to force their opponent to make concessions.

Meanwhile, they continue to develop or improve new implements of war to strengthen their bargaining position in the negotiations. According to rough estimates, between January and September this year the United States conducted 16 underground nuclear tests and the Soviet Union ran 13. Washington is going ahead with its six-year plan to reinforce its nuclear arsenal. The United States reportedly is in the process of manufacturing MX-missiles and researching B-1 long-distance bombers. The second US Trident submarine already is in service, with six others planned. The US space-based cruise missile test launching finished in October and the missile will soon be put to use.

The Soviet Union is not lagging behind. Apart from speeding up the replacement of old missiles with new ones, Moscow is trial-manufacturing Typhoon-class nuclear submarines equivalent to the Tridents, and will soon commission them. The new SSNX-20 warheads for the submarines are being test-launched. In addition, a new Soviet strategic bomber, similar to the US B-1, is under research.

All indications show that Moscow and Washington are locked in a new round of the arms race, not disarmament.

— Fang Ming



How to Interpret the Census Communique

by Hou Wenruo

ON October 27, China released the major figures from its third national census (see issue No. 45). Post-enumeration sampling checks detected a population overcount of 0.71 per thousand and an undercount of 0.56 per thousand, with a net overcount of only 0.15 per thousand. This confirms the accuracy of this census, which is unprecedented in scale throughout the world. As a demographer, I would like to make the following observations.

Initial Results in Population Control. According to the recent census figures, on July 1, 1982, China had a population of 1,031,882,511, an increase of 313,593,529 over the 1964 national census, with an average annual growth of 2.1 per cent over the past 18 years. In terms of demography, this growth rate is still quite high. It is conceivable that if China had not introduced a family planning programme in both the urban and rural areas as early as in the 1970s, its population growth rate would have been shockingly high today and its total population would soar to 1,500 million by the year 2000.

The 12th National Party Congress called for quadrupling China's gross annual industrial and agricultural output value by the end of the century and keeping the nation's population within 1,200 million so that the average per-capita national income can reach 1,200 yuan by then. Without population planning, our modernization drive as well as the improvement of our people's standard of living will be impeded. Our population control policy over the past decade has achieved initial results. But we are still confronted with an arduous task in this field.

A New Baby Boom. The communique reports that China's 1981 natural population increase rate was 1.46 per cent, reduced by one half

from the figure of 1970, the year when the family planning programme was introduced. But, compared with the period between 1976 and 1980, it has picked up again. This forecasts a new baby boom in China, mainly caused by the fact that the children born in the two baby booms in the mid-1950s and the 1960s have reached child-bearing age in the 1980s. The coming decade is not expected to see a significant reduction of our population growth rate. In addition, the 1981 Marriage Law reduced the legal minimum marriage ages by 5-8 years (to 20 for women and 22 for men) compared with the minimum ages of late marriage stipulated by various places when the family planning programme was introduced. This has boosted the number of people bearing children. Population control, therefore, has become an imminent problem in China and can allow of no negligence.

Scientific and Cultural Quality of the Population Should Be Enhanced. The communique says that of every 100,000 people in China, 599 have received university education. Therefore, the population's scientific and cultural quality has been improved since the previous census (in 1964, only 416 of every 100,000 received university education). But we still lag far behind the developed countries in this respect. Many countries' experiences prove that without an adequate number of people with higher education, a nation cannot update its science and technology nor can it go about its production and management creatively, thus making it extremely difficult to realize modernization.

This census also found that in 1982, among the population aged 12 and above, 236 million are illiterate or semi-literate. Although the illiteracy and semi-literacy in the total population has dropped from 38.1 per cent in the 1964 census to 23.5 per cent today, the absolute number of illiterate and semi-literate people in China is only 27 million fewer. By contrast, only

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2 per cent (or less) of the population of developed countries is semi-literate or illiterate.

Thus, to achieve socialist modernization, our population's scientific and cultural quality must be greatly enhanced.

Sex Composition Conforms to the Regular Pattern. On a global scale, the number of males and females is more or less equal. This has been true for centuries and has become a regular pattern. In countries where birth registration is regular, the proportion of males to females fluctuates between 104-107 to 100. According to this census, in 1982, China's males account for 51.5 per cent while females account for 48.5 per cent, the proportion of males to females being 106.3 to 100. This maintenance of the traditional proportion of males to females tells that so far our practice of "one couple one child" has not unbalanced the national sex composition.

Towards Progressive Population Development. According to the census figures, China's 1981 birthrate was 20.91 per thousand, which was not only much lower than China's birth rates in the 1950s and the 1960s but was also lower than other developing countries' 1981 average birthrate of 32 per thousand. The figure, how-

ever, approached the 1981 level of the developed countries — an average of 16 per thousand. This indicates that China's population development is transforming from a high birthrate to a low birthrate, a progressive type of population growth.

According to the census figures, China's 1981 mortality rate was 6.36 per thousand which, compared with the figures of other countries, was among the most advanced levels in the world. In 1981, Brunei registered the lowest mortality rate in the world — 4 per thousand — followed by Singapore, 5 per thousand, and Japan, 6 per thousand. The low mortality rate we achieved should be attributed to the government's care for the health of women and children and the vigorous development of medical and health services in China.

In the future, with the call of "one couple one child" gradually taking root in the hearts of the people, and after the 1980s baby boom subsides, China's birthrate will be brought down further. In the 1990s, with this expected reduction of both the birthrate and mortality rate, China will usher in a progressive type of population development characterized by a low birthrate, a low mortality rate and a low natural increase rate. □

Tibet: An Inside View (II)

— More Tibetans assume leadership

by Our Correspondent Jing Wei

This is the second part of a series on Tibet. Part one, "Tibet: An Inside View (I) — Interview with the autonomous regional government chairman," appeared in our last issue. — Ed.

AS developing an indigenous leadership is the key to the implementation of autonomy in the minority regions of China, it is interesting to see just what the situation is in Tibet.

From 200 to 30,000

During my two months in Tibet, I was mostly received by leaders and officials of the Tibetan nationality. They worked in Party and government departments, administrative offices and institutions at all levels, in Lhasa, the region's capital, the county seats, and the pastoral areas.

Shortly after the peaceful liberation of Tibet in 1951, there were only 200 Tibetan cadres in

the whole region. By the end of 1981, 29,406 were Tibetan, not including 9,000 part-time cadres at the commune level.

This has radically changed the composition of Tibet's leadership. Today Tibetan and other non-Han cadres are in the majority. The cadre department of the Tibet Autonomous Region provided the following statistics:

Year	Cadres of Tibetan nationality	Proportion of total (%)
1951	200	
1965	7,508	32.9
1978	20,023	44.5
1981	29,406	54.4



Jambai Gyaco (left), of the Institute of Literature of Minority Nationalities, gathers research material from local folk artists.

Including part-time cadres at the commune level, 39,000 of the cadres are of Tibetan or other non-Han nationalities. They make up more than 60 per cent of the total. As more cadres of the Han nationality are transferred back to other parts of China in the next few years, Tibetans and other minority nationalities will comprise two-thirds of the total.

Full-time cadres are paid by the state and include officials in Party or government offices and professional workers such as doctors, engineers, teachers and editors.

Part-time cadres have specific grass-roots duties and receive part of their income from the state and part from their own productive labour.

Assuming Key Positions

The maturing of the Tibetan leadership is evident in their increasing numbers, but more importantly, in their promotion to important positions. Almost all the heads of Party and government organizations at all levels in the region are Tibetan.

- At regional Party and government level, the first Party secretary, who is of Han nationality, is the only exception. The chairmen of the government and of the standing committee of the regional people's congress are Tibetan.

- At the prefectural and city level, the first Party secretaries and commissioners of five prefectures, the first Party secretary of Lhasa, its mayor and the chairman of the standing commit-

tee of the people's congress are Tibetan. (Since the state organ at the prefectural level is an agency of the autonomous region government, there are no people's congresses at that level.)

- In all 75 counties of Tibet, all county chairmen and chairmen of the standing committees of the people's congresses are Tibetan, as are 58, or 77.3 per cent, of the county Party secretaries.

- All district chairmen and Party secretaries and commune chairmen are of Tibetan or other minority nationalities.

The departmental and bureau directors and the president of the academy of social sciences

I interviewed are Tibetan. I also met with many Tibetan professional workers such as Basang Puchi, a 37-year-old experienced gynaecologist and obstetrician who is deputy director of the autonomous region hospital. Yexi Dainzin, 41, a graduate of the Central Academy of Fine Arts in Beijing and author of a novel about the Tibetan people's life, is vice-chairman of the Tibet Writers' Association.

Does this mean there is no need for Han cadres in Tibet? Not at all. In fact, many veteran Han cadres, now retired from important positions, are passing on their experiences to recently promoted Tibetan cadres. Many Han cadres with professional expertise are devoting their energies to building the new Tibet. As one Tibetan leader noted: "We still need the genuine help of our Han comrades. Hu Yaobang was quite right when he said that the Han people need the help of the minority nationalities and vice versa."

Road to Leadership

When several Tibetan cadres were asked how people of their nationality became leaders, they each spoke about their own different experiences. But all of them mentioned three basic factors that had contributed to their growth: first, Party education; second, 'help of veteran Han comrades; and third, their own efforts.

Gyaco, 44, vice-chairman of the autonomous region government, was a hired shepherd before

the liberation of Tibet. After joining the revolution at the age of 14, with the help of the Party, he learnt to read and write and studied revolutionary theories. Since the early 1960s, he has been workshop Party branch secretary, factory Party committee secretary, vice-director and then director of the industrial bureau. In 1980, he was promoted to his present post. His knowledge and administrative experience were gained mainly in the course of his work.

Dainzin, 36, deputy editor-in-chief of *Xizang Ribao* (Tibet Daily), was once a serf. After the democratic reform, he was sent to study at the Tibet Institute for Nationalities, the Central Institute for Nationalities in Beijing and the Journalism Department of Fudan University in Shanghai. In the past dozen years or so, he worked for the *Xizang Ribao*. From an ordinary correspondent, he rose up the ranks to become deputy editor-in-chief in 1980. He also has received awards for a novel and an essay. Not long ago he was elected vice-president of the Tibetan Federation of Literature and Art Circles.

Xuikang, 59, vice-chairman of the autonomous region government and head of the cultural bureau, is a former aristocrat and fifth-rank official of the old Tibetan local government.



Dainzin, deputy editor-in-chief of "Xizang Ribao."

After the liberation of Tibet, he supported the policies of the Communist Party of China and fought staunchly for the unity of the country. Later he became a Communist and held the posts of vice-president of the Tibet Youth Federation, deputy secretary of the Tibet committee of the Communist Youth League and deputy secretary-general of the Tibet People's Political Consultative Conference. During the "cultural revolution," he was criticized and demoted. While on an inspection tour in Tibet in 1980, Hu Yaobang, General Secretary of the Chinese Communist Party, personally nominated him for an important official post.

Most of today's Tibetan cadres are liberated serfs who have been trained and promoted. Others are patriotic former local officials or youths from aristocratic families. All of them are working towards a common goal — to build a united and prosperous new Tibet.

Problems and Their Solution

It is inspiring to see many Tibetan leaders emerging. However, there are still problems, some quite conspicuous. "The lack of scientific and technological personnel is the key problem," said vice-chairman Gyaco, talking about industrial construction. "There is a great gap between the present level of Tibetan leaders and the needs of Tibet's modernization drive," said a personnel spokesman. The "gap" here means, first, the low educational level, and second, the lack of professional expertise.

Why have the past 30 years not provided a basic framework of science and technology? Historical factors have been compounded by ideological errors. Because Tibet was extremely underdeveloped before its liberation, the illiteracy rate was over 95 per cent and there were



Basang Puchi (standing), deputy director of the People's Hospital in Lhasa.

practically no science and engineering personnel. After Tibet's peaceful liberation, the feudal serf system remained intact. The oppressed serfs did not have even personal freedoms. The training of cadres was severely limited at that time.

Following the quelling of the rebellion in 1959 and the subsequent democratic reform, the Party selected and trained many liberated serfs to become cadres. But then, under "Left" ideological deviations, the overemphasis on political movements delayed the training of cadres in science and technology.

What is the remedy to this situation? Since 1980, this question has attracted much attention. Last year, the Tibet Party committee established an administrative department in charge of training, promoting and transferring scientific and technological cadres. Since then more than 500 scientific and technical workers have been sent to study in colleges or technical schools.

The autonomous region government has drawn up a cadre training plan. According to this plan, various measures are to be adopted to strengthen the general education and professional training of cadres. By now the autonomous region, the prefectures, cities, counties, departments and bureaus have all set up their own general education schools or classes to which cadres will be released from work and trained group by group. All cadres in Tibet are required to reach at least a middle school level within five years. The autonomous region government, while stressing politics, health and age in selecting and promoting cadres, also pays attention to educational and professional levels.

The plan also reiterates the importance of developing education in the autonomous region, of continuing to send students to universities and colleges in other provinces of the country for further studies, and of enlisting those with special skills or talents wherever they may be found in society. □

Facts and Figures

National Economy: Major Targets

Beginning January 1983, "Beijing Review" will run a "Facts and Figures" column at irregular intervals to help our readers in their understanding and study of China. Most of the data published in this column will be provided by the State Statistical Bureau with other information contributed from appropriate departments. The following is an example of what will be published in this new column. Please write us if you have any comments and suggestions. — Ed.

Absolute Figures

TABLE I on page 18 highlights China's economic development since the founding of the People's Republic in 1949. Each year listed was historically significant to China.

In 1952, which marked the end of three years of economic restoration following decades of revolutionary wars, the nation's industrial and agricultural production reached an all-time high.

By 1957, the last year of the First Five-Year Plan period, China had basically accomplished the socialist transformation of the means of production and established a number of basic

industries, and the economy was growing in a well balanced way and yielding fairly good results.

The decade 1957-66 witnessed tremendous achievements in all fields of socialist construction. However, the national economy encountered setbacks and difficulties as a result of the 1958 "big leap forward," followed by serious natural adversities and the unilateral tearing up of contracts by the Soviet Union. Hence the nation's first economic readjustment period which ended in 1965, the eve of the "cultural revolution" (1966-76).

The Third Plenary Session of the 11th Party Central Committee, convened towards the end

of 1978, repudiated "Left" mistakes and decided to switch the emphasis of Party and the state work to economic construction. The session marked a great historic turning point in China.

In Table I, the 1952 gross national industrial and agricultural output value was calculated according to the 1952 constant prices; that of 1957 and 1965, according to the 1957 constant

prices; that of 1978, 1980 and 1981, according to the 1970 constant prices. The other figures were calculated according to the prices of the corresponding years.

The national income refers to net output value of the five departments of agriculture, industry, building industry, transport and communications, and commerce.

Table I

Items	Units	1952	1957	1965	1978	1980	1981
1. Year-end total population	<i>million</i>	574.82	646.53	725.38	958.09	982.55	996.22
2. Year-end total number of labourers	<i>million</i>	207.29	237.71	286.70	398.56	418.96	432.80
Of this: number of workers and staff members	<i>million</i>	16.03	31.01	49.65	94.99	104.44	109.40
3. Gross national industrial and agricultural output value	<i>million yuan</i>	82,700	124,100	198,400	569,000	661,900	691,900
Total agricultural output value	<i>million yuan</i>	48,400	53,700	59,000	145,900	162,700	172,000
Total industrial output value	<i>million yuan</i>	34,300	70,400	139,400	423,100	499,200	519,900
Total light industrial output value	<i>million yuan</i>	22,100	37,400	70,300	180,600	234,400	267,500
Total heavy industrial output value	<i>million yuan</i>	12,200	33,000	69,100	242,500	264,800	252,400
4. National income	<i>million yuan</i>	58,900	90,800	138,700	301,000	366,000	388,000
5. Revenue	<i>million yuan</i>	18,370	31,020	47,330	112,110	108,520	106,430
Expenditure	<i>million yuan</i>	17,600	30,420	46,630	111,100	121,270	108,970
6. Total capital construction investment	<i>million yuan</i>	4,360	13,830	17,090	47,960	53,940	42,790
7. Volume of railway freight	<i>million ton-kilometres</i>	60,200	134,600	269,800	534,500	571,700	571,200
8. Total volume of retail sales	<i>million yuan</i>	27,680	47,420	67,030	155,860	214,000	235,000
9. Total import and export volume (RMB)	<i>million yuan</i>	6,460	10,450	11,840	35,500	56,380	73,530
Total volume of imports	<i>million yuan</i>	3,750	5,000	5,530	18,740	29,140	36,770
Total volume of exports	<i>million yuan</i>	2,710	5,450	6,310	16,760	27,240	36,760

(Provided by the State Statistical Bureau)

Indexes

Table II reflects the indexes for the yearly figures listed in Table I and the average annual rates of growth, with 1952 as 100.

Growth rates of the gross national industrial and agricultural output value and the national income were calculated according to comparable prices which exclude the factor of price fluctuations.

In China, there are two methods to calculate the average annual growth rate in

a period. One is the traditional geometric averaging method, whereby the rate is calculated by averaging the difference between the base year and the last year of the period. The other is the algebraic averaging method. This means calculating the average annual growth rate by averaging the sum total of the growth of every year in the period in question compared with the base year. In ordinary cases, the two methods give more or less the same results. However, when there are fairly large fluctuations in the economic life, there will be big differences in the results obtained by the two methods. Table II uses the first method.

Table II

Items	Indexes				Average annual percentage growth (1953-81)
	1957	1965	1980	1981	
1. Year-end total population	112.5	126.2	170.9	173.3	1.9
2. Year-end total number of labourers	114.7	138.3	202.1	208.8	2.6
Of this: number of workers and staff members	193.5	309.7	651.5	682.5	6.9
3. Gross national industrial and agricultural output value	167.8	268.3	906.0	946.8	8.1
Total agricultural output value	124.8	137.1	256.1	270.7	3.5
Total industrial output value	228.6	452.6	1,885.3	1,962.7	10.8
Total light industrial output value	183.2	344.5	1,256.2	1,433.3	9.6
Total heavy industrial output value	310.7	650.6	3,033.5	2,890.9	12.3
4. National income	153.0	197.5	510.1	525.4	5.9
5. Revenue	168.9	257.7	590.1	579.4	6.2
Expenditure	172.8	264.9	689.0	619.1	6.5
6. Total capital construction investment	317.2	392.0	1,238.3	981.4	8.2
7. Volume of railway freight	223.6	448.2	949.7	948.8	8.1
8. Total volume of retail sales	171.3	242.2	773.1	849.0	7.7
9. Total import and export volume	161.8	183.3	872.8	1,138.2	8.7
Total volume of imports	133.3	147.5	777.1	980.5	8.2
Total volume of exports	201.1	232.8	1,005.2	1,356.5	9.4

(Provided by the State Statistical Bureau.)

LIFE

Preschool Home Training

THE Xicheng District's women's federation recently conducted an investigation on preschool training among 56 households under the charge of the Changqiao neighbourhood committee. The investigative results showed that quite a few grandmothers who care for children during the absence of the working parents lack knowledge about educating children.

Some pamper too much, others scold.

The women's federation has, therefore, opened courses for grandparents on infant care, preschool education and ways of bringing up smart and healthy children.

The 333 local women's groups in that district all have educational instructors and more

courses on these subjects are organized by every neighbourhood committee.

A grandma, who formerly spanked the child whenever he made a mistake, now has learnt to reason with him in an enlightening way. Another who never knew the ropes though she has been caring for children all her life is now beginning to understand the correct way of preschool education.

— "Beijing Wanbao" (Beijing Evening Newspaper)

Rural Elderly

Liu Dongli, a 77-year-old peasant, had once expected to use his favourite tree he had grown as coffin-making material for himself. But after the institution of the production responsibility system, he changed his mind. He sold the tree so that he could buy a bicycle and thus be able to ride to and from the fields where he helped out.

Optimism is becoming the common sentiment of senior citizens in Shenqiu County, Henan Province. Since the introduction of the production responsibility system, the agricultural output has risen and welfare funds accumulated by production brigades have swelled. Shenqiu County is now financially able to better care for its

elderly. The help for senior citizens is taking four forms:

1) Providing food, clothing, other necessities, pocket money (10 yuan per capita per month) and medical care for the elderly who are still living in their own homes. This is paid for by the public welfare funds of the brigades. Thus supported old people account for 82 per cent of the 3,865 total in the county.

2) Setting up homes for the elderly. Semi-private rooms, quarterly medical examinations, annual visits to the county seat for dumplings and entertainment, and hearty meals prepared by younger residents are all features of these facilities. Relatives who come to visit can eat without charge. There are 66 residents in such homes.

3) Assigning distant relatives to cultivate the elderly's land and thus support them. If this does not work, the first method is then applied.

4) Hiring someone to take care of the bedridden or the



Residents of home for the elderly in Jinxian County, Jiangxi Province.

disabled. A monthly salary of 20 to 30 yuan is paid.

The county officials review this work twice a year and every brigade has a responsible person. Thus, the elderly of Shenqiu County now enjoy a happier life.

— Xinhua News Agency

COMMENT

Individually Financed Bridges

RECENTLY, many peasants built bridges and roads on their own to bring benefit to their locales.

Some people consider such construction work to be merely trifle, forgetting that the work, though minor, is indispensable.

These peasants saved money, bought building materials and contributed their time and energy. They seek neither fame nor gain. They are not distributing charity in order to ensure a happy life in the next world like philanthropists did in old China. They are preoccupied with the thought of working for the benefit of the people.

Xue Yongfu, a 50-year-old peasant in a commune in Xinjiang Uygur Autonomous Region who had built five bridges on his own, explained, "This is the way it should be. In the past I had the idea but no money and materials; today I have all these thanks to the Party's new policies. I should do my part." Wu Yaoting, a peasant in Hunan Province, had the words "Thanks for the Party," instead

of his own name, inscribed on a stone tablet on the bridge he had built.

These bridges and roads reflect the peasants' support of

PEOPLE

Policewoman Honoured

ZHOU YI, a 20-year-old Beijing policewoman who had risked her life to save a primary school pupil from an approaching subway train, was honoured with the title of "first class heroine" at a meeting by the Ministry of Public Security.

One day in early October, while 290 pupils were awaiting a train at the Qianmen Subway Station, a scoundrel

operation she is now out of danger.

Deputy Mayor of Beijing An Lin asked all the city's police to learn from her and guard the people's welfare.

Zhou's parents received the certificate at the meeting on behalf of their daughter who is still hospitalized. After the meeting Wang Wentong, Vice-Minister of Public Security and



Leaders from the Ministry of Public Security and Beijing Municipality visiting Zhou Yi.

knocked several of them down and pushed one on to the tracks when a train was arriving. Zhou Yi, who was on duty, hurried to the rescue and was shoved off the platform too. Zhou threw the pupil to safety on the platform but was herself seriously injured.

Her condition was critical with a broken spine and torn muscles, but due to a timely

Zhao Pengfei, Secretary of the Beijing Municipal Party Committee went to see her and brought her the medal and a letter of sympathy.

A young man from Inner Mongolia was arrested for deliberately pushing the children and harming Zhou Yi. Further investigations are under way.

— Xinhua News Agency

Tangshan – Six Years After the Quake



by Our Correspondent Li Xia

AN earthquake of 7.8 magnitude on the Richter scale shook the industrial city of Tangshan in north China for 23 seconds on July 28, 1976. The destruction it caused to lives and property was unparalleled in modern world history. The quake reduced this century-old city to ruin and took a death

toll of 242,000 from a population of 1.06 million.

Many predicted: "Tangshan has been wiped off from the face of the earth and will take at least 20 years to rebuild." They compared Tangshan to Pompeii, an Italian city submerged in magma and lime from a volcanic eruption.

New Tangshan Under Reconstruction

TODAY, only six years later a visitor to Tangshan can see row upon row of new five-to six-storeyed buildings and an endless stream of people and vehicles over the broad new roads. It is a bustling scene of construction: excavators clearing the grounds, heavy-duty trucks transporting concrete slabs, sand and stones, and tower cranes lifting prefabricated parts.

Some 10.31 million square metres have already been rebuilt, 78 per cent of the city's

area before the shock. Almost 6 million square metres of housing have been completed and 91,801 families have moved into new homes.

Nevertheless, if you stroll along the city streets, you still can see the vestiges of the earthquake in the narrow side streets full of rubble. Half the inhabitants are still living in small brick houses roofed with asphalt felt weighed down by bricks. Spaces between the ruins and the new buildings are crammed with makeshift homes.

Nationwide Support

State investment and nationwide support have contributed to rebuilding Tangshan in a short period of time. In spite of the financial difficulties that have forced the state to cut investments in capital construction, it has allocated approximately 4,000 million yuan for the construction of a new Tangshan.

Communist spirit has been essential to the rebuilding. People from all over rushed to assist Tangshan as soon as they heard news of the quake. The Party Central Committee sent a group immediately. More than 100,000 PLA officers and men, 30,000 medical workers, 20,000 cadres and 30,000 construction workers travelled day and night across the country to Tangshan. In those first days more than 600 million yuan worth of materials were donated to Tangshan. Nine provinces and cities gave free medical treatment to the more than 50,000 seriously wounded people.



Tangshan's Kailuan Coal Mine devastated by the quake.

When the rebuilding work began, the State Construction Commission organized 2,300 experts and technical personnel from 15 provinces, cities and departments to help work out a plan for the construction of a new Tangshan. The PLA, the Ministries of Metallurgical Industry, of Railways, of Coal Industry and other central government departments as well as various local governments in Hebei Province where Tangshan is located also sent in designers and construction workers and 2,000 sets of machinery. The number of construction workers was sometimes as high as 100,000. At present, the size of this contingent is somewhat reduced because some projects have been completed; still, nearly three-quarters of the 70,000 people still working there are from other localities.

Plan for a Rational Layout

The new Tangshan will be a great improvement over its predecessor, said Yuan Jingshen,

President of the China Building Research Institute, and a leader in charge of planning the city. Old Tangshan was centered on coal mining, he said. The city's layout was an irrational maze of coal pits and mines in downtown areas interspersed with the narrow, crooked lanes of the residential areas and the bustle of the Beijing-Shanhaiguan Railway line. Environmental pollution was serious. The smoke emitted from the chimneys of coke ovens, steel, power and cement plants was called the "four dragons" (because it was dragon-coloured: black, red, white and grey). The industries discharged 260,000 tons of dust, 110 million tons of waste water and 10 million tons of industrial residue annually. It was one of the most seriously polluted cities in the country, Yuan said.

The plan for new Tangshan follows national guidelines for controlling the expansion of big cities and developing small

ones. It is based on the principle of integrating urban with rural areas, facilitating production and improving people's daily lives. Every effort will be made to remove the factories which emit pollution or affect urban construction. This will permit the areas planted with trees to expand.

New Tangshan is divided into three districts: the Old District, the East Mining District and the New District. The building area covers 14.13 million square metres, or 78 square kilometres of the city's total area.

The Old District is being built on the former downtown area. In its northern part, while some industries which cannot be removed have remained, municipal government offices, shops, a library, a gymnasium, cinemas and theatres, a post and telecommunications building, hospitals, a railway station and other public buildings will form the city's

SPECIAL FEATURE/TANGSHAN REBORN

political, economic and cultural centre. In its southern part, some of the dozens of former factories have been moved away and others have been restored but not expanded. The Eastern Mining District is based on the five Kailuan mines; each mine is a focus of construction and the five combined form a mining town. The New District is being built in eastern Fengrun County seat north of Tangshan, and will be the centre for light, textile and machine-building industries. Nine factories will be moved here from the old city district. A large cement plant with an annual capacity of 1.5 million tons and a thermal power plant are being built in the New District. The New District has begun to take shape.

The three districts are corners of an equilateral triangle with 25-kilometre sides. They are linked by railways and roads and have good communications facilities. The Douhe Reservoir, located in the centre of this triangle, provides water for the three districts.

Afforestation is another as-

pect of the plan for the new city. Before the earthquake, Tangshan had 3.4 square metres of afforested areas per capita. Through replanting in the parks and along the streets, the new city will have 6 square metres per capita. Tangshan's two hills, Dacheng and Fenghuang, are both designed to become parks; the Fenghuang was a park before the earthquake and has been reopened. Another park will be built along the Douhe River inside the city. Like Dachengshan Park, the construction of Douhe Park is in full swing.

Anti-Seismic Structures

A key concern in rebuilding Tangshan is how to maximize the protection against possible future earthquake. According to Yuan Jingshen, President of the China Building Research Institute, earthquake-protection measures have been included in planning, everything from the layout to the building structures. All newly constructed buildings are capable of resisting a shock of 6.3 magnitude.

Under the new plan, roads will be broadened, many-sided entrances and exits will be added, spaces between buildings will be widened appropriately to reduce the density and some planted areas will be reserved for flexible use. Warehouses for chemical industry that store combustible, explosive and toxic materials will be moved out of the city proper.

In addition, buildings will be reinforced. Two of the buildings in Tangshan that did not collapse during the big shock six years ago remained standing because of their strong frameworks according to conclusions drawn after shock. Similar frameworks are being used for the new buildings in Tangshan. At the same time, other effective anti-seismic structures at low costs are also being utilized.

Buildings will be located far removed from the mining area. This is an earthquake-protection measure adopted after taking into consideration the characteristics of coal bases.

To ensure the quality of structures, the building departments have established a strict inspection and approval system. For instance, the welded reinforcing bars in each house must be checked and proved up to standard by the appropriate departments before the concrete can be poured.

The Handan No. 2 Building Company is a pace-setter among the national construction teams. It was awarded a silver medal by the state for the superb quality of the 200 projects it built in Tangshan. Inspired by its example, a campaign to learn from the Handan No. 2 Building Company and create high-quality projects is now under way. As a



A new residential quarter under construction.



Greening Tangshan after its rebirth.

result, the quality of the projects is continually being improved.

New Living Quarters

Under the new city plan, the residential area will consist of 118 satellite sections, each composed of 26 public service facilities, including kindergartens, nurseries, primary and middle schools, shops, restaurants, cinemas, banks and post and telecommunications offices. Flowers and trees will be planted between buildings and along roadsides and special bicycle lanes built. Each section will be inhabited by about 10,000 people. Construction of 40 sections is under way and 21 others have been completed.

A typical section, on the road to the airport, has 38 four-storeyed buildings and four five-to six-storeyed buildings, covering a total area of 120,000 square metres.

On the second floor of building No. 27 lives Chen Jinwen, a worker at the Tangshan Iron and Steel Factory. His family

of six shares a three-room, 54-sq m apartment in addition to a kitchen, toilet, built-in wardrobe, balcony and hallway and equipped with central heating and gas pipelines.

Chen Jinwen said his well-furnished quarters are more spacious than those the three generations in his family had before the quake. Rent is only five yuan out of the family's total monthly income of over 300 yuan.

But it is discouraging to see sections of stovepipes projecting out of the windows of many new buildings and depositories of coal on the ground floors. New Tangshan eventually will supply gas and central heating but it is not yet a reality, so people must use coal stoves for cooking and heating.

Residents of the New District have additional troubles. Families living in makeshift houses in the Old District cannot move out immediately, so new houses are being built on the periphery of the former district. As a result, the inhabitants travel long distances to work. Chen Jinwen said that it took him about 10 minutes by bike to get

to work from his old home, but now it takes over half an hour. He hopes that readjustment of work places and improvement of communications facilities will help solve these difficulties.

In front of building No. 27, children from a local kindergarten play on an enclosed sports ground. The kindergarten, set up specially for this new section, covers an area of 1,900 square metres. It began accepting children in September last year. The state allocated 35,000 yuan for the purchase of furniture, toys, musical instruments, TV sets and other necessities.

The kindergarten serves 270 children enrolled in eight classes. "We can take in only that many children due to our limited resources. Many residents have applied for admission for their children, but we can't meet their demand. It seems that the problem can only be solved by setting up several more kindergartens," one teacher said.

Still a Heavy Industrial Base

Tangshan is one of the major industrial cities in north China.

Output of Major Products

Product	Year	
	1975	1981
Coal (ton)	26,190,000	20,220,000
Steel products (ton)	836,000	941,100
Steel ingots (ton)	870,000	1,105,700
Power output (kw)	2,868,920,000	7,413,940,000
Cement (ton)	952,000	912,900
Sanitary ware (pieces)	1,143,000	1,277,000
Ceramic articles for daily use (pieces)	130,490,000	138,550,000

SPECIAL FEATURE/TANGSHAN REBORN

Tangshan's Gross Industrial Output Value
(10,000 yuan)

Year	1975	1976	1977	1978	1979	1980	1981
Total output value	224,000		123,600	217,000	249,187	260,357	264,984

Before the quake, its famous Kailuan Coal Mine and its time-honoured ceramic industry as well as nearly 400 electric, iron and steel, cement factories and other enterprises employed 210,000 workers. Its total industrial output value was 2,240 million yuan in 1975.

During the quake, factory buildings and equipment and the coal pits suffered heavy damages. One-tenth of the city's workers died in the Kailuan Coal Mine and the ceramic company alone. Therefore, it will require tremendous efforts to restore Tangshan's industries. A leader of the city's economic department said that after the quake Tangshan's workers and staff members did all they could to salvage equipment. Many factories and mines basically restored production in one year or so. By 1979, the city's total industrial output value had surpassed the pre-quake one and production increased continually. The city now has 633 factories and enterprises with 320,000 industrial workers.

Tangshan's industries are important to the nation's economy. The Kailuan Coal Mine produced 10.055 million tons of raw coal in the first six months of this year, overfulfilling the state production plan. It has set national records in exploiting, tunnelling and modern-mining methods.

Pre-shock Tangshan only had an annual generating capacity of 350,000 kilowatts. Restoration and development in the

past few years have resulted in increasing generating capacity to 1.05 million kilowatts. It is important to north China's power grid linking Beijing, Tianjin and the Tangshan area.

Tangshan's ceramics are well regarded at home and abroad.

Bathroom and toilet equipment produced by the Tangshan Ceramic Factory has been cited as the nation's best four times since the quake. New varieties have been added. High-grade and chemical ceramics have been marketed to more than 80 countries and regions.

Starting Life Afresh

THE memory of the tragic earthquake dies hard, and the immense sorrow for the bereaved is still fresh in everyone's mind in Tangshan. Yet underneath the sadness flows a stream of steadiness and purpose beyond anything yet experienced. Tangshan people, who have tested their mettle against death, are now plunged

into a battle to return their shattered city to its former self and get their lives rolling anew.

New Families

They got married in 1977, she a 35-year-old teacher of the Tangshan branch of the China Coal-Mining Research Institute and he one of the branch's assistant engineers. Both lost



A newly organized family.

their spouses the night the quake ravaged the city and each was left with a child.

But it took a while to get their marriage going. At first, the wife was unhappy about her stepdaughter, who kept her at arm's length.

She remembered once taking the little girl to watch TV. A meeting was going on in the TV room, and they had to go home, disappointed. The girl thought her stepmother did not really mean to let her watch TV and cried: "You're not my mom. Leave me alone!" This hurt the woman so badly that she wept. She knew it would be difficult to give the child enough affection to console her for the loss of her mother. She redoubled her efforts with the girl. "When I get her anything, like clothing or food, I want it to be better than for my own son. I tell her a story every night before she goes to bed." Her heart ached when her stepdaughter got scratched or hurt, a feeling she formerly had only for her own son.

Petty bickering occasionally broke out between husband and wife, but all helped, one way or another, to deepen their love. One morning, the daughter played for too long and was late for school. The mother scolded her, but the father seemed not to take this seriously, saying to his daughter: "Don't you worry. I'll see you to school if you are late." This embarrassed the wife and she retorted: "We are of two families after all. From now on, I won't say anything about your daughter." At these words, the husband angrily stormed away to work, without eating breakfast. The wife, fearing that he might suffer from his stomach trouble, boiled milk with egg. "As I hurried to catch up with



Recreational activities of the paraplegics.

him, I bumped into him on his way back. He was sorry about the argument and was returning to see if I was all right. This really brought us closer."

They are but one of the hundred couples at the Tangshan branch of the China Coal-Mining Research Institute who rebuilt their families after their husbands or wives died in the quake. The branch's trade union staff, who have volunteered to be matchmakers, are now racking their brains to find mates for the remaining three widowers and six widows.

Most of the 15,000 Tangshan people who lost their spouses during the earthquake have since remarried. Thirty per cent of these marriages, however, ended in divorce, brought together as they were merely by a mutual sympathy and a desire to lean on each other in a crisis. Most of these people have married a third time, having drawn lessons from their previous experiences. All the remarried couples are encouraged to become "five-good"* families, with "fostering a close

family relationship" as the watchword.

The Handicapped

Tian Sulan used to be a commodity inspector at the Tangshan Rolling Stock Factory. During the earthquake she was badly injured with four cracked lumbar vertebrae and two broken ribs, and it looked as if she would be permanently bedridden.

But, 20 months later, Tian, 45, is riding a bicycle to and from her new job every day as one of the factory's data analysts. The secret to her miraculous recovery lies in her superb willpower.

Four months after she was rushed to the best hospital in Jinan, Shandong Province, 24 doctors agreed that she would never walk again. Not allowing

* This refers to: 1) being good at study and work; 2) being exemplary in carrying out Party policies and observing law and discipline; 3) having good family relationships and being good neighbours; 4) strictly practising family planning and paying attention to educating the children; and 5) taking the lead in changing old customs and habits and observing the codes of social conduct.



Homecoming of school children who were sent to Shijiazhuang after losing their parents in the quake.

herself to be discouraged, Tian Sulan exercised every day. Eight months later, she was able to prop herself up in bed. When she could finally stand up she immediately began to push herself to walk. More than a year later she stepped on to a train and returned to her home town.

The 1976 earthquake left 1,814 people in Tangshan paraplegic. Very few of the 1,727 who have survived can return to their jobs and earn their living like Tian Sulan. Some of them considered committing suicide to end the unbearable pain from their impaired central nervous systems or to save family members the trouble of having to wait on them. But, for most, thanks to the help from a sympathetic society, the desire to live has been rekindled. It is not uncommon to see people on crutches, joining in morning exercises with non-handicapped people, albeit a bit more laboriously.

Their lives are secure. Some have moved into a new city-

funded nursing house. Many are recuperating in sickrooms operated by the big factories. Those whose conditions are better stay home under the care of family members, receiving medical treatment from doctors who make regular rounds. None of them need to worry about money: The jobless are supported by the city authorities and enjoy free medical care; workers and staff have their various expenses covered by their former work places. In the countryside, the permanently disabled pay one-third of the medical expenses and the production brigades cover the remaining two-thirds.

The city's 3-hectare nursing home for the handicapped, a 1.32 million yuan project, is a positive, supportive environment for its residents. With the aid of several kinds of equipment, the patients can do physical activities indoors and out. The home's library is always in use. Some patients like to sit in bed knitting or listening to music. Others are learning

new skills. One young man is training to become a tailor; one young woman has developed a penchant for creative writing.

The Homeless

The nightmarish earthquake left 2,600 orphan children. Some 700 of them have been sent to schools in Shijiazhuang and Xingtai; some are now in kindergartens, both in the same province as Tangshan; and the rest have been adopted either by relatives or sympathizers.

The school in Shijiazhuang was built within 34 days after Tangshan was struck by the quake. The state covers all the expenses, from construction and education funds to students' monthly allowances. The school offers both primary and middle school courses in addition to a class for pre-schoolers.

These orphans receive preferential treatment in job opportunities when they finish school. To date, 1,500 of them have been placed in jobs, and 350 have become PLA soldiers.

The childless elderly are also provided for. Most are in nursing houses, where they can play chess, enjoy music or otherwise amuse themselves. In the last six years their nurses have attended to them day and night, with the love and devotion usually reserved for families. With their selfless deeds, the staff has refuted the old saying: "The bed of a chronically sick man can turn away even the most filial son." □



SCIENCE AND TECHNOLOGY

Outstanding Inventions And Research

Six major natural science research projects were awarded first-class prizes by the State Science and Technology Commission at an awards ceremony in Beijing late last month for outstanding inventions and research work. The honoured projects were:

1. The complete synthesis of bovine insulin: Niu Jingyi at the Shanghai Institute of Biochemistry under the Chinese Academy of Sciences and other scientists in 1965 produced totally synthesized crystalline bovine insulin after more than six years of research. It was the world's first synthetic protein. The achievement marked an important step forward in man's quest to understand life and its secrets and opened new vistas for basic research into proteins and their applications. Basing themselves on this achievement, Chinese scientists went on to synthesize many kinds of polypeptide hormones of practical value and began to synthesize even bigger protein molecules.

2. The earth science research work that led to the discovery of the Daqing Oilfield: Li Siguang (deceased), Huang Jiqing and other Chinese geologists, basing themselves on geological studies conducted before and after the founding of New China, refuted the notion of some foreign scholars that China lacked oil deposits and advanced the theory that oil could be

found in continental sedimentation and that China's oil industry had bright prospects. In accordance with their proposal, the Central Government at the beginning of 1958 decided to move some of China's oil prospecting teams from northwest to northeast China. Productive wells were soon drilled and an oilfield — Daqing, one of the world's largest — was thus opened. The work conducted by Li Siguang and other geologists provided a theoretical and practical basis for a nationwide petroleum survey.

3. The ligand field theory research: Ligand field theory is an important branch in theoretical chemistry and a fundamental theory in the study of molecule structure. Beginning from the 60s, Professor Tang Aoqing of Jilin University and the research group under his guidance, after overcoming many conceptual and mathematical difficulties, began to systemize and standardize the ligand field theory concerning the structure of molecules for wider application. Their research results, which are of advanced world levels, are being widely applied at home and abroad.

4. The discovery of anti-sigma negative hyperon: When doing research on elementary particles, Professor Wang Ganchang of the Atomic Energy Research Institute under the Chinese Academy of Sciences and his team in 1960 discovered the anti-sigma negative hyperon — the first electrically charged negative hyperon ever found. This discovery enriches man's understanding of elementary particles and provides a new proof of the universal

law of unity of opposites, i.e., particles and anti-particles and matter and anti-matter.

5. Geological maps of China and a geological map of Asia: After a comprehensive study of relevant data, Wang Xiaoqing and other scientists of the Institute of Geology under the Ministry of Geology and Minerals began in 1958 to draw a series of national and regional geological-mineral maps of China and a geological map of Asia with corresponding notes and papers. These maps and documents provide valuable basic data for geological, mineral prospecting and hydrological work, the development of the national economy, national defence, geological research and teaching.

6. Progress towards the solution of the Goldbach conjecture: In 1742, the German mathematician Goldbach advanced the proposition that every large even number can be represented as the sum of two prime numbers. But the proposition remains unsolved. In the 1950s, Wang Yuan of the Institute of Mathematics under the Chinese Academy of Sciences and Pan Chengdong of Shandong University made significant progress in research into the problem. By 1966, Chen Jingrun of the Institute of Mathematics first proved the representation of large even numbers is the sum of a prime and the product of at most two primes. He published his results in detail in 1973, and then Pan Chengdong and Wang Yuan simplified Chen's process. Their achievements are the best in the world so far, and research field in this regard is continuing.

METEOROLOGY

Astronomy: The Beijing Ancient Observatory

The Beijing Observatory, a testimony to ancient China's study of the heavens, has been renovated, and the ancient instruments remounted and it soon will be reopened.

Located at the eastern end of Changan Boulevard, the ancient observatory, a brick terraced platform, was constructed in 1442, during the early Ming Dynasty. The observation platform is 14 metres high. On the top of the platform, which is 23.9 metres from east to west and 20.4 metres from south to north, are eight bronze astronomical instruments. On the northeast corner of the platform stands an astronomical observation house first constructed in the Qing Dynasty, and later rebuilt according to historical data.

Among the eight instruments is a celestial globe, which was used to decide solar terms and predict solar and lunar eclipses. The device features a bronze globe two metres in diameter,

with stars engraved on it according to their accurate co-ordinates. The vast milky way can be scanned when the bronze globe is turned around a steel axis representing the celestial axis.

On the south side of the platform stand an equatorial armillary sphere and an ecliptic armillary sphere. These instruments introduced a 360-degree system to astronomy for the first time in China which replace the 365.25-degree system. The two armillary spheres were used to determine co-ordinates of celestial bodies. Similar in shape and size, each has a meridian more than two metres in diameter which is cupped by two dragons and four lions.

China, an agricultural nation, attaches great importance to astronomy and meteorology. The 500 years of recorded observations in Beijing provide valuable data for further study.

ARCHAEOLOGY

Ancient Bathing Pool

Archaeologists discovered in July a Tang Dynasty (618-907

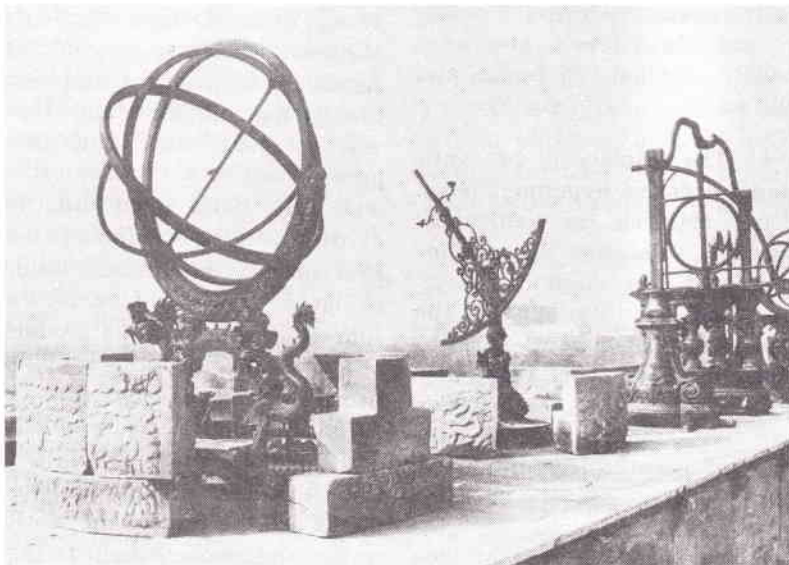
A.D.) bathing pool paved with bluish grey stone slabs and situated a dozen metres north of the present-day Huaqing Pool, a hot spring on the outskirts of Xian. The site has a wooden water channel and many Tang Dynasty bricks. West of the pool is the site of a Tang building with its floor laid with square bricks.

About two metres east of the site, a section of a north-south corridor paved with smooth square terrazzo bricks of the Tang Dynasty was found. The section is 4.8 metres long and well-preserved. Also unearthed were square bricks with lotus flower patterns or characters, rounded and flat tiles and tile-ends.

Emperor Xuan Zong (685-762) of the Tang Dynasty and his favourite imperial concubine, Yang Yuhuan, used to frequent the Huaqing Pool. The couple's love and its tragic end are the theme of both *Everlasting Regret*, a narrative poem by famous Tang Dynasty poet Bai Juyi, and the opera *Romance of the Palace of Eternity* by Hong Sheng of the Qing Dynasty (1644-1911).

Emperor Xuan Zong built palaces, towers and pavilions in the foothills of Lishan where the Huaqing Pool was and named them the Huaqing Palace. Later, they fell into disuse and collapsed. Prior to this excavation, no important ancient building has been discovered at the site in the past thousand years.

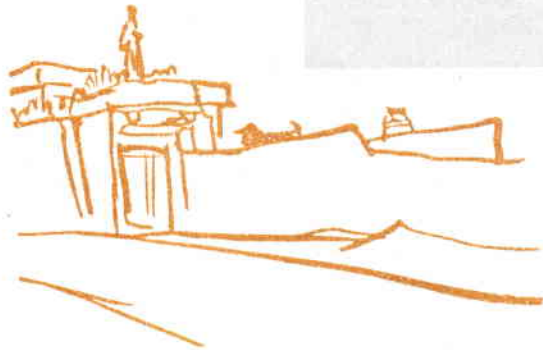
The present buildings associated with the Huaqing Pool were built in the Qing Dynasty and have been renovated and expanded several times.



Some instruments on the observation platform.

ART PAGE

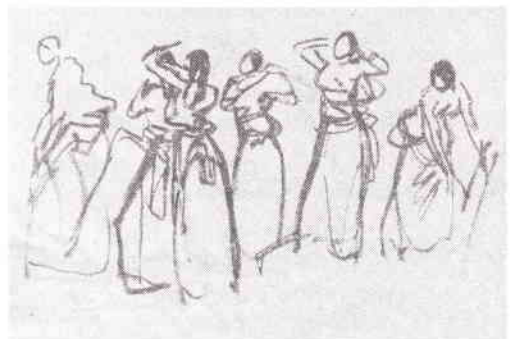
Wu Shanming: Sketches of Tibetans in Southern Gansu



Born in 1941 in Zhejiang Province, Wu Shanming graduated from the Department of Traditional Chinese Painting in the Zhejiang Academy of Fine Arts and now teaches at its middle school. A master of, rather than a stickler for traditional techniques, he is now probing for originality in presenting the people of our time.

At once lucid, elegant and vivid, the sketches presented here render Tibetan life in its simplicity and exuberance.

His paintings collected in several albums make him a representative character sketcher of our younger generation.



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