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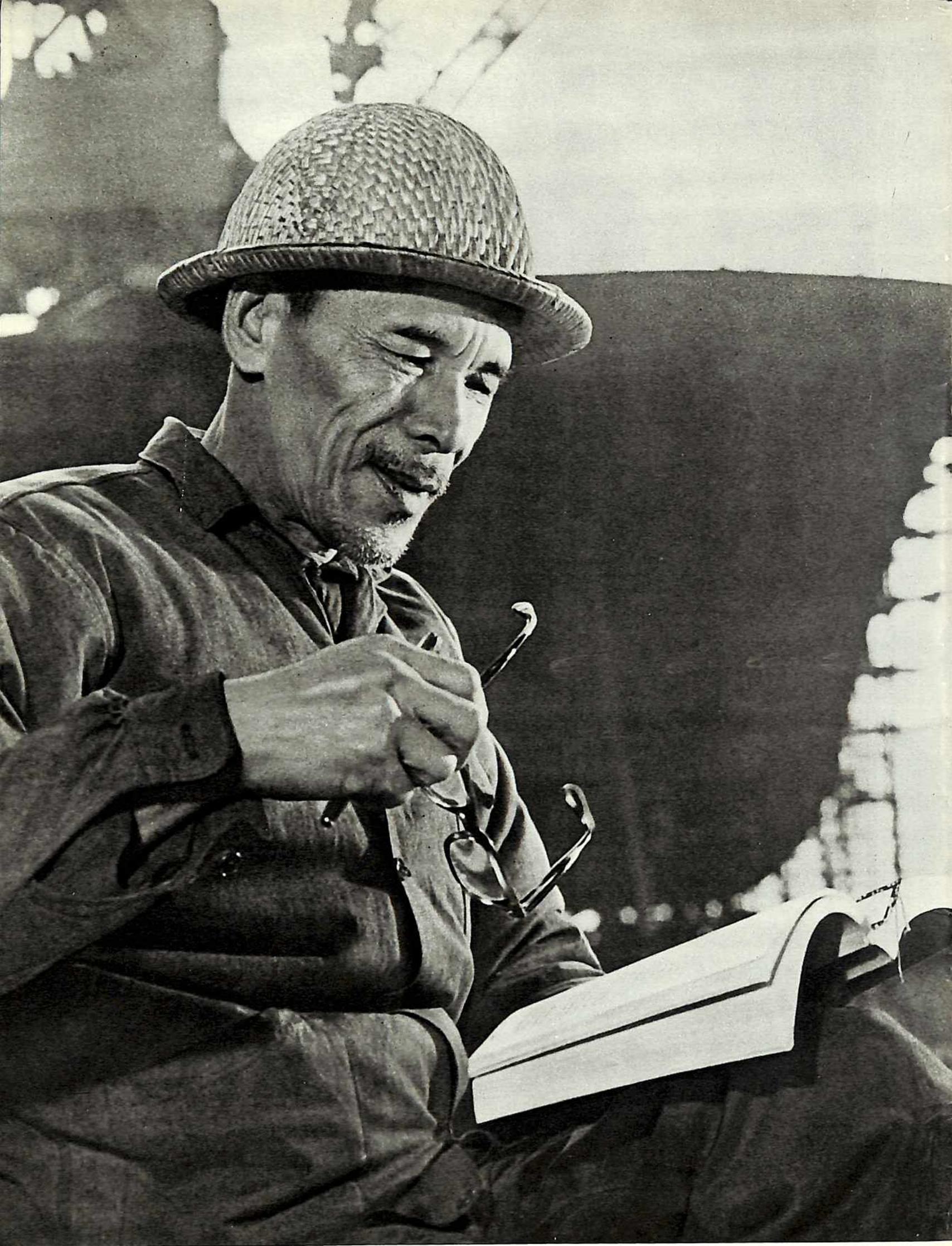
A Great Victory

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**Open-door
Research**



China Reconstructs

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- Front:* Researchers from the Talien Institute of Chemical Physics and commune members test the efficiency of slow-release chemical fertilizer. (See p. 12)
- Back:* A lion dance, children's acrobatics by the Liaoning Performing Team.
- Inside front:* A shipyard worker studies Marxist-Leninist theoretical works.
- Inside back:* Game of *wei chi* (Chinese draughts).

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A GREAT VICTORY

— The Chinese people firmly support the two resolutions of the Party Central Committee and angrily denounce Teng Hsiao-ping's crimes

IN EARLY APRIL the struggle to beat back the Right deviationist attempt to reverse the correct verdicts of the cultural revolution was moving toward victory throughout the country. On April 7, the Political Bureau of the Central Committee of the Communist Party of China, on the proposal of the Chinese people's great leader Chairman Mao, unanimously agreed to appoint Comrade Hua Kuo-feng as First Vice-Chairman of the CPC Central Committee and Premier of the State Council of the People's Republic of China. At the same time it unanimously agreed to dismiss Teng Hsiao-ping from all posts both inside and outside the Party.

This was a great event in the political life of the Chinese people and an important measure taken to combat and prevent revisionism, consolidate the dictatorship of the proletariat and prevent a restoration of capitalism. It was a great victory in the struggle against the Right deviationist attempt to reverse correct verdicts.

Teng Hsiao-ping was the arch unrepentant capitalist-roader in the Communist Party of China. Over a long period of time he had opposed Chairman Mao, Mao Tsetung Thought and Chairman Mao's proletarian revolutionary

line. Before the Great Proletarian Cultural Revolution he worked in collaboration with Liu Shao-chi in pushing a counter-revolutionary revisionist line. During the early stage of the cultural revolution, he worked with Liu Shao-chi to suppress the masses and carry out a bourgeois reactionary line.

Criticized by the people, Teng expressed his willingness to mend his ways and declared that he would "never reverse the verdict". Chairman Mao tried to save him and gave him the chance to resume work. But he did not live up to Chairman Mao's hopes in educating and helping him. Once back in a position of power, he relapsed, began reversing the correct verdicts of the cultural revolution and sought to settle scores with it. He came up with a revisionist program of "taking the three directives as the key link", continued pursuing the counter-revolutionary revisionist line and took the lead in stirring up the Right deviationist wind.

Chairman Mao saw through Teng Hsiao-ping's activities, from last October issued a series of important directives and led the entire Party, army and people of the country in a great counterattack on the Right deviationist attempt to reverse verdicts.

Chairman Mao pointed out, "This person does not grasp class struggle; he has never referred to this key link." "He knows nothing of Marxism-Leninism; he represents the bourgeoisie. He said he would 'never reverse the verdict'. It can't be counted on." Chairman Mao's statements hit Teng Hsiao-ping squarely in a vital spot and exposed his reactionary class nature.

The broad masses of workers, peasants, soldiers, revolutionary cadres and revolutionary intellectuals studied these directives and, with great debates, mass criticism and big-character posters as their weapons, started a great movement criticizing Teng Hsiao-ping's counter-revolutionary revisionist line. Under attack from all sides, he became very isolated. The revolutionary situation was excellent.

In the first week of April, as the struggle to beat back the Right deviationist attempt gained momentum, a handful of class enemies, under the pretext of commemorating the late Premier Chou En-lai during the Ching Ming Festival, engineered a premeditated, planned and organized counter-revolutionary political incident at Tien An Men Square in Peking. Here they flagrantly made reac-



Armysmen and civilians in the capital hold demonstrations acclaiming the two resolutions of the CPC Central Committee and denouncing Teng Hsiao-ping's crimes.

tionary speeches, posted reactionary poems and slogans, distributed reactionary leaflets and agitated for setting up counter-revolutionary organizations. They openly supported Teng Hsiao-ping and directed the spearhead of their attack at our great leader Chairman Mao. This was an attempt to split the Party Central Committee headed by Chairman Mao and change the general orientation of the struggle against Teng Hsiao-ping and the Right deviationist wind. They sang great praises of Teng Hsiao-ping and attempted to place him in the role of Nagy, chief of the counter-revolutionary incident in Hungary 20 years ago, and to stage a similar incident in China.

These counter-revolutionary activities reached their height on April 5. The counter-revolutionaries began wild acts of violence with an unbridled arrogance, setting fire to vehicles and an army

barracks and manhandling worker-militiamen, people's police, People's Liberation Army guards and revolutionary masses.

By nightfall, the heroic worker-militia of the capital, working in coordination with the people's police and army guards, counterattacked, enforced the dictatorship of the proletariat over this handful of class enemies and soon put the counter-revolutionary political incident down. This won the full support and acclamation of the people of Peking.

On April 7 the Party Central Committee passed its resolution on the appointment of Comrade Hua Kuo-feng as First Vice-Chairman of the CPC Central Committee and Premier of the State Council. In view of the counter-revolutionary political incident at Tien An Men Square and Teng Hsiao-ping's latest behavior, the Party Central Committee held that the contradic-

tion with Teng Hsiao-ping had in nature turned into an antagonistic one and decided to dismiss him from all posts both inside and outside the Party.

The people rejoiced, for the two resolutions expressed the common desire of the Party, army and the people of the whole country. Millions upon millions of army men and civilians turned out to hail the decisions with parades, cheers and drums and gongs. Rallies were held in every province, municipality and autonomous region. Messages poured in to Chairman Mao and the Party Central Committee supporting the two resolutions and denouncing Teng Hsiao-ping's attempt to subvert the dictatorship of the proletariat and restore capitalism and the counter-revolutionary sabotage of a handful of class enemies. The messages expressed the resolve to rally still more closely around the Party Central Committee headed by Chairman



Mao and carry the great struggle against the Right deviationist attempt through to the end.

A revolutionary atmosphere prevailed in factories, schools, army barracks and people's communes across the country.

At Tsinghua and Peking universities the revolutionary teachers, students, staff and workers, who had stood at the front in the struggle against the Right deviationist wind, held rallies the night of the radio announcement of the resolutions. Firmly supporting the decisions and denouncing Teng Hsiao-ping's crimes with immense revolutionary indignation, they said that the Party, army and people of the whole country would never allow Teng Hsiao-ping to oppose Chairman Mao's revolutionary line and turn back the wheel of history. "The struggle between us and Teng Hsiao-ping is a great event concerning the destiny of our Party and our state. We must carry the struggle against him through to the end."

At rallies in Peking factories the workers pointed out that Teng Hsiao-ping pushed a revisionist line and represented the bourgeoisie in desperately attacking the proletariat. "He attempted to turn the country back to capitalism and settle scores with the cultural revolution in a counterattack. He refused to accept criticism and education from Chairman Mao, the Party Central Committee and the broad masses of the people. The Party Central Committee decision to dismiss him from all posts both

inside and outside the Party reflects the desire of the working class. It is a telling blow at class enemies both at home and abroad and brings great satisfaction to the people. We workers firmly support it."

Shanghai workers stated that "the two decisions of the Party Central Committee fully represent the wishes of the people of the whole country. We must practice Marxism and socialism and adhere to continuing the revolution while we oppose revisionism, capitalism, restoration and retrogression. We working class in Shanghai must resolutely follow Chairman Mao's and the Party Central Committee's instructions, persevere in taking class struggle as the key link, firmly keep to the general orientation of the struggle, thoroughly criticize Teng Hsiao-ping's counter-revolutionary revisionist line, and win still greater victories in repulsing the Right deviationist attempt to reverse correct verdicts."

Tientsin workers pointed out that the counter-revolutionary political incident at Tien An Men Square was a wild counterattack and deathbed struggle by the bourgeoisie and a handful of counter-revolutionaries with Teng Hsiao-ping as their general representative. "It was very good that the worker-militia in the capital enforced the dictatorship of the proletariat over these counter-revolutionaries. We will fight shoulder to shoulder with the working class in the capital in criticizing Teng Hsiao-ping's crimes and dealing heavy blows at the sabotage of class enemies."

At the Taching oil field the workers, cadres, technicians and their families wrote thousands of big-character posters and turned the oil field into a battlefield of mass criticism. The oil workers said, "The counter-revolutionary incident at Tien An Men Square and the refusal of Teng Hsiao-ping to accept the revolutionary masses' criticism further shows that the struggle initiated and led by Chairman Mao himself was entirely necessary and timely. We Taching oil workers will stand at the front of the struggle to beat back the Right deviationist attempt."

The poor and lower-middle peasants of Tachai brigade indignantly pointed out that Teng Hsiao-ping attempted to bring about retrogression and restoration and drag China back to the old society. "We will never allow him to make us suffer a second time," they declared. "A handful of counter-revolutionaries only daydream if they think they can subvert the dictatorship of the proletariat and restore capitalism."

Middle-school graduates settling down in the countryside and those of many nationalities in the border areas expressed their determination to enhance their consciousness of class struggle and the two-line struggle in the fight against the Right deviationist attempt to reverse correct verdicts. They resolved to criticize Teng Hsiao-ping's revisionist line thoroughly and, with concrete actions, support and develop socialist new things, consolidate and extend the victories of the cultural revolution and the



movement to criticize Lin Piao and Confucius.

Inspired by the Party Central Committee resolutions, millions upon millions of army men and civilians showed their determination to rally around the Party Central Committee headed by Chairman Mao, adhere to the principle of "grasping revolution, promoting production and other work and preparedness against war" and, with concrete actions, defend Chairman Mao's proletarian revolutionary line and win still greater victories.

The workers at the No. 1 steel plant of the Taiyuan Iron and Steel Company fulfilled their quota for the first quarter of the year nine days ahead of time. They said the wise measure taken by Chairman Mao and the Party Central Committee spoke their sentiments. They determined to counter the wild provocation of Teng Hsiao-ping and a handful of class enemies with excellent results in both revolution and production.

With strong proletarian indignation commanders and soldiers of the People's Liberation Army pointed out that "solemn and magnificent Tien An Men Square is the place where our great leader Chairman Mao proclaimed the founding of the People's Republic of China and reviewed the revolutionary masses during the cultural revolution. How can we tolerate this handful of counter-revolutionaries running wild there! Teng Hsiao-ping's attempt to reverse correct

verdicts goes against the will of the people. The handful of class enemies who engineered the counter-revolutionary political incident are doomed to failure." Commanders and soldiers unanimously expressed their determination to do their part in the struggle against the Right deviationist attempt and defend the great leader Chairman Mao and the dictatorship of the proletariat.

Frontier and coastal defense forces of army, navy, air force and militia studied and discussed the two resolutions of the Party Central Committee. Big-character slogans such as "Firmly support the two Party Central Committee resolutions!" were posted on the walls of frontier posts, airfields and naval ships.

Frontier guards and militia of the various nationalities stationed in Heilungkiang, Sinkiang, Inner Mongolia and Tibet said, "Though we are thousands of miles away from Tien An Men Square, our hearts are closely linked with the capital. We must rally still more closely around the Party Central Committee headed by Chairman Mao, strengthen the unity between the army and the people and their joint defense of the motherland. We will train hard, hold fast to our guns and be ready at all times to wipe out enemies who dare to intrude into the country. We resolve to carry the struggle to combat and prevent revisionism through to the end and win still greater victories along the orientation pointed out by Chairman Mao."

Army men and civilians throughout the country firmly support the two resolutions of the CPC Central Committee and denounce Teng Hsiao-ping's crimes. *Upper left:* Workers at the Taching oil field. *Upper center:* Commune members and cadres in the Tachai brigade, Shansi province. *Upper right:* Members of a gunboat unit of the Chinese People's Liberation Army who fought a battle of self-defense in the Hsisha Islands. *Below:* Workers at the Chiangan Shipyard in Shanghai.



THE STRUGGLE AGAINST REVISIONIST LINE

Mass Debate on the Revolution in Education

THE MASS DEBATE on the revolution in education, now moving strongly in schools, colleges and universities in Peking and the rest of China, is part of the general struggle against the revisionist line in China today. It centers on a number of fundamental issues, for instance:

Should a socialist school enroll its students from among workers and peasants who have already had work experience?

Should it aim to train students as workers with both socialist consciousness and culture?

Should it conduct "open-door schooling" to link education closely with class struggle, the struggle for production and scientific experiment so that teachers and students alike become imbued with the feelings of the working people? Should it link teaching with productive labor and the needs of the state?

Should a socialist school have the firm leadership of the Communist Party, the vanguard of the proletariat?

On basic questions such as these there is an acute struggle between two lines in education. The proletarian line answers yes, the revisionist line says no.

This struggle is not isolated, nor is it accidental. It has a deep-rooted political background. The Great Proletarian Cultural Revolu-

tion broke the revisionist lines of Liu Shao-chi and Lin Piao and their bourgeois conspiracy to restore capitalism and thereby consolidated the dictatorship of the proletariat. The bourgeoisie, however, never reconciles itself to defeat and constantly seeks opportunities to counterattack.

Last summer Teng Hsiao-ping, capitalist-roader within the Party, openly began to push an array of revisionist fallacies aimed at negating the achievements of the cultural revolution, fighting the new socialist things that emerged from it, and reversing its correct verdicts. For 17 years after liberation Teng Hsiao-ping, colluding with Liu Shao-chi, had promoted the revisionist line. He was criticized by the people during the cultural revolution, but, refusing to correct his errors, he continued on a revisionist line countering Chairman Mao's revolutionary line in an attempt to restore capitalism. This grew into a Right deviationist wind which has affected different parts of the economy and superstructure, and the field of education in particular.

At the same time, a few people in Peking's Tsinghua University and other educational departments who pushed the revisionist line in the past and who still remain in leading posts today surfaced with attacks on the revolution in education. Their aim was to overturn

decisions made in the cultural revolution and restore the revisionist educational practices of the pre-cultural revolution years.

With penetrating insight into this new trend in class struggle, Chairman Mao promptly initiated and led a revolutionary mass movement to beat back the Right deviationist attack and touched off a great revolutionary debate to criticize the revisionist line pushed by this capitalist-roader.

The debate started first in the field of education. Early last November faculty and students of Tsinghua University were the first to launch a vigorous counterattack on the revisionist line in education which attempted to restore capitalism.

The 65-year-old university, once a bourgeois stronghold, had been transformed into a typical new-type proletarian university during the cultural revolution. Under the leadership of the university's Party committee, teachers and students, staff members and workers have in the past few months put up tens of thousands of criticism posters and held hundreds of meetings, at the same time continuing classes, scientific research and production in their school-run factories. They beat back the bourgeois attack with indisputable evidence of the profound revolutionary changes that have taken place in the university

since the start of the cultural revolution

Today, in order to guarantee that workers and peasants and their children have priority in getting an education, Tsinghua University enrolls its students from among workers, peasants and soldiers who have already had job experience. More than 95 percent of the student body come from among workers and peasants.

Formerly Tsinghua was a place where the bourgeoisie held sway and workers and peasants were excluded. For more than a decade between 1953 and 1965 before the cultural revolution only one-fifth of the students in the architectural engineering department, for example, came from working people's families. Even the small number from worker and peasant backgrounds who managed to enter

the university were slandered as "coarse porcelain which cannot be turned into fine ware" and, on one pretext or another, expelled. In the four years before the cultural revolution over 150 worker-peasant students were kicked out.

Today's Tsinghua implements Chairman Mao's principle that "education must serve proletarian politics and be combined with productive labor". Under its "open-door" education, teachers and students go to factories, villages and army units to combine teaching with practice. The success of the policy is shown in the two groups of 564 graduation projects completed by senior students last year. They consisted of research work on special topics and major technical innovations in production. Over a third of them met advanced domestic standards or filled scientific and technical gaps in China.

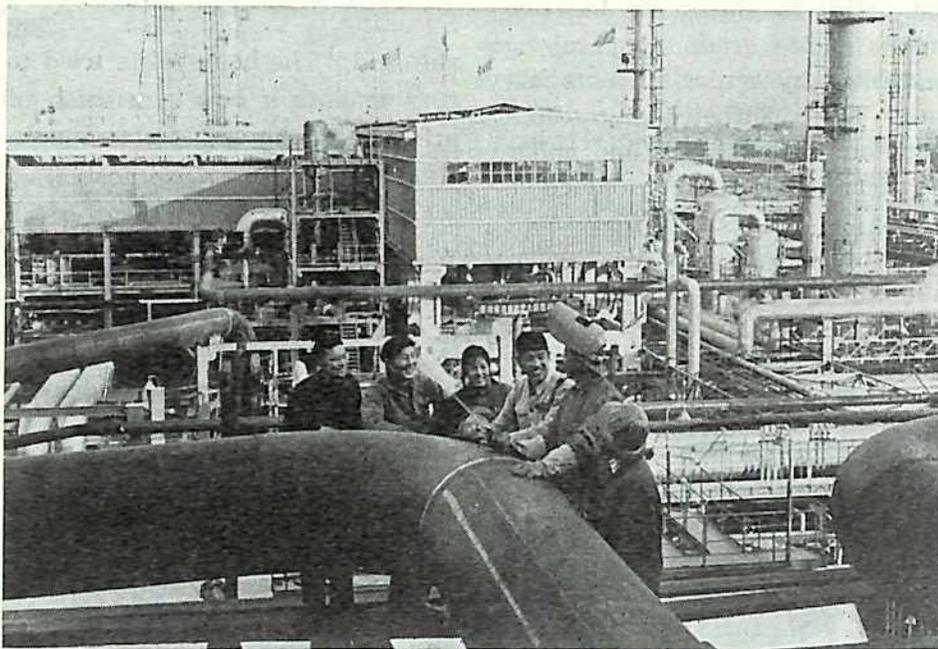
In the past few years large numbers of graduates have applied to go to frontier areas and the countryside, places where conditions are harsh and people need them most. More than 300 of last year's 1,800 graduates won approval of their request to take part in construction work on China's frontiers. Fu Ching-chih, a graduate of the water conservation department, returned to her commune where she works as an ordinary peasant in her home village, at the same time helping with plans for a water conservation project in the brigade. Speaking of the Tsinghua struggle she said, "The bourgeoisie tried to turn us into a new generation of aristocrats who would ride roughshod over the working people. I want to make a complete break with the traditional ideas of the exploiting classes."

People read big-character posters against the Right deviationist wind to reverse correct verdicts in Tsinghua University.





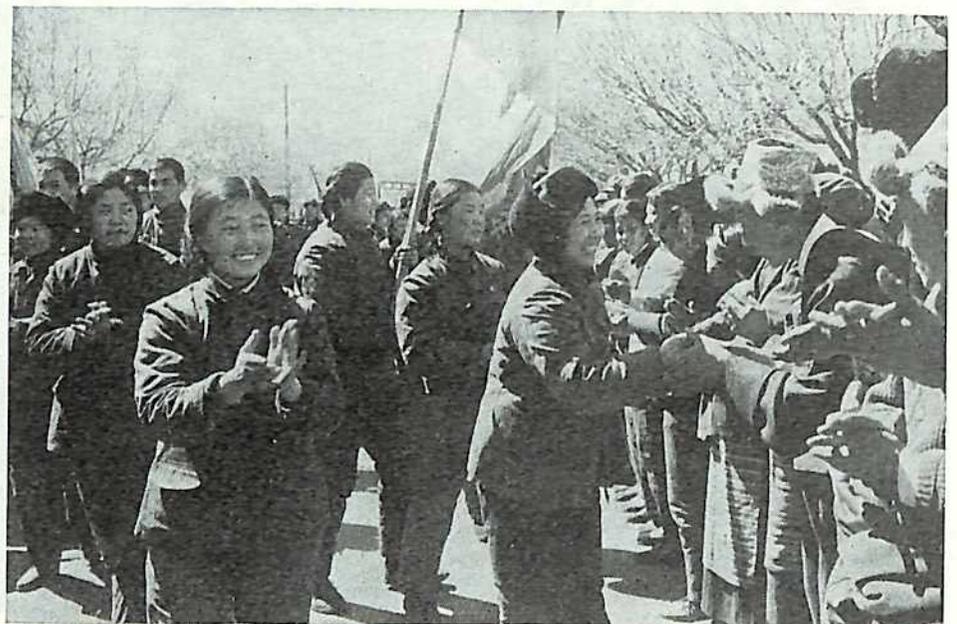
An exhibition on the revolution in education at Tsinghua University shows the good results in teaching, production and scientific research. It graphically rebuts revisionist absurdities spread in the field of education.



Worker, peasant and soldier students of the welding speciality of the mechanical engineering department in Tsinghua University, together with workers of the Peking Chemical Engineering Construction Company, succeeded in welding steel parts used in low temperature.

The old Tsinghua fostered the bourgeois attitude of looking down on manual work and the workers and peasants. To build a bourgeois intellectual elite it corrupted young people with the idea that a university education was the way to prestige and privilege. During the current debate teachers and students exposed these attempts with many facts. As a professor who has taught at Tsinghua for 35 years said, "Old Tsinghua was geared to train people as supervisors and governors of the workers and peasants."

Teaching in Tsinghua today is based on combining theory with practice and stresses raising the



students' ability to analyze and solve problems. For example, a computational mathematics class in the electronics department went to an oil field where in six months the teachers, students, workers and technicians devised a new modular program for processing the data from seismic prospecting. This raised the field's well-drilling efficiency.

The old Tsinghua used to concentrate only on training the intellect. It kept students occupied on the campus, crammed them with book learning divorced from practice, and filled their heads with the idea that theoretical knowledge is everything. As a result they knew little about the actual circumstances of China's socialist revolution and construction and were unable to solve production problems.

Tsinghua University today is under the unified leadership of its Party committee, of which 40 percent of the standing committee are workers. Workers and students are represented in the leadership at every level in three-in-one combinations of the old, middle-aged and young.

In the past Tsinghua was run by the professors, who negated Party

People of various nationalities in Lhasa welcome worker, peasant and soldier graduates of Tsinghua, Peking and other universities and a group of Peking middle-school graduates who have volunteered to go to take part in socialist revolution and construction in Tibet.

leadership and asserted that "workers should have no say in education". The management committee which ruled the university was mainly made up of professors trained under the old bourgeois educational system.

Those who stuck to the revisionist educational line and attacked the revolution in education from the bourgeois-class standpoint wanted to restore the old practices. Fighting back, many teachers and students pointed out that this was an attempt, as Lenin said, to drill the younger generation of workers and peasants in the interests of the bourgeoisie.

A mechanic in a university factory for 30 years pinpointed the essence of the revisionist line in education. Li Wan-ching, whom the bourgeois "authorities" in the

old days considered just "an extension of the machine", is now one of those leading the workers' study of Marxist-Leninist theory in the university. He said, "Aren't many of the chiefs of the Soviet revisionist clique so-called 'red experts' university trained? It is precisely these people who turned the world's first socialist country into a social-imperialist country. We will not allow this to happen in China!"

Commenting on the struggle to repulse the Right deviationist attacks on education, a leading member of the university Party committee noted, "This is a struggle between the proletariat and the bourgeoisie, a continuation and deepening of the Great Proletarian Cultural Revolution. It involves the cardinal issue of whether China

is to follow the socialist or the capitalist road."

The revolutionary mass debate in Tsinghua University and the field of education as a whole is deepening. The capitalist-roaders who attempt to reverse the conclusions of the cultural revolution have found themselves very isolated in a sea of revolutionary teachers, students, staff members and workers. A recent statement by Chairman Mao points to the reason: "**Reversing correct verdicts goes against the will of the people.**" Chairman Mao's words express the indomitable will of China's revolutionary people to combat restoration and retrogression and to persevere in continuing the revolution. Today's struggle is proving again that all attempts to turn back the wheel of history against the will of the people are doomed.

Mass Debate in China's Scientific and Technological Field

A GREAT mass debate is in full swing in China's science and technological field. It is an integral part of the current struggle to repulse a Right deviationist attempt to reverse correct decisions of the cultural revolution. Big-character posters are pasted up on the compound walls of offices of the Chinese Academy of Sciences and other research institutions.

Although greater and greater successes have been scored in the series of revolutionary changes introduced in the scientific and technological field in line with Chairman Mao's revolutionary line in the cultural revolution, the capitalist-roaders have opposed all these changes. This opposition touched off the current debate. Last summer, at the instigation of Teng Hsiao-ping, the Party capitalist-roader who refused to mend his ways, a few leading members in this field adhering to the revisionist line denied the success of the changes in an attempt to turn

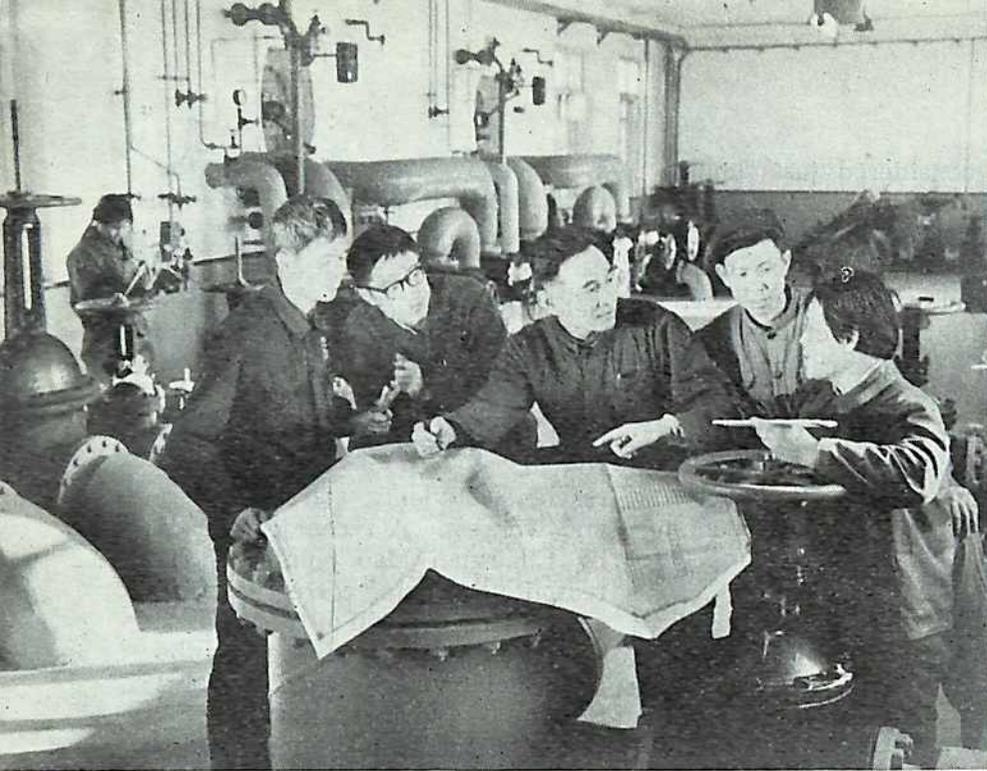
scientific and technological work back onto the revisionist road in effect before the cultural revolution.

The current mass debate on science and technology aroused strong reactions among the revolutionary masses against the capitalist-roaders who resist progress.

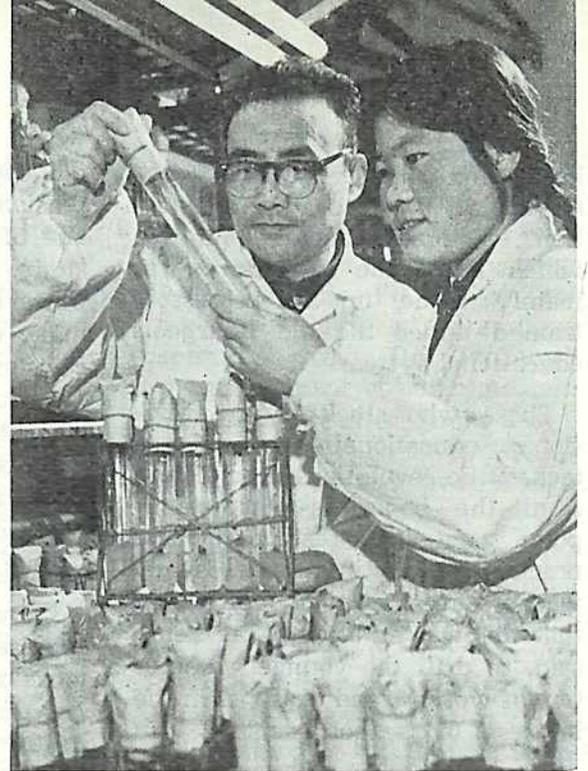
"The crux of the current debate," remarked a leading member of the Chinese Academy of Sciences, "is whether to persevere in the Marxist-Leninist line and advance along the socialist road in developing science and technology or to follow the revisionist line and take the capitalist road." He pointed out that the debate is bound to help promote the growth and flowering of China's socialist science and technology.

One of the major subjects under discussion is whether socialist scientific research work should or should not be run in an open-door way.

During the cultural revolution, scientific and technological personnel criticized the revisionist line under which they did their research in laboratories and offices, divorced from proletarian politics, the masses of workers and peasants, and production. They then left their institutions to integrate themselves with workers and peasants and carry out their research in accord with the needs of the state and production. Open-door research of this kind is a basic transformation in the scientific and technological field. It reflects a socialist orientation in scientific work, namely, serving proletarian politics and the workers, peasants and soldiers and combining it with productive labor. It opens up a new situation, one marked by the joint undertaking of research work by professionals and the masses, the combination of scientific experimentation with production and the integration of theory with practice.



Technical personnel at the Taching oil field's scientific research and designing institute go to a factory for on-the-spot designing of a project with workers.



A researcher of the Institute of Genetics (left) and a peasant from Tsunhua county who has been invited to the institute make a test in breeding individual plants by pollen culture for developing new seed strains.

The capitalist-readers who have refused to change, however, opposed this practice and vilified it as one that would "affect theoretical advancement" adversely.

Members of the Institute of Genetics under the Chinese Academy of Sciences gave this fallacy a powerful rebuttal by contrasting their way of doing things before and after the start of the cultural revolution.

Before, many research workers in the institute used to shut themselves up in their laboratories, pore over books and busy themselves with tests. The subjects they selected for research more often than not were culled from foreign scientific literature, many of them having little relevance or practical value to the country's socialist construction. One such subject on which five researchers worked for almost eight years — grafting white eggplant on purple eggplant for studying changes in the color of the skin — cost the state 50,000 yuan. Research results in those days were few and far between, and those applicable in China even fewer.

Since the start of the cultural revolution members of the institute have made a point of going by turns to work in villages, pastoral areas and factories. Research subjects are now selected in the light

of the needs of industry and agriculture, and over 80 percent of the results have proved directly applicable to production.

For example, to quicken the propagation of a highly valuable pedigree sheep known for its fine lamb fur, a group of research workers carried out experiments in Inner Mongolia and Ningsia in transplanting fertilized eggs from this variety of sheep to the ovaries of a less valuable but more productive Mongolian breed. They succeeded in two years, filling a gap in China's stockbreeding technology. Another research group, seeking to meet the peasants' request to shorten the time for developing new seed strains, succeeded in breeding individual wheat and corn plants by pollen culture for the first time in the world. Fine strains of wheat have been developed with this method in three years, a much shorter period than was required by the former method of cross-breeding.

Influenced by the revisionist line before the cultural revolution, many scientific workers tended to work for personal fame and go it alone in their research. This resulted in such bourgeois practices as holding back technical information and scientific material from one another, an attitude which ran directly counter to socialist ideology. Standing above the masses,

these scientific pundits scoffed at the workers and peasants and disdained productive labor. Now the open-door research program brings researchers into direct contact with the worker and peasant masses where they can learn from their revolutionary thinking and noble qualities, criticize the bourgeois concept of seeking personal fame and gain, and promote the remodeling of their own world outlook. Mutual help, unity and cooperation has become a new style of work among the research workers themselves.

Another vital issue of the debate is whether to develop socialist science and technology by relying on a few experts or by mobilizing the broad masses.

Since the start of the cultural revolution, China has launched a vigorous mass movement in scientific research, and workers and peasants, who were barred from the work before, are now taking part in it. This is the most important feature of the development of socialist science.

Factories throughout China have established scientific research organizations composed of workers, cadres and technicians. Over a hundred cities have carried out exchange activities in mass scientific research and hundreds of thousands of workers with practical experience are now involved

in scientific research. Worker-researchers account for 50 percent of the technical forces of the petrochemical research institutions. Experimentation groups for scientific farming have come into existence in counties, people's communes, production brigades and teams, involving over 13 million peasants. This shows that the monopoly by a few bourgeois intellectuals over scientific research work in China has been broken down and has become instead an undertaking in which millions of people take part.

The Party capitalist-roader attacked this mass movement, alleging that China's science and technology can develop only by depending on "several hundred first or second-rate scientists", and that "the workers, peasants and soldiers have too low an educational level" to qualify them for scientific research. By using the Marxist-Leninist point of view and the real situation, the broad masses have sharply denounced this fallacy. A host of facts show that it is the working people, not a few geniuses, who have created history and science, and that the workers, peasants and soldiers are the main force in the struggle for production and scientific experiment.

Seventy-year-old peasant Li Kuang-ching in central China's Hunan province last year reaped a record yield of 7.647 tons on a triple-cropped (wheat-rice-rice) trial plot of 0.31 hectare.

Old peasant Li Chen-sheng of Korean nationality in northeast China's Kirin province developed a new strain of high-yield corn-rice by distant hybridization of rice and corn, a project that was regarded as extremely difficult. This opened up a new subject in the study of the theory of heredity.

Li Teh-yen of central China's Honan province is a noted peasant seed culturist. He has developed more than 50 good strains of wheat. In the cultural revolution he became a member of the editorial board of *Acta Genetica Sinica*, published by the Chinese Academy of Sciences. He was one of the editors of "Theory on Wheat Seed-breeding", China's first monograph on this subject.

Workers and technicians at the Taching oil field have made hundreds of innovations. They developed complete new sets of oil-extracting technological processes and techniques suited to Chinese conditions and have achieved high and stable output for more than a decade.

In the course of the mass debate, the people have pointed out that specialists must do their work in combination with the masses. China is a socialist country and the masses of workers and peasants are the masters of the state. It is necessary to rely on the wisdom and strength of the broad masses in making advances in a self-reliant science and technology.

Who should exercise leadership over research work? The answer given to this question reflects the struggle between the two lines.

Prior to the cultural revolution, Liu Shao-chi and his like pushed a revisionist line. Under the pretext that "leading cadres in the Party have no knowledge of science" and "laymen cannot lead professionals", he advocated that research institutes should be run by specialists. As a result, the professional authority of many research units was in the grip of bourgeois intellectuals and the Party's line, policies and principles could not be carried out. This revisionist line was roundly criticized during the cultural revolution and

workers and peasants entered the research units to strengthen the Party's leadership in this field.

The capitalist-roaders did their utmost to advocate that "acknowledged first-rate authorities in scientific and technological circles" should direct research institutes and that "secretaries of Party committees should not issue orders" but "obey the directors".

The masses pointed out that this was a copy of the revisionist line before the cultural revolution, a line which opposed the Party's leadership, excluded workers and peasants and relied on bourgeois intellectuals to do research work. The field of science and technology was for many years occupied by the bourgeoisie, who had a monopoly on culture and learning, and it was strongly dominated by bourgeois prejudices and the influence of tradition. Thus, after the countrywide liberation the struggle between the proletariat and the bourgeoisie for the occupation of this field was always acute. The capitalist-roaders directed their attempts at negating and weakening the Party's leadership. This in fact meant retaining bourgeois "superiority" and dictatorship over the proletariat. Therefore, it is essential to strengthen the Party's leadership, exercise all-round dictatorship of the proletariat over the bourgeoisie and ensure that science and technology go forward along the socialist road.

Leading members of the Party committee of the Institute of Genetics under the Chinese Academy of Sciences and technical personnel study Marxist-Leninist works and Chairman Mao's instructions as their ideological weapons in the struggle to beat back the Right deviationist attempt to reverse correct verdicts.



Open-door Research

Staff Reporter

THE Talien Institute of Chemical Physics under the Chinese Academy of Sciences is located at the southern end of the Liaotung Peninsula on the Pohai Gulf. During the cultural revolution and particularly the movement to criticize Lin Piao and Confucius, it broke with academic research done within its own buildings, divorced from proletarian politics, from production and from the workers and peasants. Guided by Chairman Mao's revolutionary line, it began to open the doors in research, taking it out to factories, farms and army units; combining leaders, researchers and workers; and integrating research, production and user units. This has enlivened and speeded up the institute's work.

New Kind of Research

Every year since the institute started doing open-door research,

over 70 percent of its personnel has gone out to industrial, agricultural or army units. Workers have also been invited to cooperate on projects inside the institute.

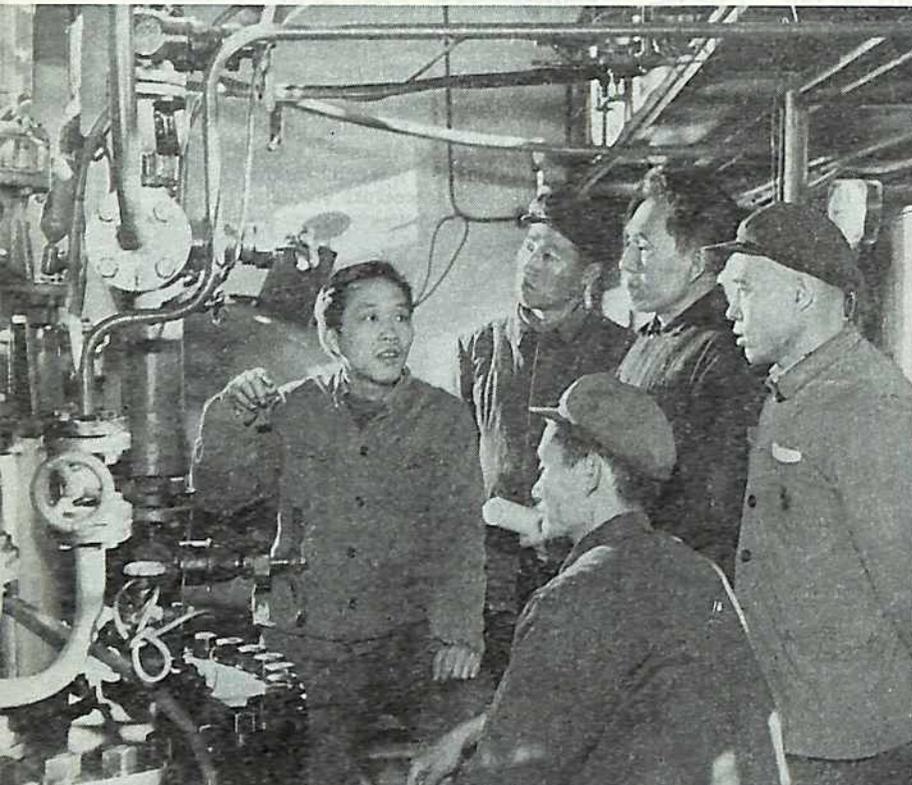
There are many ways the institute combines research on subjects called for by the state plan for industry, agriculture or national defence with production, and integrates research with the workers and peasants. Some researchers draw up a research plan and decide on technical measures together with workers, peasants or soldiers. Others first do experiments in the laboratory, then go to the user's unit to put their results into production along with the workers or peasants. Research teams often go to help the masses solve problems in production. Some set up service bureaus which help other units solve their production problems. Others invite workers

to the institute to join research programs.

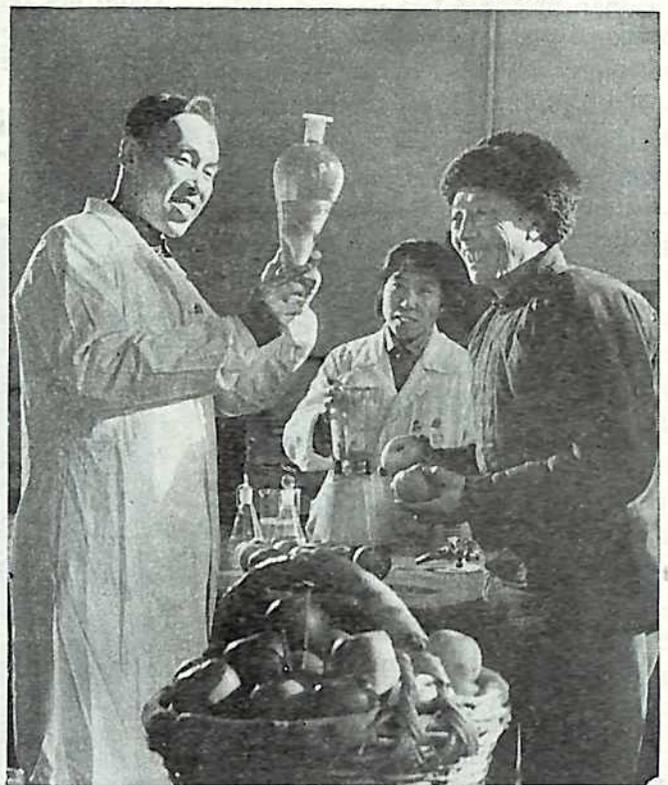
The institute cooperates regularly with over 300 units in almost all parts of the country. Last year it sent out 500 people in 68 teams and invited 250 workers in.

Open-door research has led to an increasing number of major achievements each year—10 in 1973, 20 in 1974, 28 in 1975. A third of these reached or surpassed world standards. One example is an installation to eliminate pollution from nitrogen oxides at the Victory Chemical Plant in Peking. In less than two years of experimentation by institute people and workers in various plants, solutions were found to problems of pollutants in waste water—phenol and cyanide from coking plants, nitrogen compounds from dyestuff plants and chemicals from film

Institute researchers study bulk polymerization of liquid propylene with workers at the Wafangtien Textile Mill.



Laboratory technicians and an orchard worker study protection of apples from disease and insects.



laboratories. This combination of researchers and workers has developed many new catalysts using Chinese resources, paving the way for the country's own system of catalysts.

The institute has designed and built 72 new instruments. A chromatograph, a surface area comparator and 14 others are now in regular production. The institute has also made progress in the study and use of lasers and energy sources.

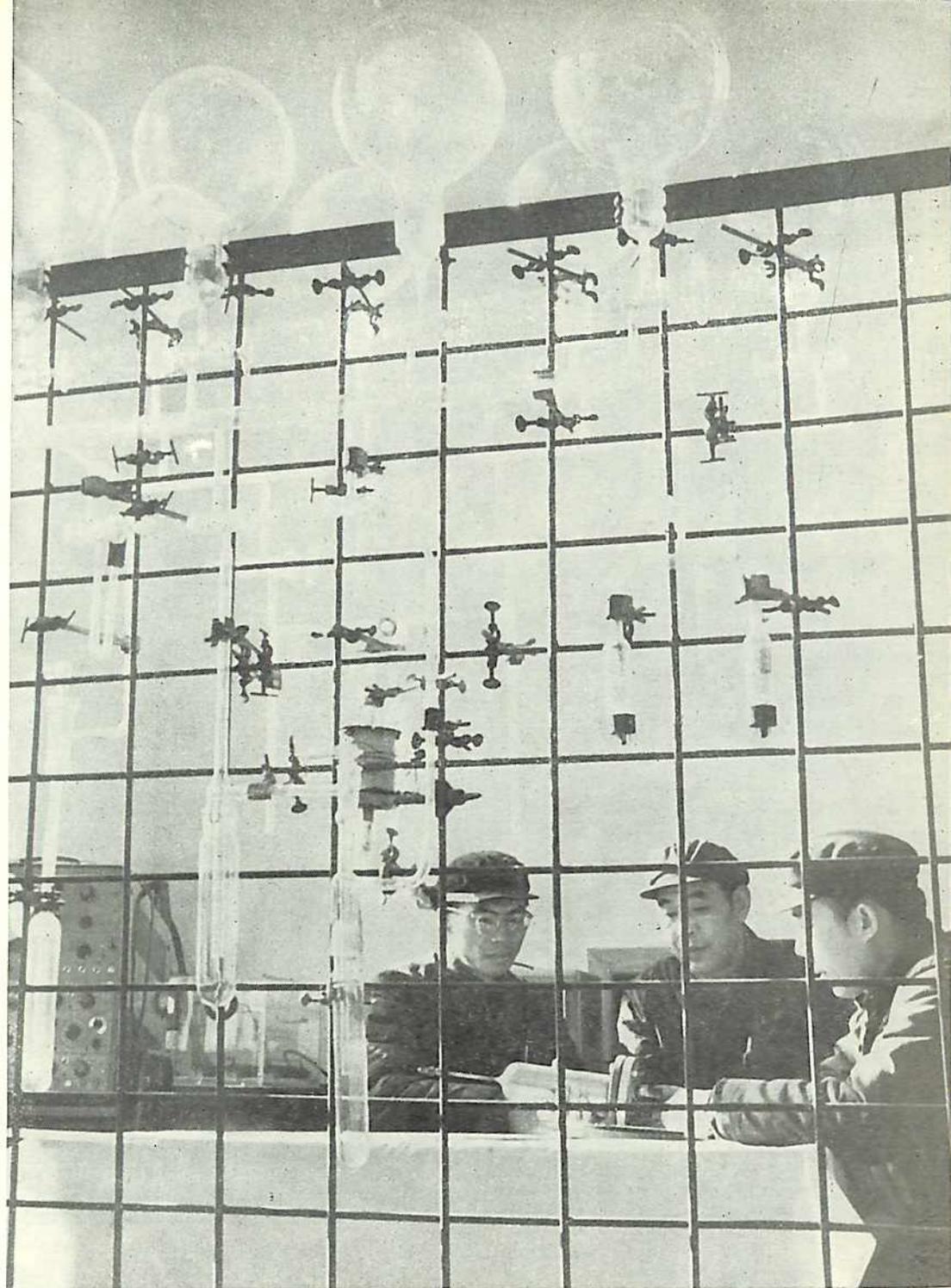
All of these achievements have made a direct contribution to industry, agriculture and national defense. The institute has also turned out 480 theoretical studies and scientific reports and published many books.

Opening the Door

Before the cultural revolution, the influence of Liu Shao-chi's revisionist line kept the institute working behind closed doors. Some fields of investigation were dominated by bourgeois "authorities". Some people ignored the interests and needs of the state and the people. Individual interest had dictated a "free choice of topics" and they sat in their offices "accumulating knowledge" and "working out theoretical systems". Others, out for personal recognition and privilege, were enthusiastic about topics few were interested in and chose projects completely unrelated to the needs of production.

Such people wasted state money and resources turning out completely irrelevant papers. A few researchers saw themselves as the "masters" of science and technology and indispensable. They only worked on theory, never on anything of practical application. When industry occasionally used their work and found errors, they still maintained they were correct and refused to make corrections. All this seriously deflected the socialist orientation of research and the institute's work proceeded slowly and without enthusiasm.

During the cultural revolution, the researchers' criticism of the revisionist lines of Liu Shao-chi and Lin Piao made them clearer on the orientation for research. It

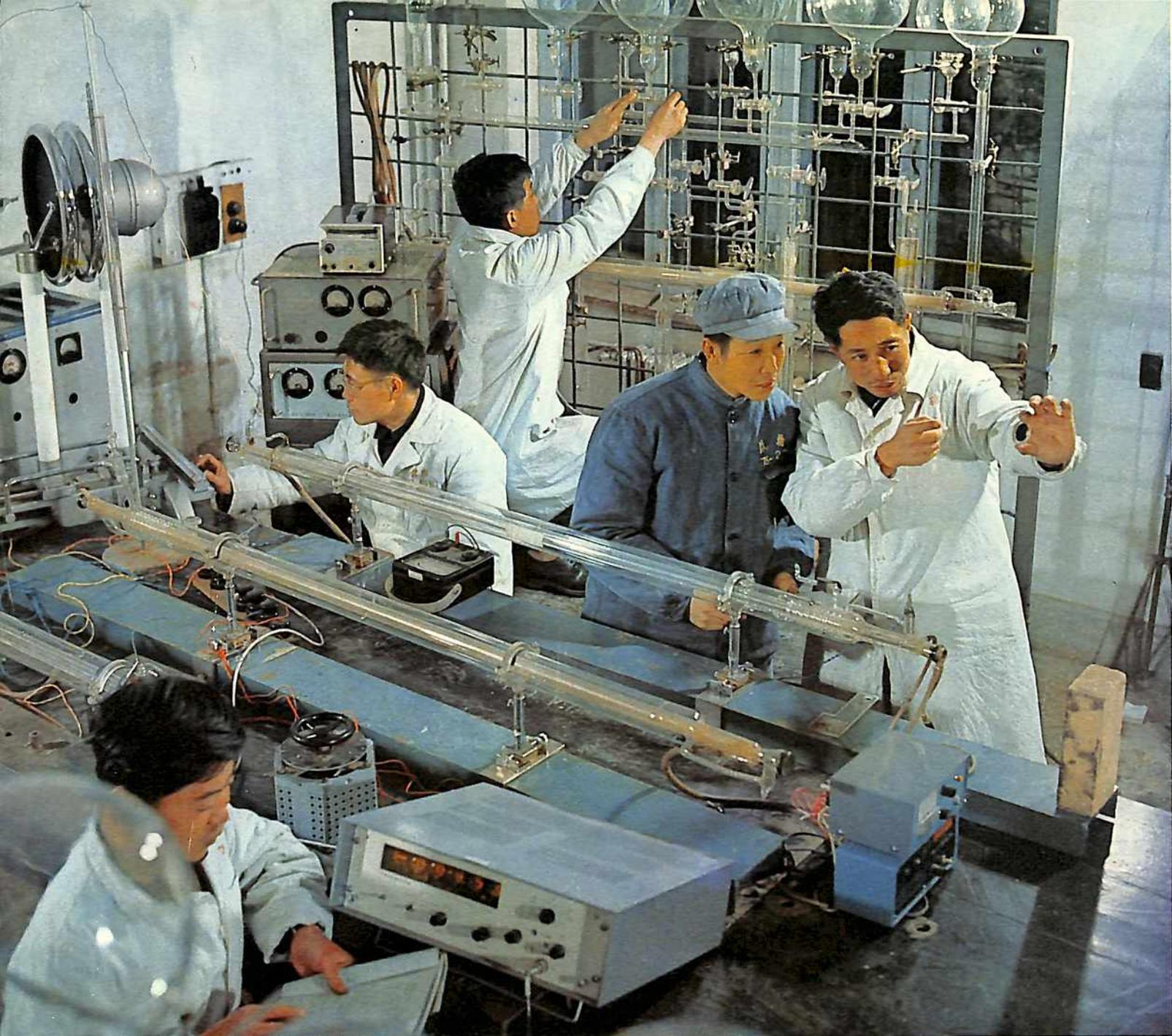


A three-in-one group does research on a new source of energy.

should serve proletarian politics and the workers, peasants and soldiers. It should be combined with productive labor. They realized that workers and peasants, the main force in the class struggle and the struggle for production, were also the main force in scientific experimentation. Science and technology cannot develop apart from the workers' and peasants' rich practical experience.

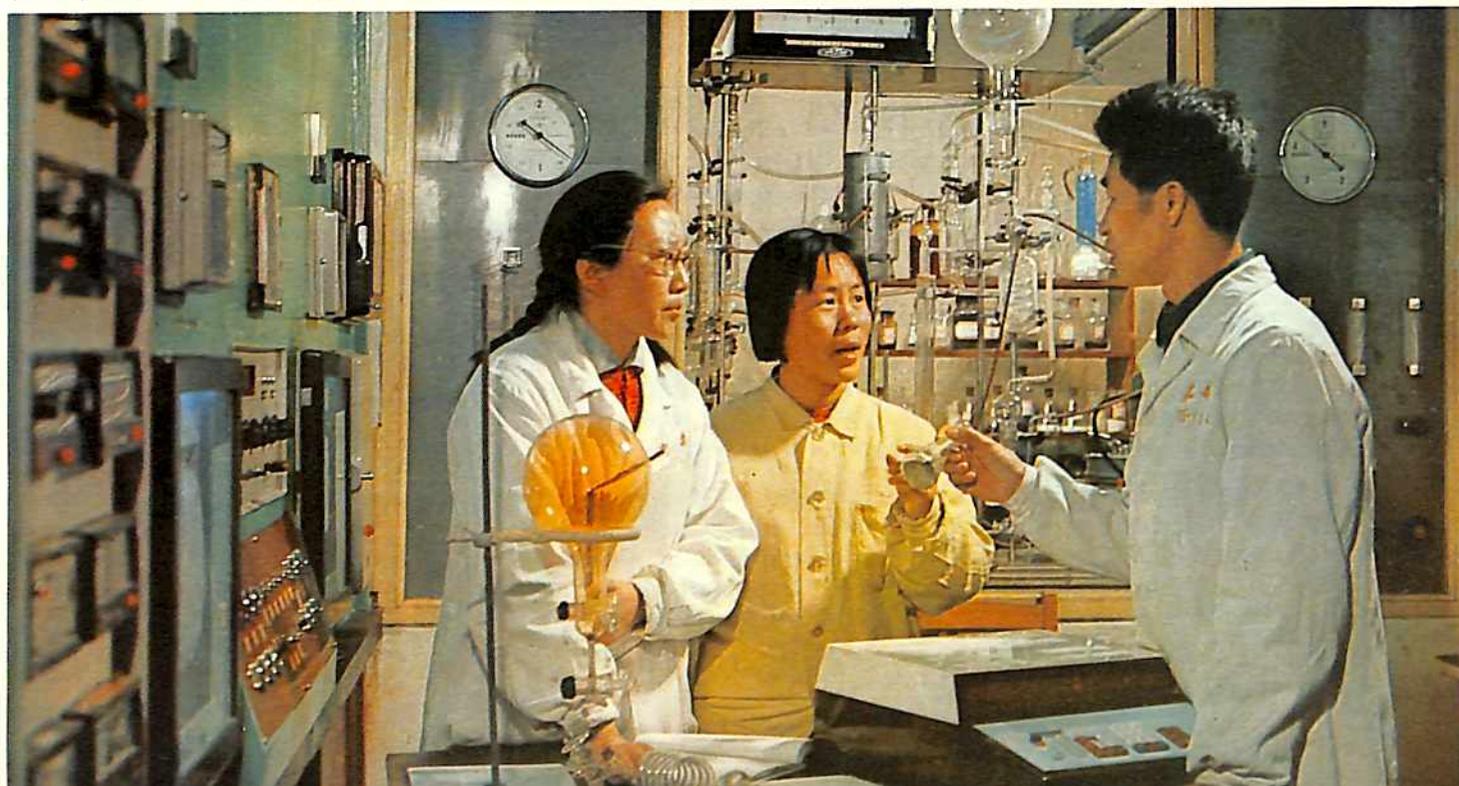
The institute's people studied two principles of Chairman Mao: "The intellectuals will accomplish nothing if they fail to integrate themselves with the workers and

peasants" and "they must . . . be re-educated by the workers, peasants and soldiers under the guidance of the correct line". This made them deeply aware that the only way to become more proletarian in their thinking and get research out of its rut was to leave the little world of their laboratories and get out into the class struggle, the struggle for production and scientific experiment — to integrate with the workers and peasants — to combine their work with actual production. Led by the institute Party committee, they turned to open-door research.



A worker (second right), scientists and technicians at the institute study the development of lasers together.

Reseachers at the Talien Institute of Chemical Physis study comprehensive utilization of waste gas with a worker (center) from the Peking General Petrochemical Works. They have already had success in eliminating yellow smoke.





Institute researchers and workers at a Talien petrochemical works plan an installation to produce antifreeze using a catalyst they developed.

Researchers from the waste water treatment group and a worker from the Talien Dyestuff Plant sample sea water. Together they have solved the problem of purifying the plant's waste water.



Senior and junior scientists and a worker study the treatment of waste water in the institute's environmental protection laboratory.



Things changed radically. For the few years since then, all research topics chosen have been based on the needs of industry, agriculture and national defense. Beginning to think the way workers and peasants think, and sharing the concerns and hopes of the nation, the researchers no longer selected topics from the standpoint of personal interest.

Before the cultural revolution the institute had an olefin polymerization catalyst group with many senior researchers in it. Working behind closed doors for years, they spent hundreds of thousands of yuan without even settling on a plan for experiments. The group finally had to be dissolved.

During the cultural revolution this group studied its mistakes and errors. Early in 1972 they sent a detachment to the nearby Wafangtien Textile Mill to work out a new process for bulk polymerization of liquid propylene. The mill workers' practical experience helped the researchers solve problems that had stumped them in the laboratory.

The researchers had proposed using a highly efficient catalyst. A test installation turned out polypropylene powder up to standard, but when used in production it either formed lumps or turned to soup. The workers, however, analyzed the failures and found the reason for them. Then they boldly changed the commonly-used method of synthesis and stirring, producing a product above standard at lower cost. The researchers began to see the benefits of integrating with the workers.

That year the group of 20 cooperated with three plants in organizing three-in-one groups of 200 workers, cadres and researchers. This enlarged group also developed seven other new catalysts, including one for producing antifreeze, all at advanced world levels. Moreover, in order to develop catalyst theory the researchers summarized the practical experience of the workers and analyzed thousands of items of data.

All this would have been hard to imagine when the institute had worked behind closed doors before

the cultural revolution. Once two institute specialists and a research student spent five years working on a new energy source. All they had to show for it was a paper which didn't solve any real problem. After the cultural revolution started, they combined with workers, cadres and researchers inside and outside the institute. They invited workers to help solve difficult problems and concentrated their forces to solve them. With the aid of the workers' experience, in five years they produced a high-energy installation up to advanced world standards for compactness, precision, sensitivity and reliability.

Environmental protection is an important concern in research. But some thought it beneath them and few gave it serious study.

During the cultural revolution the institute Party committee organized researchers to go out to areas and units with pollution problems and work with the workers and peasants there. Actually seeing the harm pollution does and how hard the workers and peasants threw themselves into building socialism was an education to the researchers. Thinking of the importance the Party Central Committee and Chairman Mao attached to environmental protection work, the researchers realized its great political significance. "This field is concerned with the welfare of humanity," one said. "Of course we should work on it!"

The institute set up a group to study the processing of waste water.

Working on purifying water containing phenol and cyanide at the coking plant of the Penhsi Iron and Steel Company, the researchers proposed using air to blow the cyanide out of the water and then using bacteria to eat the phenol. A dozen experiments in the laboratory had produced good results. But at the plant a worker pointed out that blowing out the cyanide would pollute the air and harm the people just the same.

This prompted the group to think about developing equipment to recover the cyanide. But the plant was old and small, with no

room for more equipment. Next to the plant, however, was a foundry with blast furnaces that produced a lot of coal gas every day. The workers proposed using the coal gas to blow out the cyanide and then burning it in the hot-blast stove. This eliminated pollution from the cyanide without adding equipment or expense.

At the Talien Dyestuff Plant researchers proposed using activated carbon to adsorb the nitrogen compounds in the waste water. But to reduce costs it was also necessary to solve the problem of removing the adsorbed matter to reactivate the carbon.

At first they thought of washing it with a base, but this would cost over 100,000 yuan a year. The workers suggested as a solvent a raw material already being used in the process. This solved the problem of reactivating the carbon and recovers 50 tons of chemical by-products a year. The processing of waste water doesn't cost a cent.

This research group has achieved important results over the past two years in purifying water containing organic pollutants. They have helped factories and mines solve pollution problems and won the praise of the workers and peasants.

New Thinking

In open-door research the researchers have learned a lot politically from the workers and peasants, and worked hard to change their old ways of thinking. Their philosophy has changed profoundly and they are far more eager to do research for the revolution and the country.

On worksites and experimental locations, one can often see researchers, including white-haired senior scientists, covered with grease and sweat, working long hours to complete an urgent task for the state. Studying works by Marx, Engels, Lenin and Stalin and by Chairman Mao with the workers, criticizing revisionism, and working and experimenting together, they have developed deep proletarian feeling. There are many instances of researchers learning from workers, peasants

and soldiers, and working selflessly for the revolution.

In February 1973 when researchers were working at the Victory Chemical Plant in Peking to eliminate nitrogen oxide pollution, a young worker told them, "I feel bad whenever I release that yellow smoke." They were moved by the workers' sense of urgency about the problem. This helped them realize the importance of the job and made them determined to do their part to solve the problem as soon as possible.

They had been living in the small world of the laboratory for a long time, however, and were deeply influenced by exploiting-class ideas of looking down on physical labor and the workers and peasants who do it. They still didn't really believe workers could do scientific experiments. They were afraid the workers would mess things up, so they did all the operations themselves and only let the workers record the data.

The workers criticized them frankly, pointing out that they lacked faith in the working class and did not follow the mass line. Realizing their mistake, the scientists explained everything about the technique involved, helped the workers master the relevant technical knowledge, and strengthened unity and cooperation with them. This got things going and the first experiment soon succeeded.

When putting the pollution-control installation into operation, the researchers moved into a wooden shack next to the shop and worked intensely along with the workers. Some of them mounted tower scaffolding tens of meters high to install insulation and leak detectors. Others jumped into waste water tanks to clean out sludge. The workers praised their revolutionary drive and ideological progress.

Joint efforts over six months got the installation into operation with a non-precious metal catalyst using Chinese resources. Removal of nitrogen oxide was better than that obtained abroad with precious-metal catalysts.

This research group later went to the Taching oil field. Workers there had been trying to use a



Leading cadres and researchers of the Talien Institute of Chemical Physics study works by Marx, Engels, Lenin, Stalin and by Chairman Mao to master the ideological weapon for counterattacking the Rightist wind.

waste catalyst to eliminate yellow smoke and had asked the institute to work with them. Now the individualism of the scientists came out. They wanted to use the catalyst they had developed themselves and weren't interested in working on the waste catalyst. If the waste catalyst succeeded, they thought, others would get the credit and if it failed they would lose face and be held responsible.

Realizing what the researchers were thinking, workers talked it over with them heart to heart and by studying Chairman Mao's *Serve the People* with them helped them overcome bourgeois ideas of going after personal aims and interests and inspired their resolve to serve the people wholeheartedly. The researchers adopted the workers' proposal and worked with them to make China's first industrial installation treating 48,000 cubic meters of nitrogen oxide an hour.

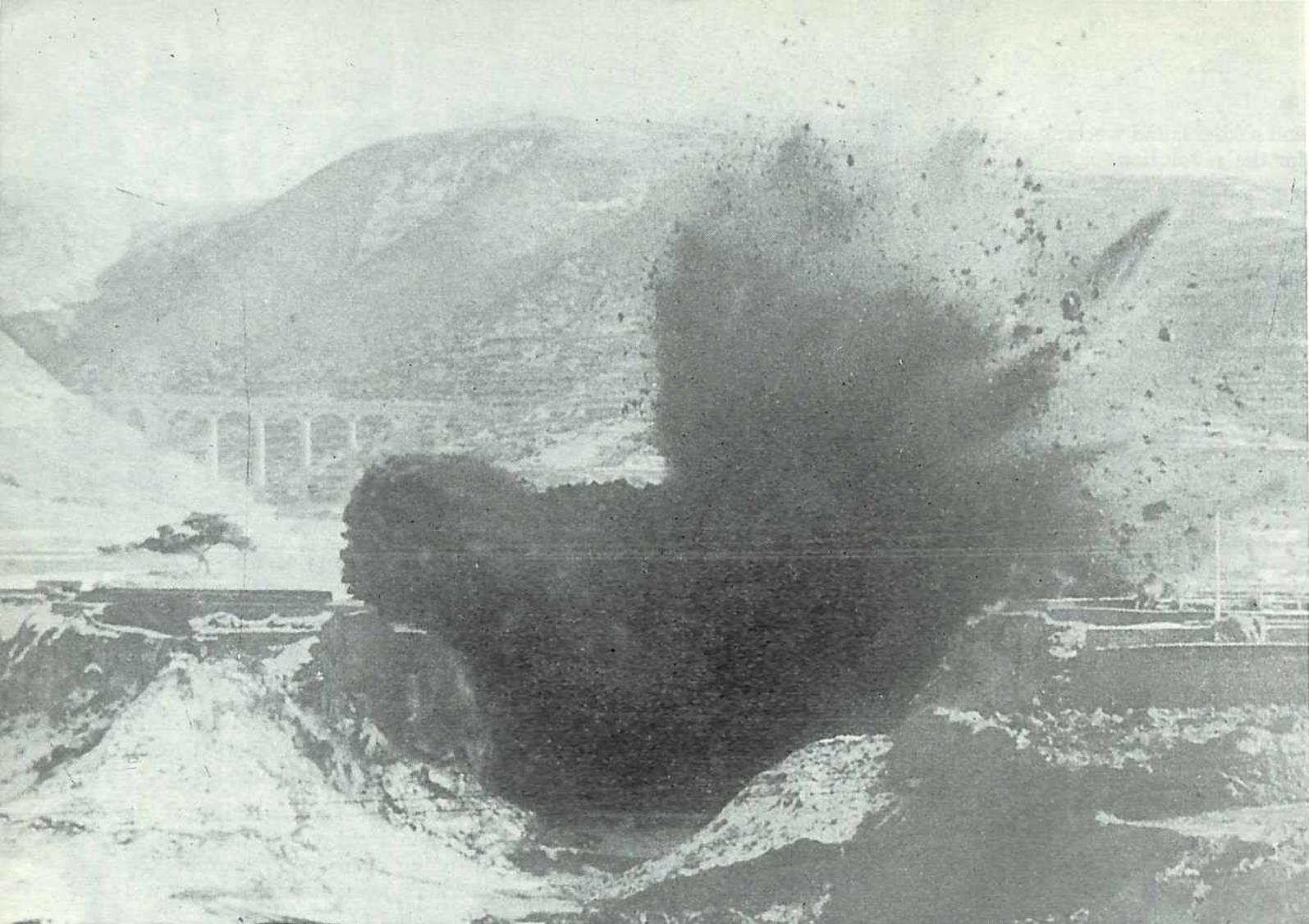
In the spring of 1975 some of the plastic sheets used to cover rice seedlings in the Luta area were found to contain a substance which seriously harmed seedling growth. Checking the sheets one by one involved a lot of work with ordinary techniques, something a research institute would not have done in the past.

The thinking of the institute's researchers, however, had changed in the cultural revolution as open-door research had helped them learn from the workers and peasants. They volunteered to take on the job. Speed was required and

the institute worked around the clock for ten days analyzing 3,800 samples from 1,000 commune production teams. "That's a socialist research institute for you!" commune members exclaimed.

Industrial and agricultural departments supported the institute in doing open-door research. The workers, peasants and soldiers welcomed the researchers warmly and encouraged them. But capitalist roaders in scientific and technical circles criticized and attacked them. Last summer when a Rightist wind blew up attempting to negate the cultural revolution and reverse its decisions, these people came out in open opposition to open-door research. They used high-pressure salesmanship to push revisionist ideas such as "institutes should be run by specialists" and "research should be done only inside the institutes", ideas which had already been repudiated in the cultural revolution.

After the counterattack on the Rightist wind began last November, the institute carried out revolutionary criticism under the leadership of the Party committee. They analyzed the profound changes that had occurred there and its great achievements in research since the cultural revolution started. It was clear that the changes and good results refuted the revisionists. More determined than ever to stick to open-door research, institute researchers are working hard to make science and technology do more for the country.



Leveling a hilltop by directional blasting.

HOW TACHAI IMPROVED ITS SOIL

The Tachai production brigade in Hsiyang county, Shansi province — China's national pacesetter in agriculture — has put tremendous effort into soil improvement. In a quarter century their formerly poor land has been turned into fields suitable for large-scale socialist agriculture which give stable high yields and are unaffected by drought or heavy rain. Below, the Tachai brigade's own scientific research group, composed of poor and lower-middle peasants, cadres and scientific workers, relates their experience. The article is slightly abridged. — *Editor*

LONG AGO Chairman Mao called on us to study soil science. This is a summary of our own findings while improving our soil. We would also like to offer our views on some points in relation to the theoretical development of soil science.

We improved our soil in three stages.

Stage One. Building up fields that hold water, soil and fertilizer. Our village is in north China's Taihang Mountains. Our 53 hectares of cultivated land used to be in

4,700 what we called "handkerchief plots". The smallest was less than 1/150 hectare. Many of these were tiny terrace patches on steep slopes with no protecting embankments. This meant that the enriched topsoil could be washed away by any sizable downpour.

As a first step we removed the rocks from the slopes with little earth and built terraced stone embankments. Then we brought in fertile soil to fill these. Thus the original field was completely changed: the soil and fertilizer no

longer washed away and water run-off reduced to a minimum.

Stage Two. Building "sponge fields". Wanting to make best use of our soil, fertilizer and water and to increase our yields, in 1964 we began creating a thick layer of soft, well-aerated mature topsoil on our fields. We call these "sponge fields". We did the following things:

1. Improved soil texture. Tachai has several types of soil — red, black and white clay, as well as sandy soil. To the sticky red

soil we added sand to make it more porous; to the sandy soil that does not retain moisture and fertilizer, we added clay and then organic matter. The soil in the sponge fields is generally three or four parts clay to six or seven parts sand. Such fields hold moisture, keep their fertility, remain well-aerated and are easy to till.

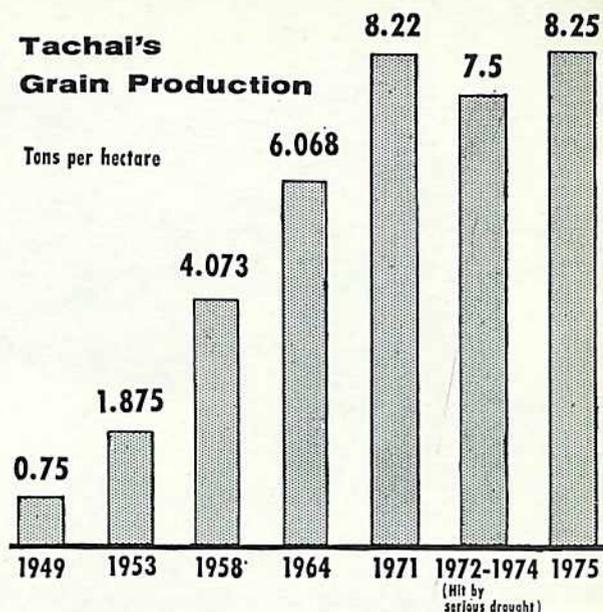
2. More organic fertilizer. This is compost, ashes and manure mixed together and fermented. It both enriches the soil over the years and improves soil structure.

3. Deep-plowing, deep-sowing and deep-hoeing. Most of the land in Tachai is now plowed by tractor to a depth of about 27 centimeters, instead of only 10 in the old days when ox-drawn plows were used. We formerly planted corn at a

depth of 7 cm., but now plant at 13 cm. This enables the plants to better withstand drought and wind, prevents premature growth, ensures fully developed ears, and hastens the process of maturing and enriching the soil.

Our first hoeing used to be only to a depth of 10 cm.; now we hoe to a depth of 23 to 33 cm. Deep-hoeing loosens the soil, facilitates aeration and percolation and raises the soil temperature which benefits rooting, tillering and the growth of sturdy plants. It greatly enhances the soil's ability to hold water and resist drought and contributes to control of weeds, insects and plant diseases. Combined with crop rotation, these new tilling methods have enabled us to build up mature spongy topsoil 33 cm. deep in the cornfields.

Tachai's Grain Production



In addition to these advantages, the soil in sponge fields contains a certain proportion of water-stable granules. It is loose but not friable, compact in structure but not hard.

Stage Three. Building "man-made plains". In more than a decade of hard work we made our 4,700 tiny plots into 1,700 larger sponge fields. But these were still really too small for large-scale irrigation and mechanized farming. Between the winter of 1970 and spring of 1974 we leveled 23 hilltops, filled in 15 gullies, constructing nearly 13.3 hectares of flat fields. The biggest is 1.33 hectares. In May 1974 we created a 0.7-hectare field at one stroke by directional blasting of a hilltop, causing all the earth to fly in the same direction. Today over 80 percent of our present 1,500 plots can be and are plowed by tractors.

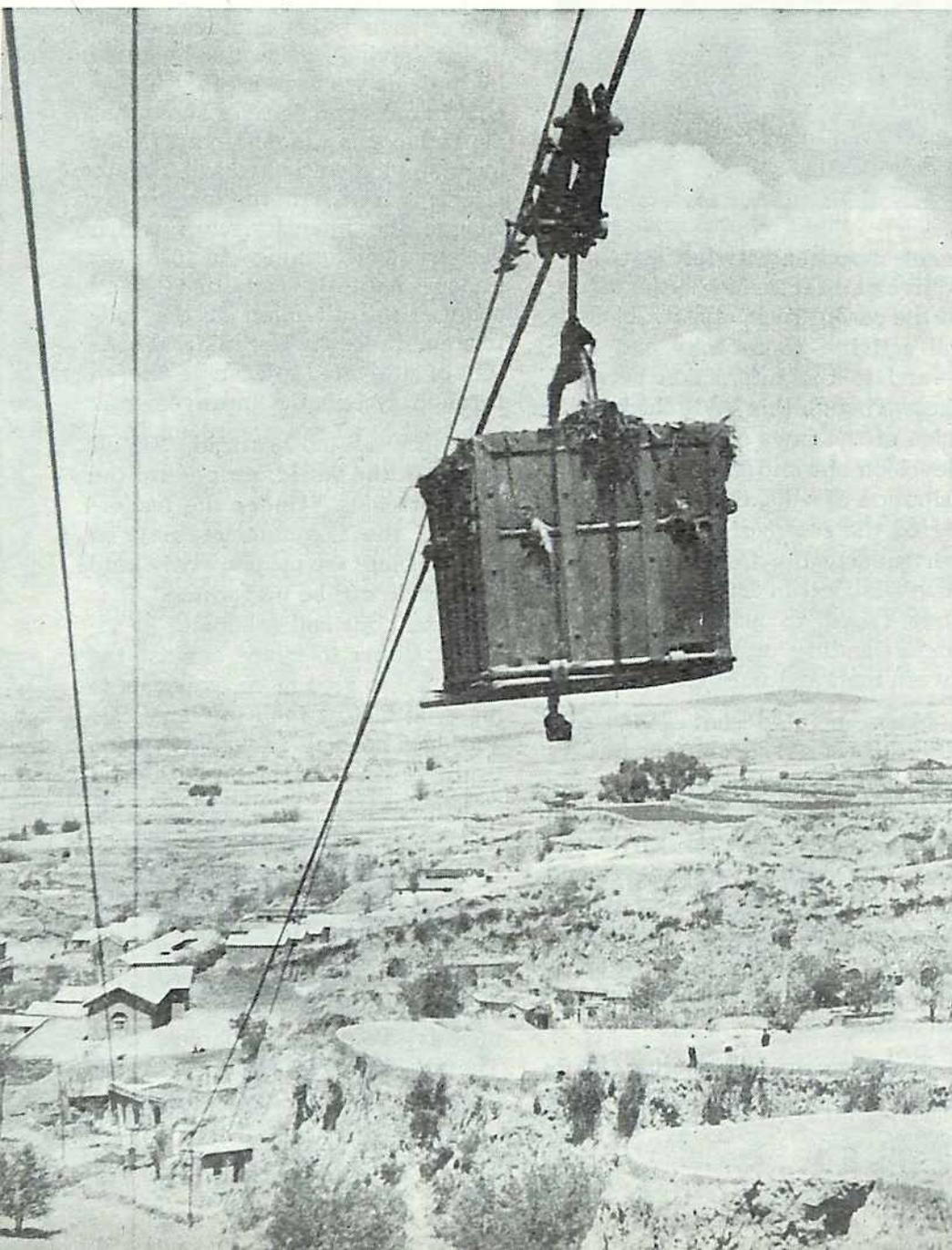
We wish to make the following observations in relation to theory.

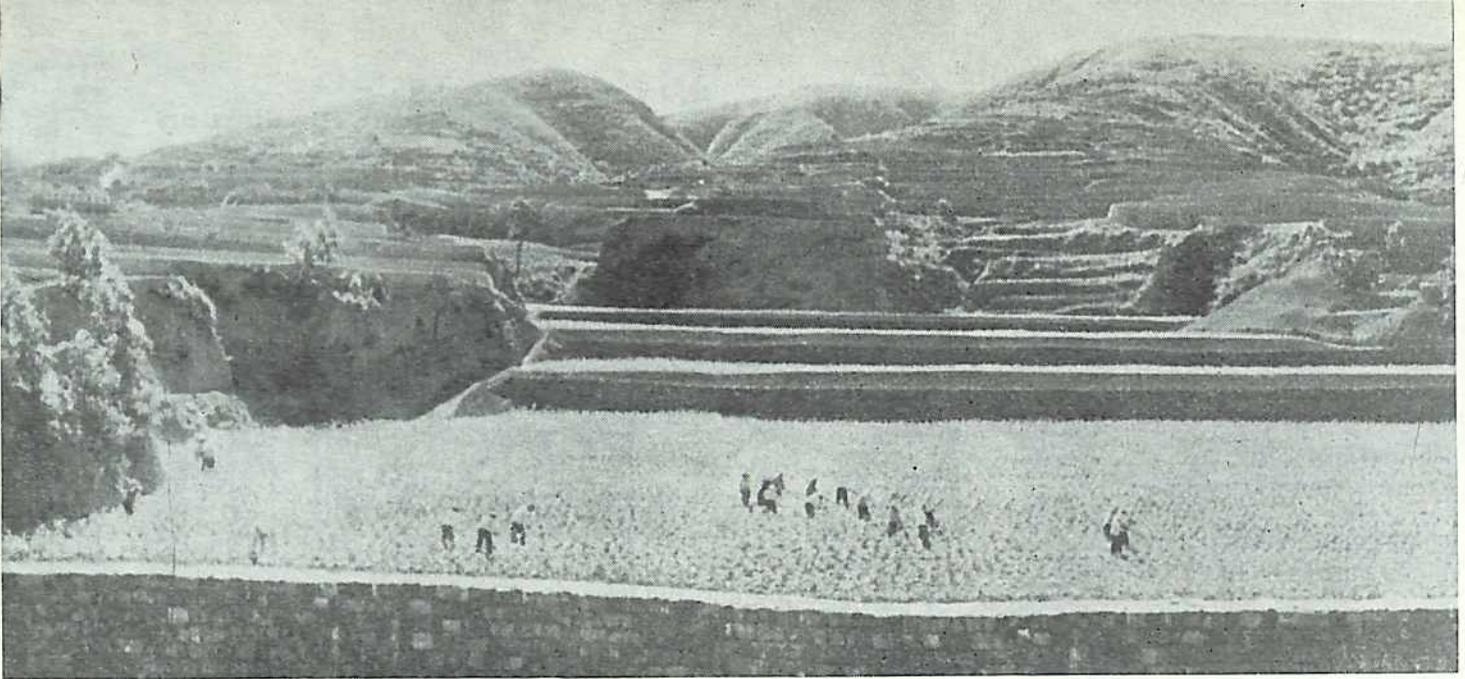
Tachai's experience in soil improvement is a forceful refutation of the bourgeois economic law of diminishing returns.

This law, which is the basis for the Malthusian theory of population, is grounded in the ideas of 19th century soil scientists that soil inevitably loses its fertility because its minerals are leached away or are exhausted by crops. The decline of agricultural production in pre-liberation China was also explained by a foreign bourgeois theorist according to this law.

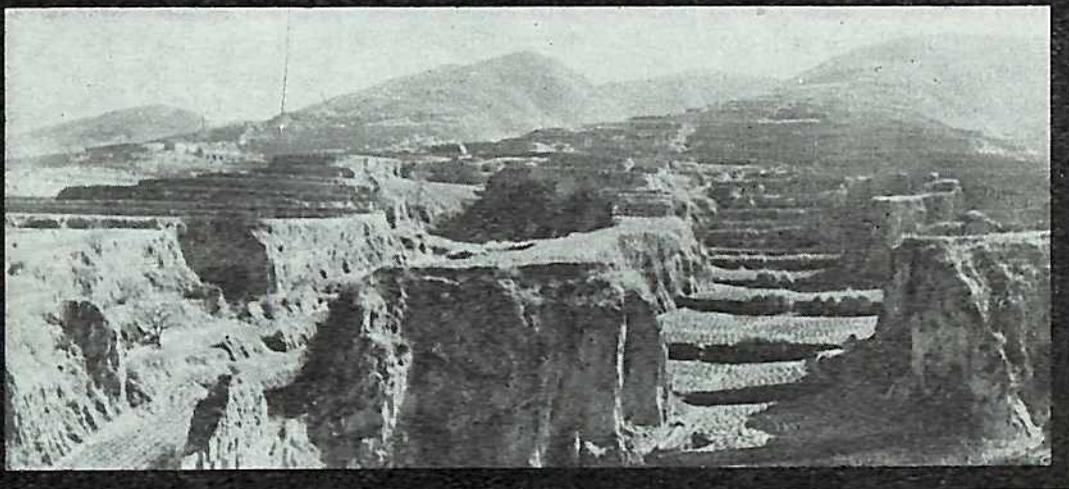
Since China has become a socialist country led by Chairman Mao and the Chinese Communist Party, her agriculture has made tremen-

Taking fertilizer uphill.





Before and after.



dous advances. Tachai's grain yield, for example, has grown tenfold in the past quarter century, during which it has marched along the road of collective agriculture, first in cooperatives and then in people's communes.

Tachai's experience fully confirms Engels' statement, "**The productive power at mankind's disposal is immeasurable. The productivity of the soil can be increased *ad infinitum* by the application of capital, labor and science.**" The diminution of soil fertility in capitalist countries and in old China was not a manifestation of an objective law of nature but, on the contrary, the disastrous result of exploitation and plunder under feudalism, capitalism and imperialism.

Tachai's experience shows that man's labor is the decisive factor in increasing the fertility of soil under cultivation.

Certain foreign scientists had attributed the origin and develop-

ment of soil and its fertility solely to five natural factors — the nature of the parent rock, climate, biological activity, topography and time — and to the interaction between these. Though this led to the knowledge of the laws of the formation, development and geographical distribution of soils, these people neglected the study of cultivated soil, particularly the tremendous effect man's labor can have on it. Thus they failed to achieve a correct understanding of the relation between man and nature.

Marx pointed out long ago, "**Fertility is not so natural a quality as might be thought; it is closely bound up with the social relations of the time.**" He said, "**With the development of natural science and agronomy the soil fertility is also changed by changing the means through which the soil constituents may be rendered immediately serviceable.**"

Tachai's own soil-building stands as a critique of the view that neg-

lects the dynamic human factor. Seven hundred years of cultivation of the fields around Tachai did not alter the fact that, as the saying went, "Three clear days in a row and the plants wilt; with a little downpour the soil is washed away." The sponge fields and man-made plains giving guaranteed stable high yields we have created in Tachai in only two decades show that man's labor is the dominant factor in improving cultivated soil. Man's efforts to transform the topography change the intensity with which various soil-forming factors act under natural conditions and changes the direction of the soil-forming process. The mineral content of cultivated soil can be altered through systematic improvement.

Chairman Mao has said, "**Of all things in the world, people are the most precious. Under the leadership of the Communist Party, as long as there are people, every kind of miracle can be performed.**" It is important for soil scientists in socialist China to guard against the tendency to give more emphasis to material factors than to man's role and does not pay enough attention to the effect of labor on cultivated soil.

Tachai's experience shows that it is essential to study soil fertility with reference to the whole soil profile.

Some soil scientists stressed the production of water-stable granules as the central technical task. They held that for soil to be fertile it should have at least 70 percent

water-stable granules. This has not proven true in China's experience.

On Tachai's sponge fields, for instance, repeated tests show that the topsoil has only from 21 to 36 percent water-stable granules. Yet high yields are obtained through measures which achieve a desirable relationship of water, plant nutrients, aeration and temperature. Tachai's experience shows that more important than the study of granular structure in soil is the study of all soil layers that affect crop growth.

Tachai's sponge fields have about 33 cm. of mature topsoil. The top layer of this has more large pore spaces, which facilitates aeration, percolation, conservation of moisture, warming of the soil and decomposition of organic matter. Underneath, reached by deep plowing, is a layer of mature soil which is slightly more compact, with more small pore spaces and somewhat less permeability. This favors the growth of root systems and conserves water and fertility. The subsoil below this is more compact, stickier and harder, yet also supplies water and plant food. The top-horizon and sub-horizons to-

gether form a huge reservoir which provides water, nutrients, better aeration and suitable temperature to satisfy the crop requirements during the entire period of growth, thus ensuring stable high yields.

Tachai's experience also shows that greater importance should be attached to the role of organic fertilizer.

We in Tachai have consistently used farmyard manure as our principal fertilizer, but also seek to use chemical fertilizers effectively and economically. Thus both the use of farmland and its improvement are combined into a dialectical whole.

We reject the one-sided view which counsels the exclusive use of chemical fertilizer to preserve soil fertility but ignores the effect of biological factors and neglects the role of organic fertilizer and green manure crops.

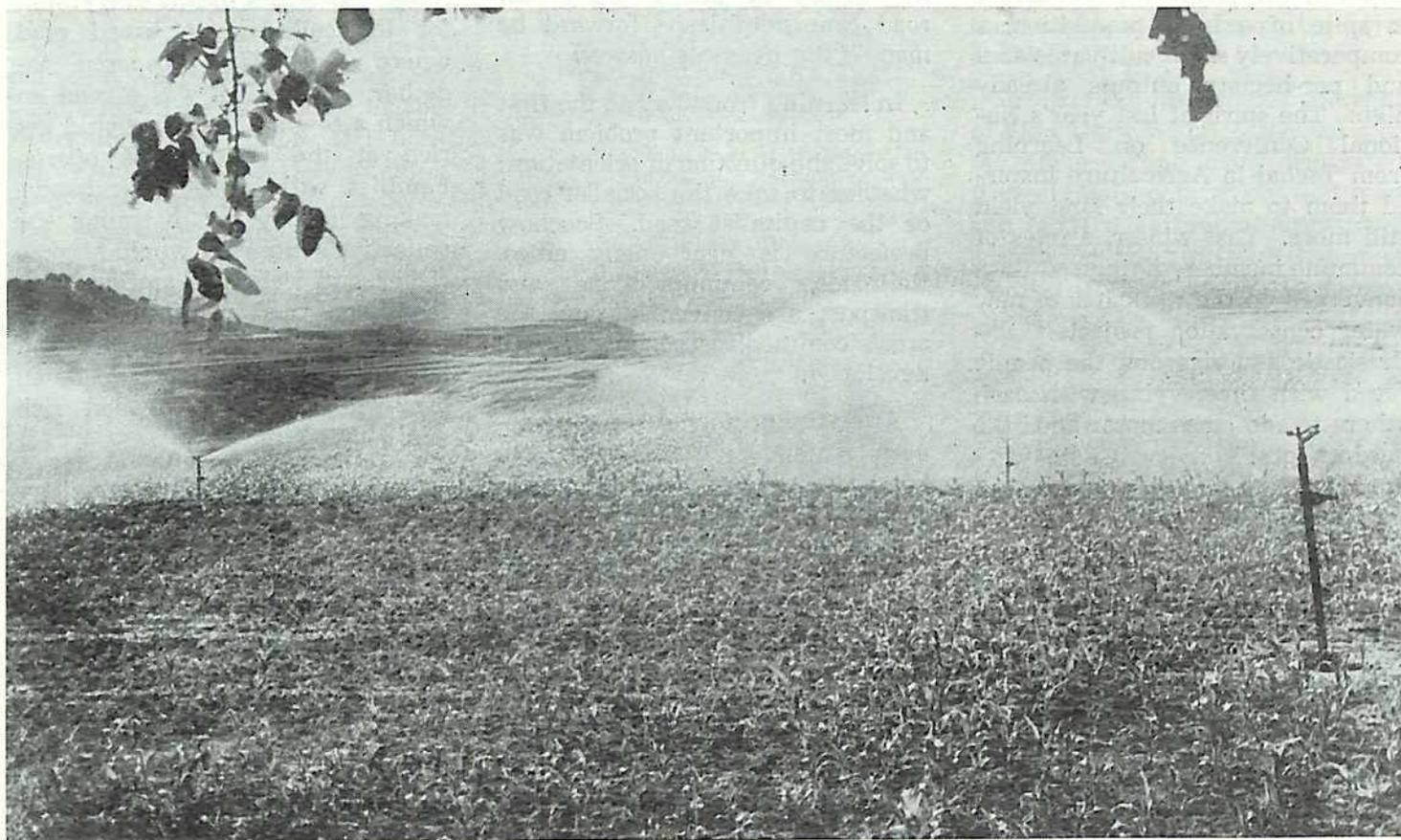
The use of more organic fertilizer has led to a great increase in grain production. Before liberation, only about 7.5 tons were used per hectare and grain yield was a meagre 0.75 tons. Application of organic fertilizer increased to 37.5 tons in the late 1950s and then to 105 tons in the 1960s and the per-hectare

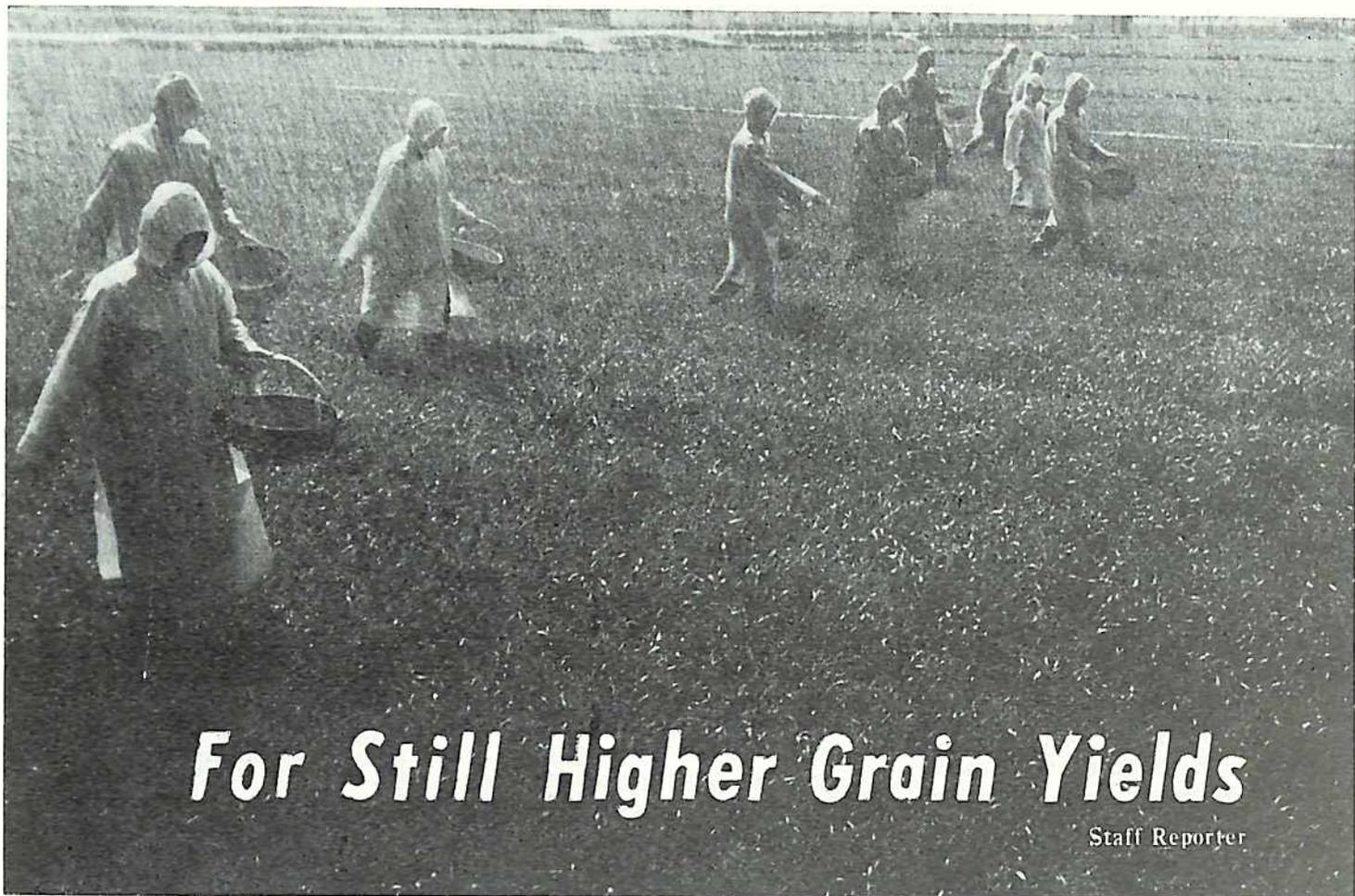
yield gradually rose to 7.5 tons. There are many reasons for this increase but the use of more organic fertilizer is the most important one.

Organic fertilizer contains a variety of nutrients and they are released slowly. It also improves the structure of the soil, increases porosity, makes for pore spaces of more even size, promotes the maturing of subsoil, assists holding of water and nutrients and raises soil temperature: all desirable for high yields.

Chairman Mao has taught us that **"In the fields of the struggle for production and scientific experiment, mankind makes constant progress and nature undergoes constant change; they never remain at the same level. Therefore, man has constantly to sum up experience and go on discovering, inventing, creating and advancing."** Theories held in the past should be approached from a historical perspective, analyzed from all sides and examined in the light of our own experience. We must carry forward what is correct, rectify errors and break through narrow limits so as to make steady progress in developing soil science.

Sturdy crops on sponge fields.





For Still Higher Grain Yields

Staff Reporter

Applying fertilizer in Shachou county.

DO MORE for the revolution! Build fields to yield 15 tons per hectare!" The communes of the Soochow prefecture set this target in spite of a large population, a comparatively small cultivable area and per-hectare outputs already high. The spirit of last year's National Conference on Learning from Tachai in Agriculture inspired them to make their land yield still more. Last winter, armies of commune members flying red flags converged on the worksites of new water conservation projects. Enthusiastic and vigorous, the people raced with time, vying with each other to do the most and the hardest jobs.

The Tachai Road

The eight counties of Soochow prefecture have a rural population of 5,800,000 and 448,000 hectares of collective farmland. Facing Taihu Lake, the prefecture's northern part borders the lower Yangtze River. Many lakes and ponds, a rich soil and favorable natural conditions have made it known as "the

land of fish and rice". For the last twelve years it has had bumper harvests. How did the people do it? "Only by taking the Tachai road can great leaps forward be made!" the peasants answer.

In learning from Tachai, the first and most important problem was to solve the question of orientation: whether to take the socialist road or the capitalist road. Soochow prefecture is near many cities. Railroads, communications and transport are convenient and the area's commodity economy is well developed.

After the prefecture's grain harvests passed the 7.5 tons per hectare mark, a new question arose: should labor be concentrated on making further advances in collective agricultural production, or should it send labor off to go after money, using the collective's transport facilities to transport and trade in profitable goods? Such dealings would only yield a small amount of money to the collective, the greater part going to the individuals involved.

These two ways were actually a reflection of the intense struggle between the socialist and capitalist roads. Socialism meant everything for the collective, a broad road where everybody prospered together. Capitalism was a road on which a few individuals would get rich at the expense of others. Families with more work hands, making money by harming the collective's interests, would become richer and richer. Families with few hands and many mouths to feed would find life harder and harder. The outcome would be an ever-widening gap between rich and poor.

The prefecture Party committee clearly saw that in order to go on raising outputs the truth that "**only socialism can save China**" had to be firmly grasped by the people. Studies would have to be made of how Tachai paid constant attention to the struggle between the two roads in the countryside, continually solving the problems that cropped up reflecting the orientation and road their agriculture was taking.

In the past five years the Soochow prefecture Party committee has organized the leaders and masses to study Marxist works, to criticize and repudiate Liu Shao-chi's and Lin Piao's sabotage of socialism, and hold discussions among the people comparing the old and new societies. Poor and lower-middle peasants were asked to describe the exploitation and oppression they suffered before liberation. Their miserable life was compared with life in the new society where everyone had jobs and enough food and the communes and the nation were growing stronger and more prosperous year by year. The road of going it alone and pursuing profits was a road leading to capitalism, a society ruled by exploiting classes where the working people would have to suffer again.

When the people saw this more clearly they began to work wholeheartedly for the collective. Between 1971 and 1974, the prefecture's annual grain output increased by an average of 150,000 tons. In these four years 29,000 hectares reached 12 tons per hectare, another 2,700 made 15 tons per hectare. The Huahsi brigade in Chiangying county hit a record of 18.7 tons per hectare.

By 1974 the prefecture's grain output had reached 3,500,000 tons, an average of over 11 tons per hec-

tare. In this one year the prefecture's 447,000 hectares of cultivated land sold 1,265,000 tons of commodity grain to the state, more than the entire grain output of the area right after liberation.

Revolution in Cultivation

What happened in the Lungchiao brigade of Wu county is an example of the difficulties that came up as it forged ahead after the basic questions of orientation and road had been solved. In the water country south of the Yangtze the Lungchiao brigade is a red banner unit in learning from Tachai.

As early as 1956 it tried planting two crops of rice and one of wheat on a 6.6-hectare plot. At that time, however, Liu Shao-chi was pushing his revisionist line. He tried to disrupt agricultural production, undermine the co-ops and drag the countryside back to the small peasant economy and going it alone. Influenced by this line, some cadres felt no urge to expand the collective economy. They reasoned: "Peasants south of the Yangtze have been farming all their lives and never saw three crops grown in a year. We'll lose more than we'll gain if we tamper with tradition."

Such conservative thinking was echoed by those among the masses satisfied with the status quo and



Motors produced by Loshe commune's farm machinery plant in Wusih county being loaded for delivery.

set in their traditional customs and ideas. "Our area's quota is already high," they said. "We can only try to maintain that, not make leaps. The higher our yields the harder it will get to raise them." By 1962 the intervention of Liu's revisionist line had left only an eighth of a hectare for experimenting with the triple-cropping system.

During the cultural revolution Liu Shao-chi's line was criticized and repudiated. Criticism also hit status-quo thinking. Mass discussions inspired the people to repudiate the old and adopt new ways of thinking and working. This brought a revolution in cultivation. "The Tachai people can split mountains and build terraced fields — we'll bring that spirit to our plains by using every hectare three times. Two crops of rice and one of wheat for the revolution!" vowed the Lungchiao brigade members.

Three crops a year meant a radical break with the centuries-old methods of cultivation. Two crops of rice ordinarily take 240 to 250 days from planting to harvest, and this had to be squeezed into the 220 days which are frost-free. Three crops would take 15 months. Now they planned to do it in 12

Shen Ken-nan, Party secretary of the Lungchiao brigade, discusses with members how to raise yields that are already high.





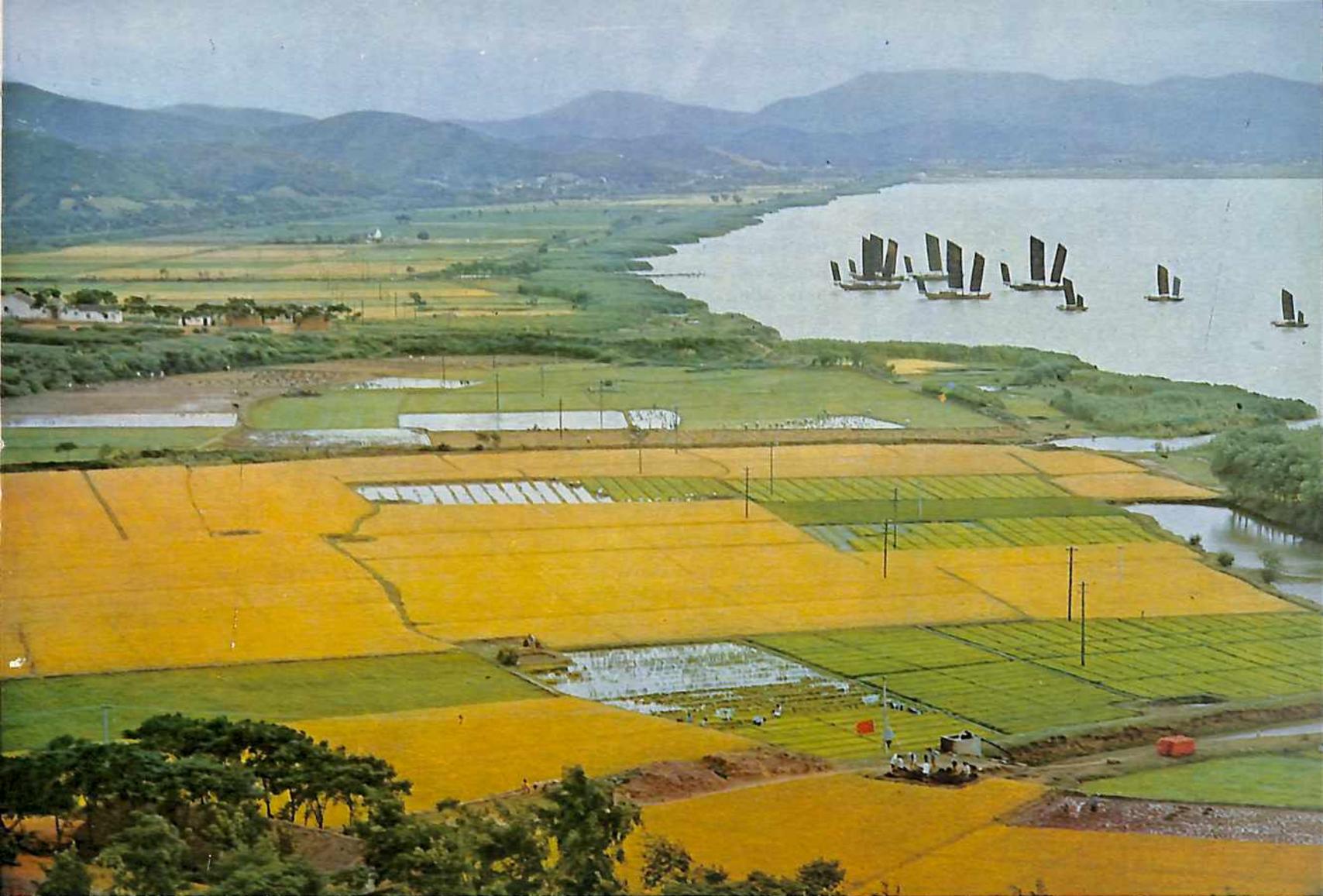
Growing an improved strain of rice in seedbeds for scientific experiments.



Shen Ken-nan (left), Party branch secretary of the Lungchiao brigade, and other commune members check a field of rice.

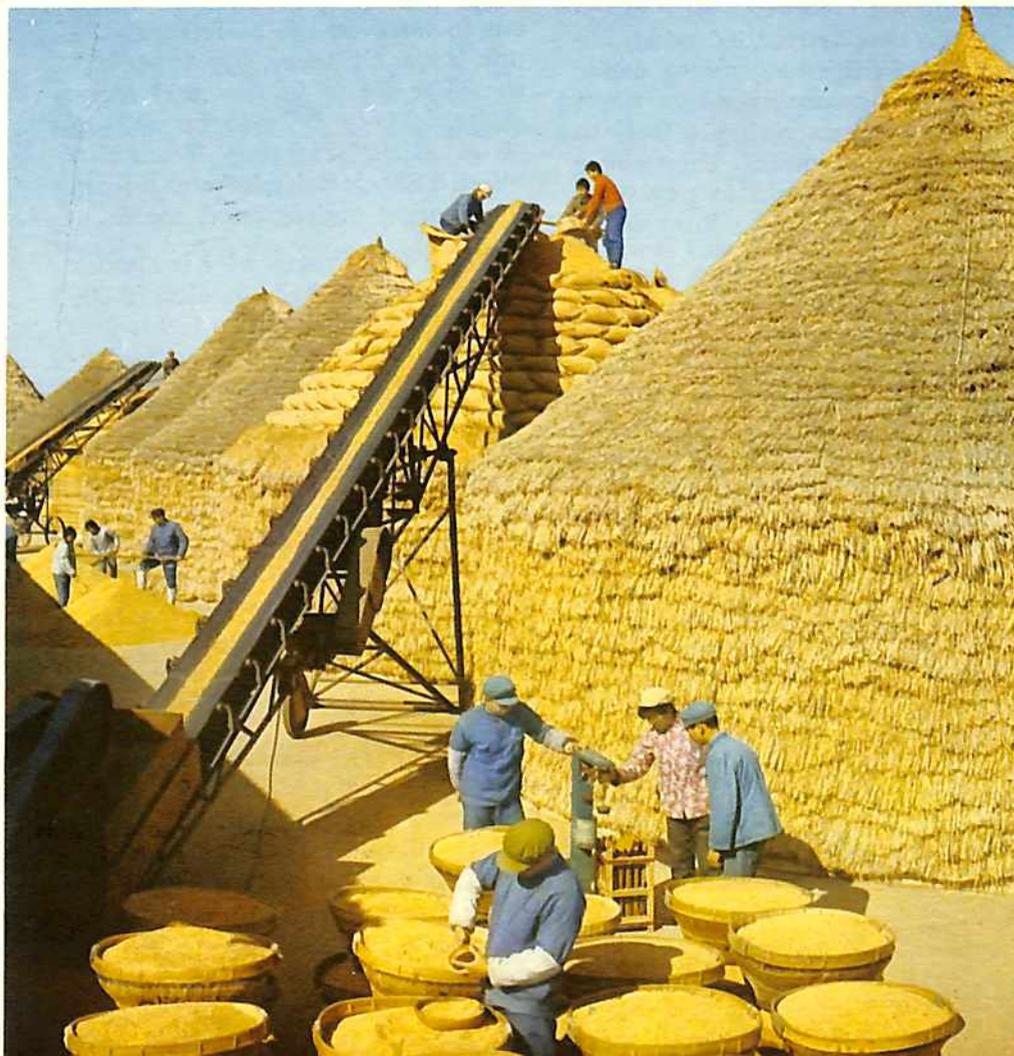
Large-scale basic farmland construction in the Plum Blossom Village commune.





Rebuilt fields along the shore of Taihu Lake.

Another good harvest.



Huahsi brigade members returning from evening political school.

months. The change brought problems: shortage of time, fertilizer, labor power.

Two attitudes arose toward these problems. Some felt that it was all very well to have three crops a year but there was not enough fertilizer or machinery so it was better to go slow. The majority of the brigade's leaders and members did not agree. Led by Shen Kennan, the Party branch secretary, they worked out ways to do it — better seed, close-planting, over-all planning and timing, new sources of fertilizer. Like the Tachai people, they took full advantage of the soil's potential and made the best use of every minute, every bit of unused land and the sunlight hours.

Their first problem was that every hectare now needed twice as much fertilizer. When the county offered the brigade 500 tons of manure, however, they refused it because they felt another brigade needed it more. "Holding our hands out for aid isn't following Tachai's example," the people said. Turning to their own local conditions, they cut grass for compost, dug up pond silt, bred water plants and raised more pigs to increase manure. By applying large amounts of organic fertilizer of this kind they were able to use and enrich the soil at the same time.

The brigade finally achieved an average of 15 tons per hectare. As the three-crop experience of the Lungchiao brigade spread, the area growing two crops of rice and one of wheat increased from 6,700 hectares before the cultural revolution to 266,000 hectares.

Developing Socialist Farming

It is impossible to uproot the remnants of a small-peasant economy and develop socialist agriculture without liberating the people's thinking and planning from a long-range point of view.

The Wusih Plum Blossom Village commune in the Soochow prefecture is also a red banner unit in learning from Tachai. But up until six years ago this commune had never made rapid progress, mainly because some of its leaders had become satisfied with their existing production achievements.

Unwilling to take risks, they made no bold effort to transform their conditions. In irrigation work all they did was make do with a repair here or there. Their fields were uneven and irregular in size. Roads were narrow and difficult or impossible for trucks and tractors. Rivers twisted and turned, taking up more land than they would if they were straightened. The same canals were used for both irrigation and drainage, so that if one crop was being drained while another needed irrigation, it could not be done. The yield never passed 7.5 tons per hectare.

After the three-crop plan was launched the inadequacy of their irrigation network was felt even more keenly. Moreover, their canals took up a lot of the land that could be cultivated. Now the commune's peasants were eager to thoroughly change all this.

In 1970 a conference on agriculture was held in north China. Inspired by this, Plum Blossom Village commune's Party committee began planning and launching basic farm construction projects. At the same time they organized mass criticism meetings against the talk and activities of class enemies who were trying to sabotage such work. At these meetings the people recalled what life was like in the old society under the small peasant economy when families used only simple tools to cultivate small plots. They never reaped enough grain to pay their rent and were always hungry.

At these meetings they also reviewed how liberation had brought mutual-aid teams, co-ops and then communes, and how grain output grew and life improved through the strength of a lot of people working together and the acquisition of chemical fertilizers, insecticides, irrigation and drainage machinery and tractors. Obviously a socialist countryside was the bright future and now they buckled down to greater efforts. They decided on basic farm construction on a large scale in order to transform production conditions and eliminate the remnants of the small-peasant economy.

To help people liberate their thinking from old ideas and see the

value of basic construction projects, the commune set up a pilot project in the Suhua brigade. In a cultivated area of 10.7 hectares the irrigation canals were put underground, adding an eighth of a hectare for growing grain. This solved the worries of some leaders who feared that water projects would take up more land. The project's success caused others to plunge enthusiastically into changing their canals.

Some commune members had not been willing to move their homes or private plots for large-scale water projects. When they saw other brigades not only making new irrigation networks but getting more land, growing more grain, and receiving more benefits for the members — and all this with less capital than they thought — they were not only willing but eager to move.

After widespread ideological mobilization, in the winter of 1971 the Party committee put forth a five-year plan to completely transform the commune's natural conditions. It was a long-term plan to build a socialist agriculture.

The leaders and masses turned the slack winters into busy seasons. Each winter 7,000 people turned out to work on the basic construction sites. Of these, 2,000 worked the year round in day and night shifts. Every brigade formed an "Iron Girls' Fighting Team", a "Youth Shock Brigade" and a team for digging underground canals.

After four years of hard work the commune had leveled 2,000 hectares and turned the fields into neat squares. They dug an underground irrigation network of 150 kilometers (including 35 km. of old canals). Over them they built roads on which trucks and tractors pass easily. Sluice gates control irrigation and drainage. Underground canals gave the commune 40 more hectares of cultivable land. Over 200,000 trees were planted — mulberry groves and trees along the roads, canals, rivers and around homes. A network of 11 roads totaling 27 km. serves the commune. From 1971 to 1974 the commune increased its grain production by 11,850 tons, an average annual increase of 2,965 tons.

LABOR CREATED MAN HIMSELF

— In commemoration of the
centennial of Engels' *The Part
Played by Labor in the Transition
from Ape to Man*

WOO JU-KANG



Reconstructed physiognomy of Lantian Man.

IN WRITING *The Part Played by Labor in the Transition from Ape to Man* (1876) Engels was guided by dialectical and historical materialism. Proceeding from the viewpoint that the productive activities of mankind are its most fundamental practice, he advanced the theory that labor created man, pointing to its leading part in the origin of mankind.

When Engels wrote the article 100 years ago, there had been few discoveries of human fossils and relics of the Stone Age, the chief materials for studying the origin of mankind. Engels' theory was not generally accepted because of the restrictions of religion and academic authorities. In the last hundred years, however, much material has been found in various places in the world including China which fully proves that labor created man.

From Darwin to Engels

The British naturalist Charles Darwin (1809-82) had been the first to put forward a theory on the origin of man based on scientific fact. In his *Origin of Species* published in 1859, Darwin demonstrated with abundant scientific data his theory of evolution — that all species have evolved from other species of the

WOO JU-KANG is one of the leaders in the Department of Paleoanthropology in the Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences.



Skull cap of Peking Man found at Choukoutien near Peking in 1966 (top view).



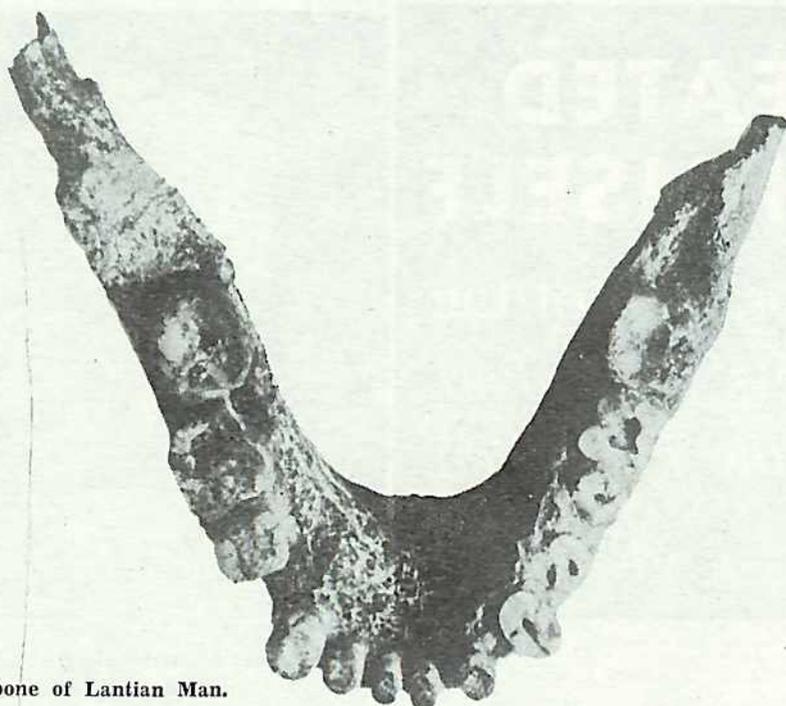
Reconstructed skull of Lantian Man.

past. In his conclusion concerning the theory of evolution he wrote that "light would be thrown on the origin of man and his history", hinting that man originated from the apes.

In 1863 in his *Man's Place in Nature* the British biologist Thomas Huxley (1825-95) used the scientific results of comparative anatomy and embryology to expound on the affinity between man and ape, determine man's position in the animal world and state the theory that man and ape have the same ancestor.

In 1871 in his famous *Descent of Man* Darwin stated the basis of his theory that man originated from animals, pointed out that man and modern anthropoid apes have a common ancestor and that man evolved from an ancient species of ape.

Darwin, however, did not solve the problem of *how* man became distinct from animals and how the early man developed into modern man. Like Huxley, he looked at the problem from a purely biological point of view. He regarded the origin of man as almost the same as the origin of other animals, was unable to grasp the essence of the distinction between man and the animals or the leading part played by labor in his origin. Engels pointed out: "There arose in the course of time that idealist outlook on the world which, espe-



Lower jawbone of Lantian Man.



Skull cap of Lantian Man (half size).

cially since the downfall of the ancient world, has dominated men's minds. It still rules them to such a degree that even the most materialist natural scientists of the Darwinian school are still unable to form any clear idea of the origin of man, because under that ideological influence they do not recognize the part that has been played therein by labor."

The correct orientation for the solution of the problem of the origin of man was provided by revolutionary teachers. Karl Marx repeatedly pointed to the role of labor in the origin of man. Engels put forward this idea as a theory in his 1876 article. He saw the formation and development of man's basic characteristics as inseparable from labor. Because of labor, the hands were freed from their role as supports, the legs accommodated to walking upright, the brain became more developed and thus conditions were created for man's further development.

The Proof

The historical facts of man's development have proved the correctness of Engels' theory. In 1891-92 E. Dubois, a young Dutch army surgeon who believed in Darwin's theory of evolution, discovered in Java a skull cap and a thigh bone of an ape-man 600,000 to 700,000 years old. The skull cap has marked primitive features such

as thick brow ridges, low forehead, very thick bone wall and a protruding ridge at the back of the skull. The ape-man's face is wide and his teeth are large. His cranial capacity was only about 800 cc. but his thigh bone resembles that of modern man, demonstrating that he could walk erect on two feet like man, hence the name *Pithecanthropus erectus*.

A heated argument ensued among anthropologists on whether the discovery was man or ape. This was due to the idealist view which had long held that man must have a big brain, and to the influence of religion. A German "authority", Rudolf Virchow, said that the skull was that of an ordinary gibbon and that the thigh bone did not belong to the same species.

In 1929 the first skull cap of Peking Man, dating back 500,000 years, was discovered in a cave at Choukoutien near Peking. Later more ape-man skulls, limb bones, many stone implements and traces of the use of fire were found in the same cave. Since then the thesis that ape-man was early primitive man has become widely accepted and the place of the ape-man in the evolution of man has gradually been ascertained. It is a pity that in 1937, three years before he died, Dubois, discoverer of *Pithecanthropus erectus* in Java, under strong pressure published an article denying that his discovery

was an ape-man and saying that it was a giant gibbon.

The skull cap and thigh bone of Peking Man resemble those of the Java ape-man—the skull has marked primitive features but the limb bones resemble those of modern man. One explanation, put forward by people like the Frenchmen H. Boule and R. Vaufray, has it that the fossils found at Choukoutien represent two kinds of man, that the skull is from a primitive man and the limb bones from a more developed man. The skull of the former was left by the latter after eating its brains. This explanation is obviously an attempt to provide a historical basis for racism which advocates that the strong should devour the weak.

Fossil discoveries in different parts of the world show that the above physical features are universal among ape-men. Similar evidence has been found in Tanzania. Ape-man fossils have been found in many localities in Asia, Africa and Europe. In China, in addition to discoveries of more fossils and stone implements of Peking Man, we have found those of Lantian Man in Shensi province, of Yuanmou Man in Yunnan province, and stone implements from the ape-man stage in Kuanyin Cave in Chienhsi county, Kweichow province.

Engels' theory provides the correct explanation for the un-

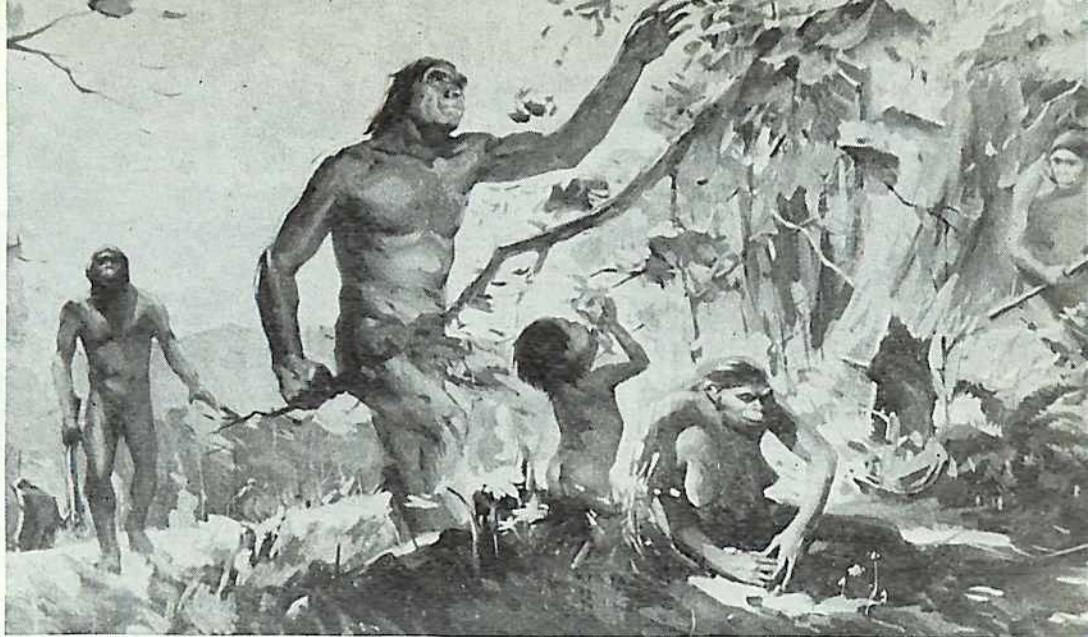
balanced development of the physical features of the ape-man. Labor enabled first the limbs to develop in the direction of the modern man. This was followed by the development of the brain. Hence the ape-man's head retained primitive features for a longer period.

Southern Ape and Man

Fossils of the southern ape (*Australopithecus*) of one to three million years ago—even earlier than the ape-man—have been discovered in Azania (South Africa) since 1924. Judging from the skull base and limb bones, the southern ape could already walk erect on its two feet, though still not perfectly. But its head was still very primitive, its cranial capacity not exceeding 500 cc., which is within the range of the modern ape. This combination of developed limbs and primitive skull in the southern ape also led to a sharp debate on whether it belonged to ape or human lineage.

In the last two decades, many important southern-ape sites have been discovered in Tanzania, Kenya and Ethiopia. In China's Chienhsih county, Hupeh province, some teeth that probably belong to the southern ape have also been found. These affirm the relationship between the southern ape and human lineage.

The southern ape lived from five down to about one million years ago. About three million years ago some of its more developed types became true man (euhominid), beginning to make tools, and attaining the early ape-man stage. The "1470 Man" found in Kenya and the "Able Man" (*Homo habilis*) found in Tanzania are probably



Peking Man lived by picking wild fruit and digging up roots. He could hunt some animals for food.

representatives of this type. The other southern apes specialized to become offshoots of the man family.

The southern ape fossils show that the erect gait began long before the making of tools, thus proving Engels' thesis: "Presumably as an immediate consequence of their mode of life, which in climbing assigns different functions to the hands than to the feet, these apes when moving on level ground began to drop the habit of using their hands and to adopt a more and more erect gait. This was the decisive step in the transition from ape to man."

Scientific Thesis

According to available material, during the long transitional stage from ape to man the animal gradually took on an erect gait, though imperfect, and its brain was rather small. For more than a million years after the appearance of true man, his cranial capacity averaged 600 to 700 cc. Use of the hands over a long period of labor led first of all to a differentiation between

the limbs and the establishment of walking erect. This expanded the field of vision and freed the hands from their function as supports so that they could touch many more things than before. On the basis of this the brain and the brain case developed. The use of tools further extended the role of the sense organs, thus obviously increasing man's sources of perceptual knowledge and promoting the development of the brain as well as his self-consciousness and dynamic role.

Engels pointed out that "the development of labor necessarily helped to bring the members of society closer together by multiplying cases of mutual support; joint activity, and by making clear the advantage of this joint activity to each individual. In short, man in the making arrived at the point where they had something to say to one another. . . . First labor, after it, and then with it, articulate speech—these were the two most essential stimuli under the influence of which the brain of the ape gradually changed into that of man."

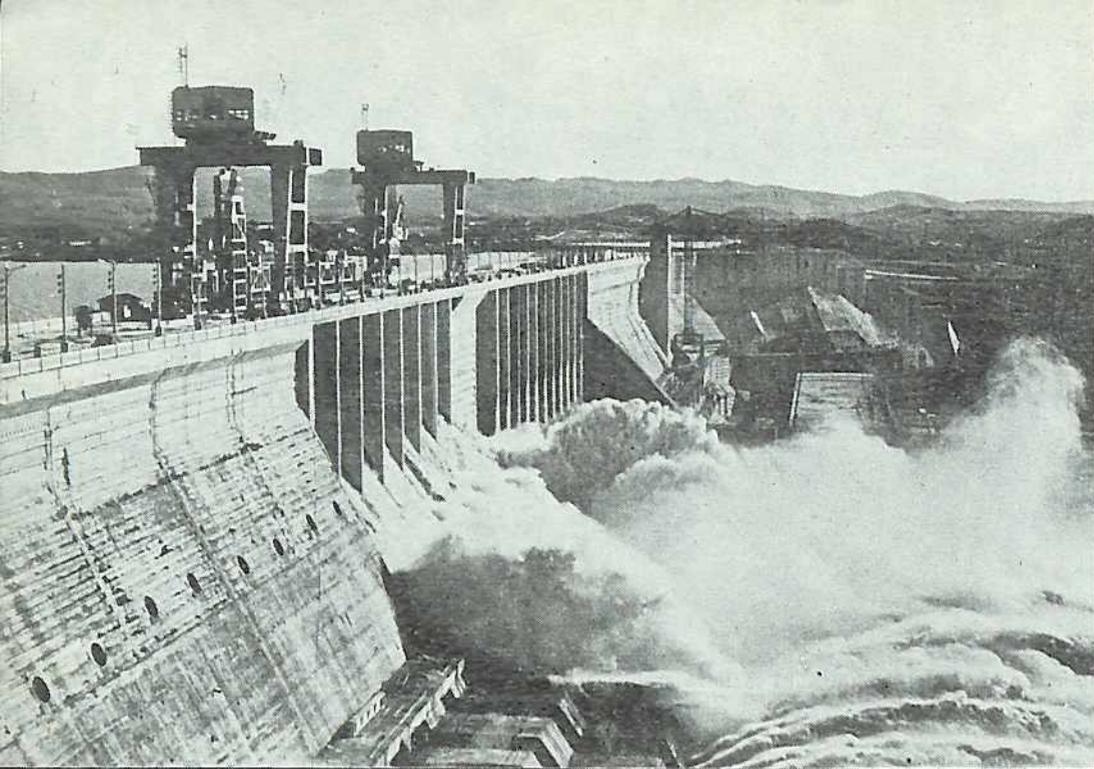
Thus the scientific facts of man's evolution show that the human brain developed after the erect gait expanded the sources of perceptual knowledge. Of course, the development of the brain in its turn promoted the development of other parts of the body, perfecting the perceptual organs and making the hands more dexterous. These facts confirm Engels' thesis: "In a sense, we have to say: labor created man himself."



Heavy point used by Lantian Man found at Lantian, Shensi province, in 1965 (one-fourth actual size).

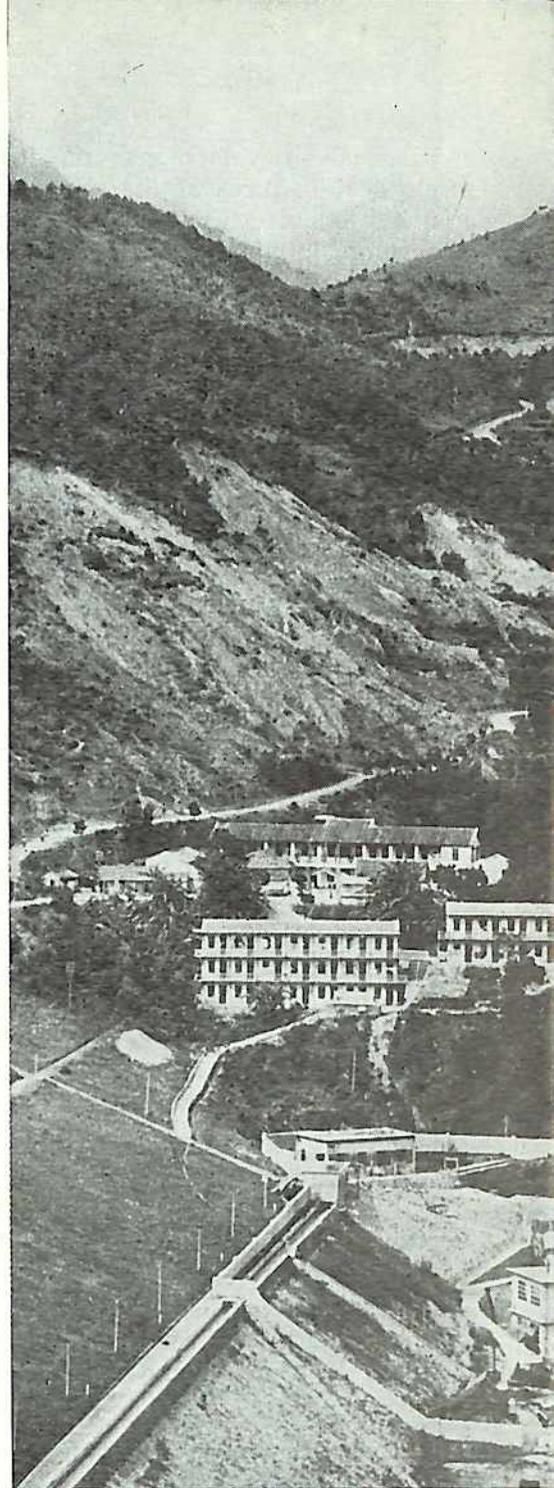
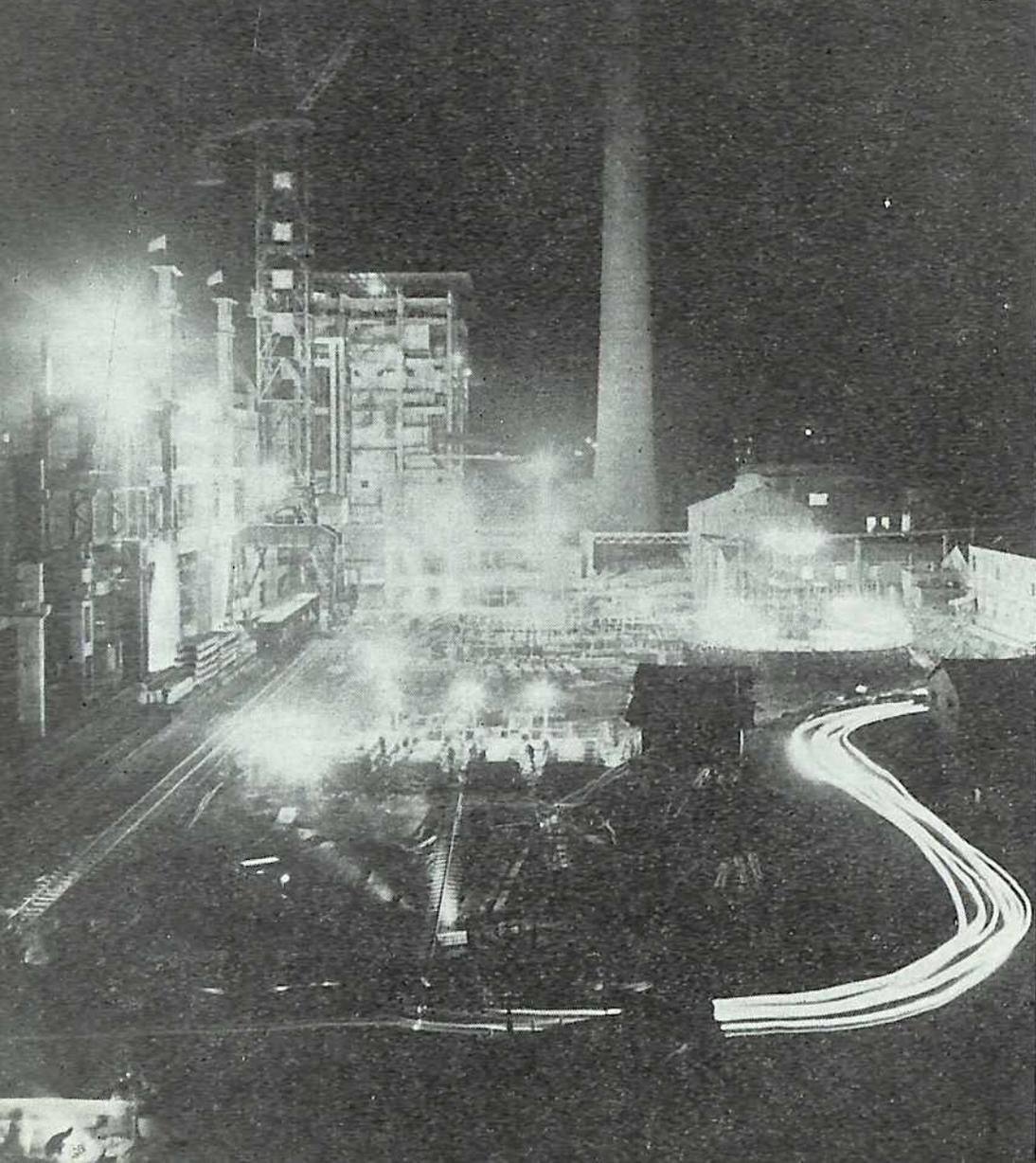


Vein quartz scraper used by Lantian Man (original size).



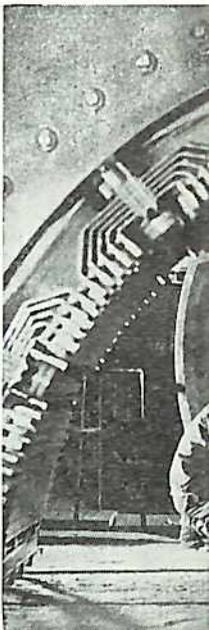
ACROSS THE LAND

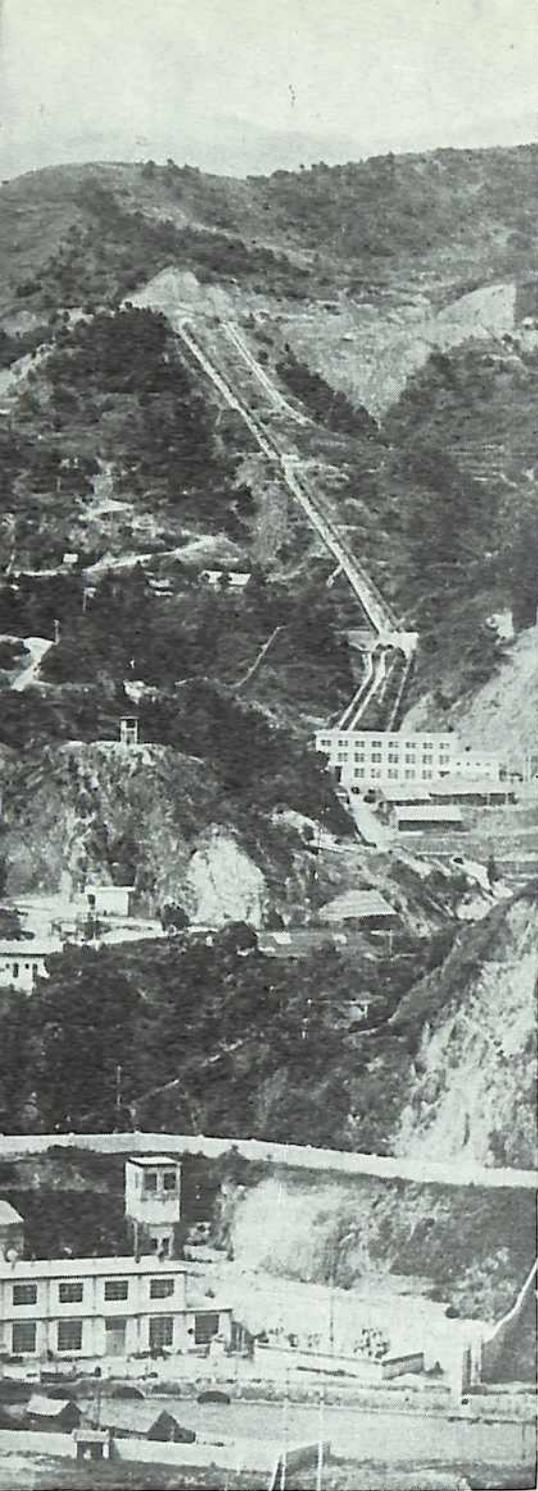
China's Power Industry Makes Headway



A stage hydropower station in Chieh Hsi county, Kwangtung province.

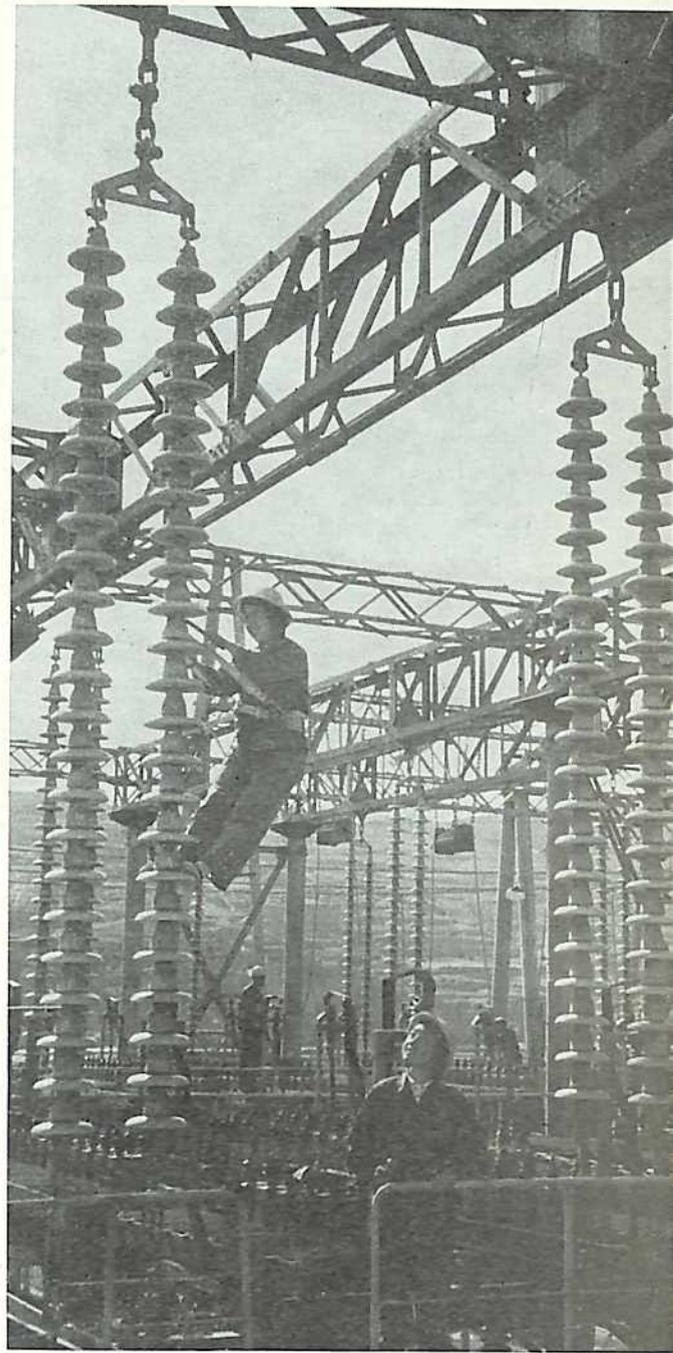
Upper left: The 900-mega-watt power station and water control project at Tanchiangkou in Hupeh province. Left: The Hsintien Power Plant in Shantung province under construction.



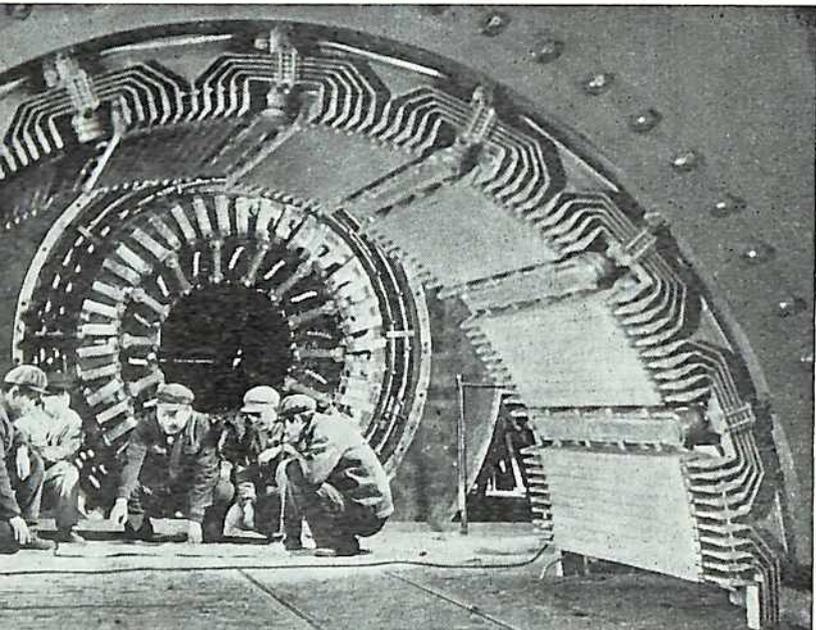


A 330-kv. series capacitor compensation station, part of China's first 330-kv. ultra-high-tension power transmission project carrying current from the Liuchiahsia Hydro-power Station on the Yellow River to the three northwestern provinces of Shensi, Kansu and Chinghai.

GUIDED by Chairman Mao's revolutionary line, China's power industry has advanced rapidly since liberation. Many power stations and electric networks have been constructed. Still bigger headway has been made since the cultural revolution began in 1966. Generators installed between 1971 and 1975 have a capacity surpassing that for those installed in the 17 years before 1966. Now stations built during one year have a generating capacity several times that of the total installed over several decades in old China. The country produces as much power in several days as was produced in all of 1949. Under the policy of simultaneously building small, medium and large enterprises, thousands of small stations have been set up. Now 70 percent of the rural communes and many remote areas have electricity, basically changing the irrational distribution in the past.



Members of an innovation group of the Harbin Electrical Machinery Plant study how to increase the output of a large generating set.



Checking the operation of a computer-controlled 100-megawatt coal-burning steam turbine generating unit — a new innovation of the Peking Shihchingshan Power Plant.





The young painters (from left): Tien Yi, Chang Tao, Kuo Meng, Chin Hsien.

Children Love Painting and Drawing

LIVELY pictures done by children and hung on the wall-newspapers and blackboards attract everyone who enters the Tiehmen Primary School in Peking.

Two years ago during the movement to criticize Lin Piao and Confucius, more than five hundred pupils in the school joined in the criticism by writing poems, drawing and painting posters, cartoons and pictures with poems. They said, "Poems and pictures are all over the wall, we criticize Lin Piao and Confucius in every way."

Later, some were selected from these thousands of pictures for a school exhibition. Children who saw their own drawings and paintings exhibited felt greatly encouraged and went on with their art with higher enthusiasm. Those who didn't know much about drawing and painting now wanted to try too. More and more children became art fans. Paying serious attention to training these children, the school organized spare-time art groups where art teachers gave them special classes every week. The children drew and painted the

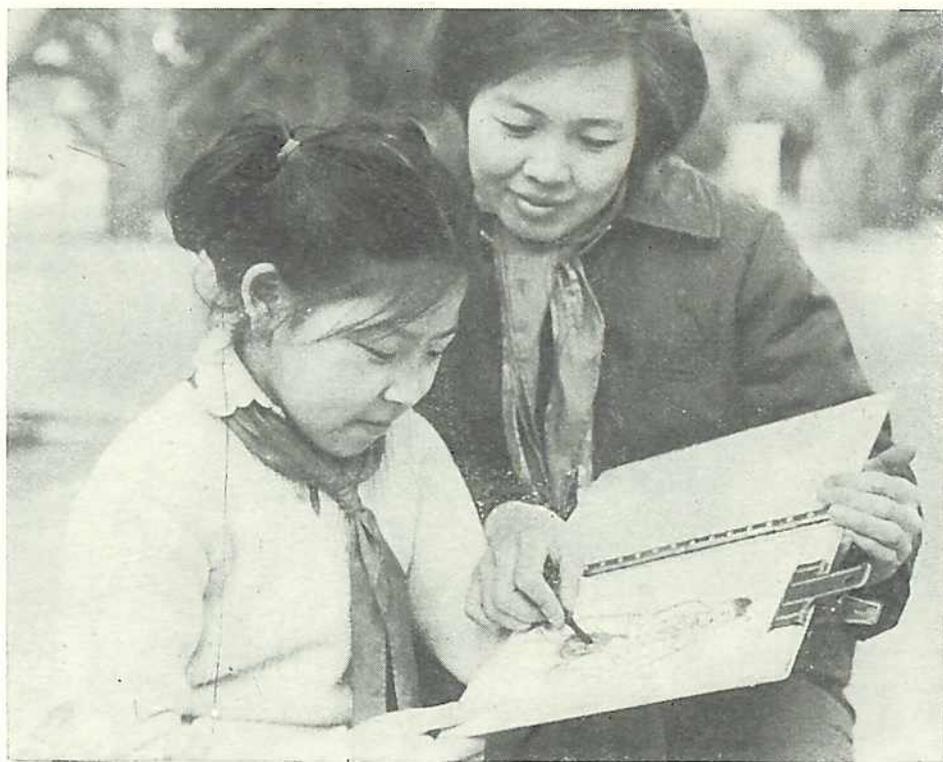
new socialist things emerging all around them.

The picture "I Want to Be a New-type Peasant When I Grow Up" was painted by Tien Yi, ten. Her elder sister settled in the countryside outside of Peking after she graduated from junior middle school to learn from the poor and lower-middle peasants. Every time her sister came back, she told Tien Yi many interesting things about the countryside. Her sister not only learned how to do various kinds of farm work but also became stronger. The changes in her sister impressed Tien Yi very much.

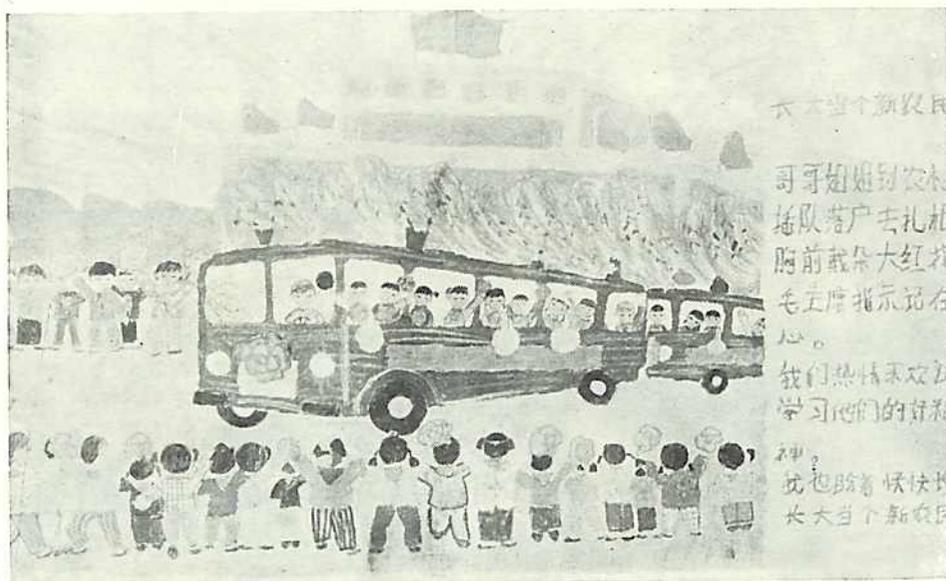
In school she often heard talks by middle-school graduates who had settled in the countryside and were back in Peking to see their parents. They told of what they had learned from the peasants, how they were tempering themselves and helping to build a new socialist countryside. Tien Yi could not forget one warm and exciting time when she stood on the street with her friends to send off some middle-school graduates going to the countryside. One day she

painted this farewell scene, named it "I Want to Be a New-type Peasant When I Grow Up" and wrote a poem to go with it. It read: "With red flowers on their chests, and Chairman Mao's words in their hearts, brothers and sisters go to the countryside to strike roots there. We've come to send you off, for you are fine examples for us. How I wish to grow up quickly and become a new-type peasant too."

THE painter of the picture "Learn Farming in the Fields" is Chang Tao, a third-grade pupil. Explaining why he drew it, the boy said, "Once our teachers took us to a commune to help the peasant uncles get in the wheat. We found some ears of wheat left in the fields. Grain is the most precious thing of all, hard work made every kernel. We mustn't waste any. So we hurried to pick up the ears of wheat. Just then a peasant uncle came over and said, 'Good for you! You love labor and the collective, you are really good children of the revolution.' We also saw how well and quickly the peasant uncles did their work, never complaining of hardship, fatigue or the hot



Helping the young painter.



"I Want to Be a New-type Peasant When I Grow Up" by Tien Yi

weather. They are people we should really learn from.

"After getting back, I immediately drew pictures of how we worked in the fields. At first I only drew a picture of us picking up wheat, then I recalled what the peasant uncles told us. They said that in the past they had had to use oil-lamps for lighting and mules and horses to plow the fields. But now they had electric lights in every house and tractors for plowing.

These are all a part of our countryside. I should show all this in my picture. With guidance from the teachers I finally finished the picture."

KUO Meng and Chin Hsien of the fifth grade are also members of the spare-time art group. When still in the second grade, whenever they passed the site of the new Peking Hotel in construction, they could hardly take their eyes off it, so fascinated were they by every-

thing there. They had heard from their elders that the design and construction of this highest building in Peking were all done by the Chinese working class. The gigantic cranes were also made in China. How wonderful the worker uncles are! How the boys wanted to draw them at their work! They decided to paint together a picture which would be called "Worker Uncles Construct a Tall Building". On their holidays they would go to the worksite to do on-the-spot sketches. It was winter then and sometimes their hands and feet grew numb with the cold, but their hearts were warmed by the workers' spirit of hard work and enduring hardships. So they kept drawing until they made a satisfactory draft.

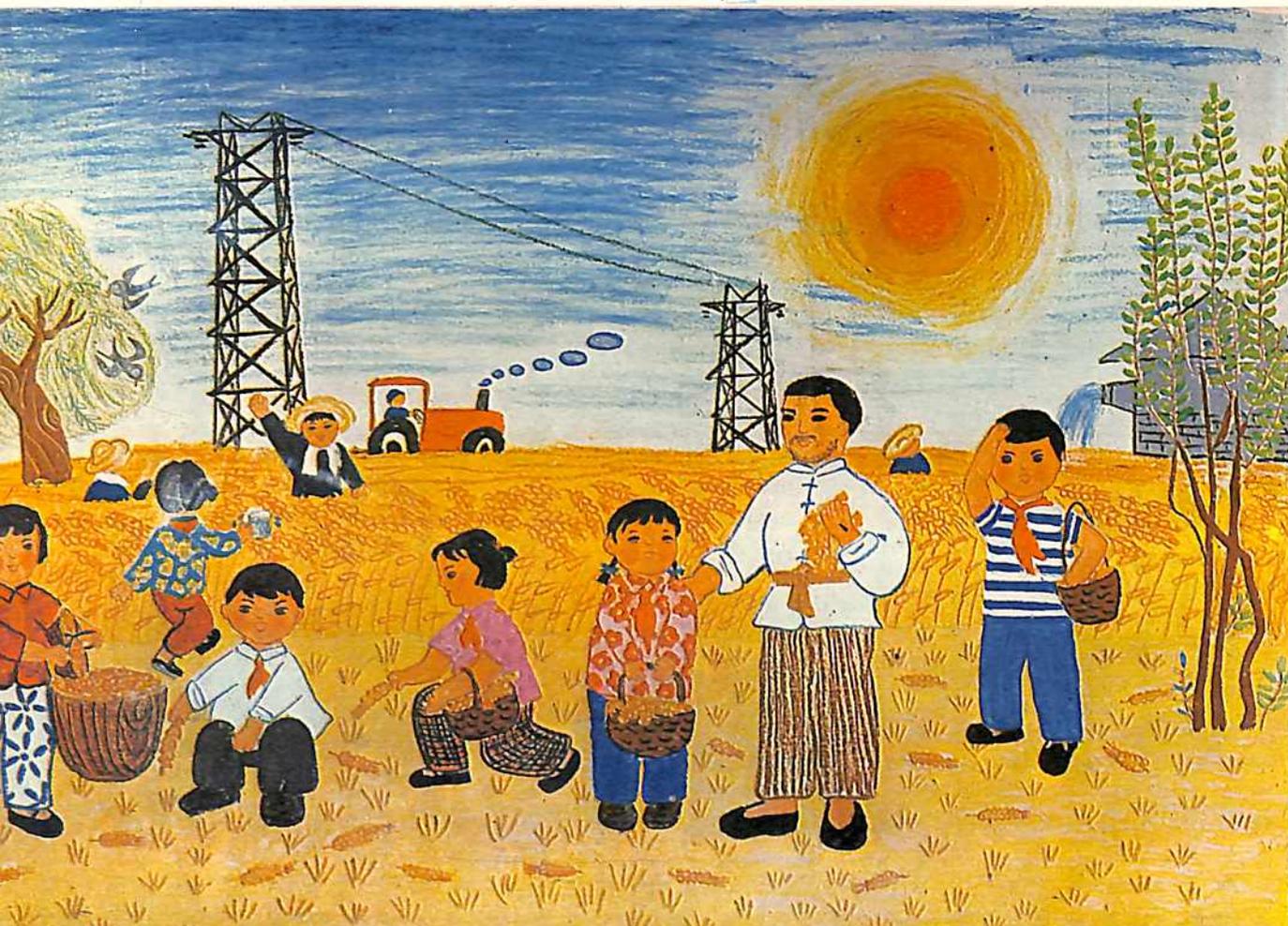
They learned more than just painting. Chin Hsien summed it up this way: "In the past I always wanted to play and in class wasn't very attentive about the lessons and did my homework carelessly. But when I was doing the sketches of this picture, I realized that the worker uncles could construct such a tall building because they followed Chairman Mao's teachings and worked hard and perseveringly. I am a child of the new China, I should 'study well and make progress every day' so that I too will be able to carry on the revolutionary cause when I grow up. After that I made up my mind to overcome my shortcomings. Now I've made some progress and was permitted to join the Little Red Guards."



无产阶级文化大革命就是好！



Singing "The Proletarian Cultural Revolution Is Fine" Pang Hsiao-lung, 9



Learning Farming Out in the Fields Chang Tao, 9

Children's Pictures

— Selected from the National Exhibition of
New Year Posters and Children's Art Works



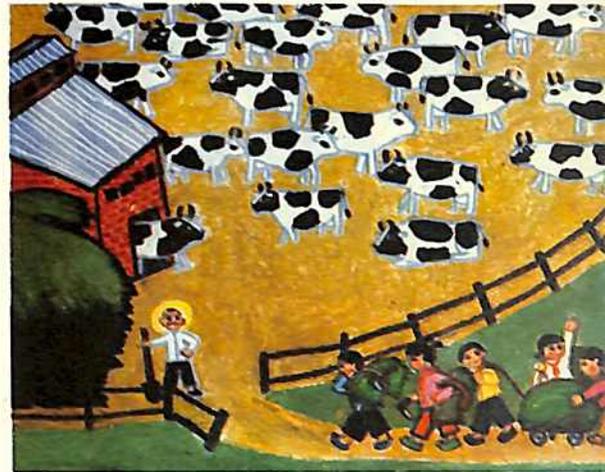
Tempering Ourselves in the Stormy Waves Chin Wei, 12



大家亚克西

周彦 (七岁) 1975年4月

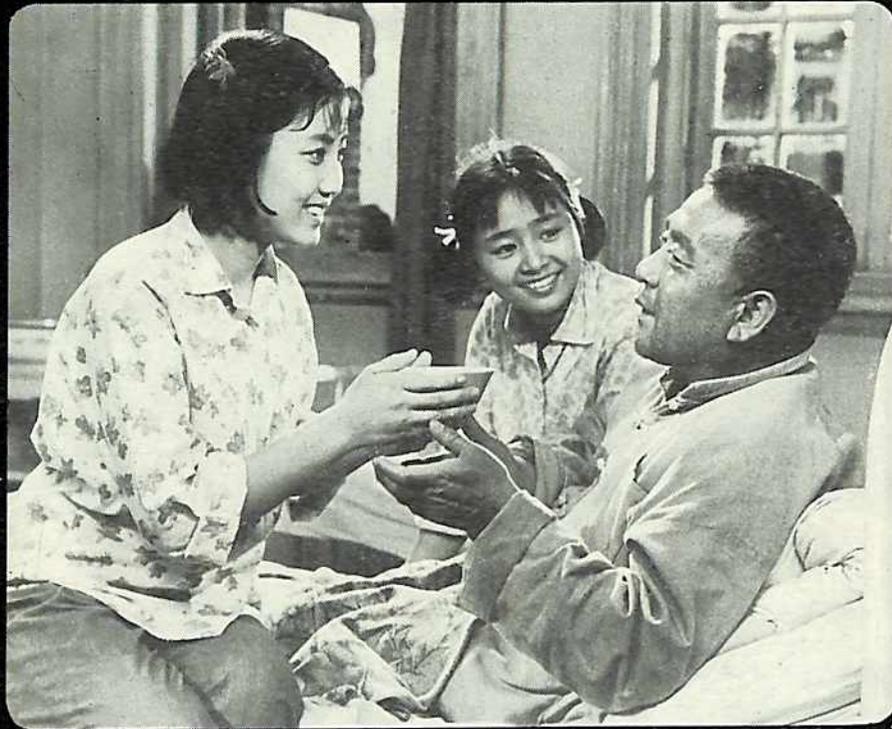
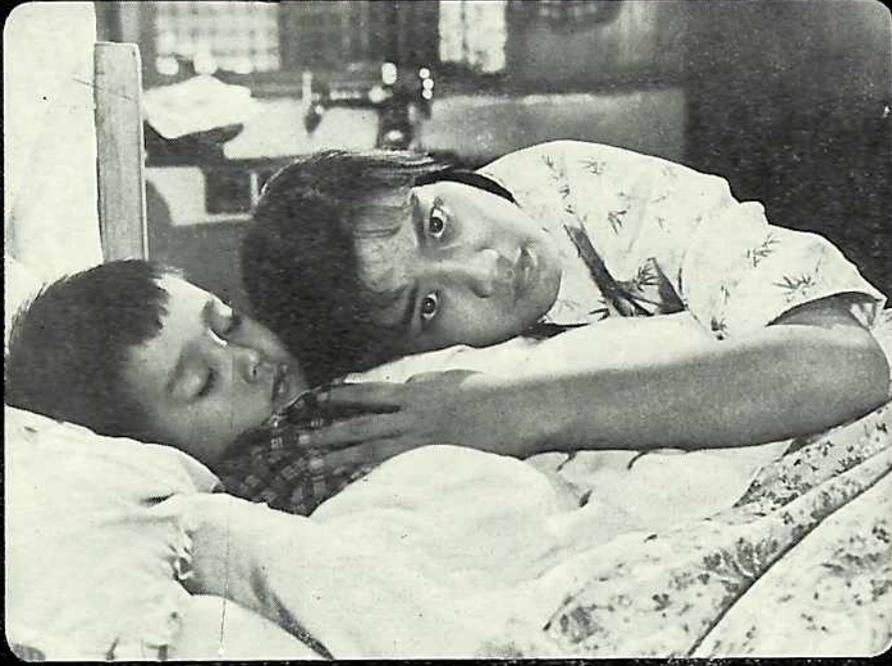
Singing "Tachai Is Very Good"
in Uighur Costume Chou Yin, 7



Cutting Fodder for Com-
mune's Cows Chu Ming, 9

China's Got a Lot of Oil Hsu Ke-fei, 8; Li Jen, 8; Chang Hsin, 9





FILM REVIEW

*A Spring
Sprout
Grows
Strong*

1. Left without instruments, Chun-miao listens carefully to try to diagnose Hsiao-lung's illness.

2. "Don't worry, Chairman Mao will back us," the brigade Party secretary tells Chun-miao, who is very upset at what has happened to her because of the revisionist line. In back is Dr. Fang Ming.

3. Chun-miao and barefoot doctor trainees expose Director Tu's and Dr. Chien's motive for their class.

4. Chun-miao gives Uncle Shui-chang an herbal broth for his back ailment.

5. The commune members and hospital staff denounce Director Tu (left foreground).

THE color film *Chun-miao* (*Spring Sprout*) is the first feature film depicting events of the Great Proletarian Cultural Revolution. The film is a portrait of a young peasant woman who becomes a barefoot doctor in the course of taking part in the struggle in her village between the two classes and two lines in medicine. She proves fearless in the battle against the capitalist-roaders inside the Communist Party.



* * *

IT is summer 1965 in the Hupin brigade of the Chaoyang commune in east China. A peasant woman whose baby has a high temperature with pneumonia comes for help to Tien Chun-miao, a young commune member who has chosen to settle down in her village after graduation from middle school. Chun-miao rushes them to the commune hospital in a rowboat.

There medical head Chien Chi-jen makes the patient wait while he patters around with his experiments and a report on body building. When he finally looks at the baby all he does is to give her a referral to the county hospital. The baby dies before she can be taken there.

Chun-miao is stunned. She feels strongly that this hospital is not serving the poor and lower-middle

peasants.* "Things can't go on like this," she says. "We must have our own doctors." Her words are a denunciation of the revisionist line in health and medicine pushed by Liu Shao-chi.

Soon after, Chairman Mao declares that the stress in medical and health work should be put on the rural areas. The Party branch and poor and lower-middle peasants of Hupin brigade send Chun-miao to the commune hospital for medical training. Both the director, Tu Wen-chieh, and Dr. Chien Chi-jen resent young peasants like Chun-miao intruding in their domain. They scoff at this "irregular" way of training doctors for the countryside. "Field hands will never make doctors," they say. "Using an injection needle is not the same as wielding a hoe." Chun-miao replies, "Hands like these have overthrown the three big mountains.** They are transforming our land. They can learn to use injection needles too!"

She gets warm help from Fang Ming, a young doctor recently graduated from medical college who had asked to come to a commune hospital so that he could serve the peasants. She works hard to absorb what Dr. Fang teaches her.

Tu and Chien deliberately make things difficult for Chun-miao. They put her to menial jobs instead of giving her medical training. When Chun-miao and Fang Ming propose a program of treatment for Uncle Shui-chang, an old peasant suffering from chronic backache, they coldly ignore the suggestion. Feeling the commune hospital is not a place where the poor and lower-middle peasants can study or get medical treatment,

*The term poor and lower-middle peasants refers to class status and not present economic position. During the period of the democratic revolution and the period of socialist revolution and construction, the poor and lower-middle peasants are the most reliable allies of the proletariat.

**The three big mountains are imperialism, feudalism and bureaucrat-capitalism which weighed down the Chinese people before liberation.

Chun-miao returns to the brigade and sets up a clinic on her own.

SHE is to match her strength against Tu and Chien again in the fight to save Hsiao-lung, brother of the baby who died earlier. When Hsiao-lung comes down with high fever, the brigade phones the commune hospital but Dr. Chien refuses to come and says that Dr. Fang is not in though actually he is.

The only practitioner available in the brigade is Chia Yueh-hsien, a woman Chun-miao describes as a "witch doctor", who gets her supplies of medicine illegally from Dr. Chien. After examining Hsiao-lung, Chia gives him a small package of medicine and charges five yuan. Chun-miao opens the package and finds it is only soda. Chun-miao examines Hsiao-lung and, having learned from Dr. Fang how to diagnose the symptoms, decides it is pneumonia. She writes out a prescription. The commune hospital pharmacy says it cannot be filled because Director Tu has served notice that Chun-miao has no authorization to write prescriptions.

Chun-miao goes into the hills in heavy rain to dig medicinal herbs with which she makes a broth for Hsiao-lung. She keeps an all-night vigil beside him until he is out of danger.

With Chun-miao giving the lead, other brigades in the commune also set up clinics and select young people to train as barefoot doctors. Fang Ming spends his days off giving them instruction. The Party capitalist-roaders are quick to suppress this new socialist thing. Director Tu comes personally to the Hupin brigade clinic, pulls down the signboard and takes away Chun-miao's medical kit.

"You can take away my kit," Chun-miao tells him, "but you cannot stop me from serving the poor and lower-middle peasants." She fills her bamboo basket with medicinal herbs and makes the

rounds of the villages, giving treatment wherever needed. She gets enthusiastic support from the brigade Party branch and the poor and lower-middle peasants.

THE following year the Great Proletarian Cultural Revolution begins. Chun-miao comes to the commune hospital and leads the staff to open fire on the revisionist line. They put up wall posters exposing and criticizing the misdeeds of Director Tu, the capitalist-roader at the hospital. Hoping to divert the attack, Director Tu and Dr. Chien start a training class for the brigade barefoot doctors, offering them cash subsidies and telling them they can leave farm work and become full-time doctors.

Chun-miao and her classmates see through their motive and turn the class into a battleground for exposing and denouncing the revisionist line.

Backed by the hospital staff, Chun-miao and Fang Ming put Uncle Shui-chang in the hospital and start treatment for his back ailment. From a prescription she has learned from an old folk doctor versed in medicinal herbs, Chun-miao prepares a broth. After taking it Uncle Shui-chang suddenly feels pain in his legs which had previously had little feeling. Tu and Chien are not slow to spread the word that Chun-miao's medicine has made him worse.

Chun-miao goes into the hills to find the old folk doctor who had given her the prescription. He tells her that the pain is a sign of improvement. He is not sure, though, whether the dosage can be increased for further treatment. Chun-miao returns and decides to try the bigger dosage herself to see if there is any adverse effect before giving it to Uncle Shui-chang.

Tu and Chien realize that the old man's improvement and possible recovery spell their own doom. Dr. Chien orders a nurse to give an injection to Uncle Shui-chang "to

relieve his pain". Chun-miao arrives to prevent it. Foiled, Dr. Chien throws the ampoule to the ground. Suspecting foul play, Chun-miao picks up the pieces and has them taken to the lab for analysis. Lab tests show the injection to be highly toxic, proof that Dr. Chien was actually trying to murder Uncle Shui-chang and frame Chun-miao. He is seized and taken away. Capitalist-roader Tu, Wen-chieh is denounced.

* * *

THE screenplay is a first attempt by three young writers. Their own experience as activists in the cultural revolution has no doubt helped them to depict the proletariat's struggle against the capitalist-roaders in all its vividness and portray the cultural revolution as a huge crucible for tempering revolutionaries. They stress Tien Chun-miao's fighting spirit, at the same time imbuing her with high political awareness.

Trying to strangle the barefoot doctor idea in its cradle, Director Tu puts all kinds of pressure on Chun-miao, even threatening to block her candidacy for Party membership and later declaring that she is "anti-Party". Chun-miao sees through Tu's tactics. She realizes that he is "a Party member in name only" and actually has become an agent inside the Party for people like Dr. Chien. Tu, Chien and their like represent a revisionist line in the medical field. She comes to realize that the fight against the capitalist-roaders is a life-and-death struggle between the proletariat and the bourgeoisie and throws herself into it even more courageously.

The film's clearcut theme, sharp clash of forces, closely-knit plot and fresh cinematic techniques made it an instant hit. Li Hsiu-ming, the actress who played Chun-miao (p. 39), captivates the audience with her direct, straightforward style and candid expression.

— Wen Pin

Acting a Barefoot Doctor on the Screen

LI HSIU-MING

I WANTED to do a good job of acting Tien Chun-miao, as I was deeply moved by her heroic character. She is a barefoot doctor who serves the people wholeheartedly, a revolutionary fighter who dares to struggle and knows how to struggle. She possesses the revolutionary spirit to go against the tide. As a character she is the incarnation of the militant spirit of the Great Proletarian Cultural Revolution.

Yet when we first rehearsed, I found that I was speaking my lines without feeling. I was worried that the role would never go over. The director of the film said that my real problem was that I didn't understand the poor and lower-middle peasants and suggested I spend some time in the countryside living and working with barefoot doctors.

In the countryside I tried to find people and situations that would help me play the role, but at first I did not do much to relate what I found to my own thinking. Once I went with a barefoot doctor to treat an old poor peasant woman suffering from asthma. As we opened the door the stale air in the room almost drove me out, but my companion went in and asked the woman warmly about her health, washed her face and hands and then emptied the night pot and spittoon.

"She's just like my own daughter," the old woman said to me with tears in her eyes. I was deeply moved. My own attitude showed that my socialist consciousness lagged far behind that barefoot doctor's. I lacked working-class solicitude for the poor and lower-middle peasants.

THE STORY of the film takes place in the water country



south of the Yangtze River and Chun-miao works in the fields in addition to giving medical treatment. I had grown up in the city and had only recently left middle school. I found I had to learn how to do farm work and things like carrying water on a shoulder pole and sculling a boat. My shoulder became sore and my hands blistered but I persisted. The first time I tried sculling a boat it capsized and I fell into the river, so two girls were sent to teach me.

To act a heroine, I thought, I must try to be like one. Chun-miao had overcome all kinds of difficulties including lack of sufficient education and oppression from the class enemy in order to become a barefoot doctor. I decided if she could do that I could learn to scull a boat.

One day we noticed that peasants on passing boats no longer stared at me. They took me as a

local girl. "Hsiu-ming, you have finished your apprenticeship," my teachers said. How happy I was to have made the change!

There is a scene in which hospital director Tu Wen-chieh and Dr. Chien Chi-jen, the head physician, declare that Chun-miao will never learn to be a doctor. Arguing with them, Chun-miao holds up her hands and delivers some of the key lines of the film on how the hands of the working people are remaking the world. During rehearsal when I saw how white and smooth my hands were I had felt ashamed. But now after working in the countryside my hands had become strong and callused. I felt I could carry the scene.

IT WAS a profound education going from door to door with the barefoot doctors. I will never forget meeting Wang Kuei-chen, a barefoot doctor at the Chiangchen

commune in Chuansha county outside Shanghai. I had heard many moving stories about her and knew that she had attended a health conference abroad. I imagined that she must be quite a talker. About 10 o'clock a robust, plainly-dressed woman with braids to her shoulders, looking just like any other village woman, came in. I was surprised to learn that this was Wang Kuei-chen, for she was so simple, warm and straightforward. Then I realized that I had not really understood Chun-miao's character.

In the past whenever I acted a heroine I would hold my head and chest high. In real life, however, I found heroes most unassuming because they are deeply rooted among the masses. Wang Kuei-chen revealed to me Chun-miao's earthiness. She should be like a young bamboo, straight and firm and full of vitality.

AT FIRST I could not put much emotion into the scene in which she drinks the herbal brew. Then I met a barefoot doctor who just like Chun-miao had tested herbal medicines and tried acupuncture on himself in order to find a cure for an old poor peasant. His selfless devotion to the people moved me deeply. From then on whenever I did this scene I saw this barefoot doctor in my mind's eye. I tried to feel as he did toward the poor peasants.

The story of the film takes place in the turbulent days of the proletarian cultural revolution. When it began I was still in grade school so I had a rather hazy understanding of this great movement and found that this was one of the sources of my difficulties. In the film Tu Wen-chieh comes to her clinic and closes it. Later when she is returning from collecting medicinal herbs she meets the boy Hsiao-lung, who tells her that Tu has taken away her medical kit too.

I had originally planned to show Chun-miao downhearted at being so wronged, with tears welling up in her eyes. She was to pick up Hsiao-lung who was to wipe away her tears. But with a better understanding of the cultural revolution gained from the peasants I realized I had not grasped the spirit of this scene.

At a forum of barefoot doctors one told me that before the cultural revolution when the bourgeois types following a revisionist line controlled medical work, in his brigade a doctor could charge one yuan for a home call in the evening. This caused some doctors to even purposely postpone their calls until evening just to collect. The poor and lower-middle peasants were very angry. They set up their own clinic and trained barefoot doctors, but the commune hospital's capitalist roaders, supported by their superiors, said it was illegal and closed it.

After the proletarian cultural revolution shattered the two bourgeois headquarters of Liu Shao-chi and Lin Piao the poor and lower-middle peasants took back power in local medical work. All over the country under Chairman Mao's revolutionary line rural communes began to train barefoot doctors, who have won high praise from the commune members. This helped me see why the cultural revolution was necessary.

I saw that by making Chun-miao cry I had been expressing my own feeling instead of Chun-miao's and

was distorting her character. Now when Chun-miao hears Hsiao-lung's words she smiles with tears in her eyes but goes right on to say, "Hsiao-lung, I'll tell you the story of Dr. Bethune." She draws inspiration from Dr. Bethune's communist spirit of complete selflessness. Instead of being downhearted she remains determined to serve these poor and lower-middle peasants who show concern for her, and is confident of victory.

I am a new member of the Tientsin Modern Drama Troupe and only 21. I have not had much acting experience and even less of film work. I don't think my success in the role of Chun-miao is due to any special inspiration or natural gift on my part but because of the guidance I received from the Communist Party and the help of the poor and lower-middle peasants and members of our film-making group. I have learned that to portray workers, peasants and soldiers well and to create artistic images that they love, an actor must plunge into the heat of struggle and get to know and love the workers, peasants and soldiers.

Answers to LANGUAGE CORNER Exercises

- (1) 那些花被姐姐拿去了。
 - (2) 孩子们让熊猫逗得哈哈大笑。
 - (3) 从前颐和园被侵略者烧毁过一次。
- (1) 邮递员把包裹通知单交给了收件人。
 - (2) 船让他划到对岸去了。
 - (3) 他把那些画报送给朋友了。

3. Here are some of the more frequently-used characters you may have chosen with the given radicals.

| | |
|-------------|------------|
| 艹 (花) huā | 宀 (字) zì |
| 艹 (笑) xiào | 冫 (写) xiě |
| 欠 (欢) huān | 礻 (社) shè |
| 女 (政) zhèng | 礻 (被) bèi |
| 亠 (次) cì | 月 (朋) péng |
| 冫 (洗) xǐ | 日 (明) míng |
| 广 (庆) qìng | 田 (思) sī |
| 疒 (病) bìng | 由 (邮) yóu |
| 亻 (你) nǐ | 辶 (这) zhè |
| 犭 (很) hěn | 又 (建) jiàn |
| 扌 (报) bào | 贝 (员) yuán |
| 木 (椅) yǐ | 见 (现) xiàn |



Veteran and young workers in an analysis session to ensure safe operation.

Running a Power Plant by Relying on the Workers

Staff Reporter

THE WORKERS at the Shih-chingshan Power Plant in Peking have been working with greater energy and drive ever since the proletarian cultural revolution began. They have tripled capacity since 1966 and labor productivity is 17 times that at liberation. This is the result of big changes in the plant's management system and, even more, of the improved relationships between people. The key is that the workers are the real masters of the plant.

Changes at Liberation

For 30 years before liberation the imperialists and bureaucrat-capitalists controlled the plant. Total generating capacity reached only 55 megawatts and actual output never came to half that figure. In those dark years the workers carried on a ceaseless struggle against these oppressors. In 1949

just before liberation they organized a committee to protect the plant and were able to keep its equipment from being destroyed by the withdrawing Kuomintang troops.

When the city was liberated representatives from the People's Liberation Army took over the plant. These officers-turned-factory leaders had no experience in running a power plant. But they knew that they had fought a war by relying on the masses. So they began by working right among the plant's workers, consulting them on all problems and sharing a common aim — to produce power for socialism. There were no auditoriums or meeting rooms. For a meeting, leaders and workers sat down on the ground together, each taking off a cloth shoe to sit on. It was a close comradesly relationship that fostered deep proletarian feelings.

Not all the Peking-Tientsin area had yet been liberated. Blocks in transportation prevented coal from coming in regularly. When the leaders took the problem to the masses, the workers told them there must be coal buried in the earth accumulated over decades in the coalyard. The entire plant, including wives and children, turned out in sub-zero weather to dig for it. In a short time they recovered 3,000 tons.

Next the leaders mobilized the workers and staff for a careful inspection of all equipment. This eliminated 2,100 potential causes of trouble. Proud to be able to keep the capital lit up at night, the workers said, "Before this we worked for the bureaucrats and capitalists. Now we do it for our own people." Masters of their house for the first time, in just three years they turned a rundown plant into a smooth-running one.



Chao Chiang (seated), head of the revolutionary committee, joins workers and technicians in discussing improvement of computer control.

Interference and Resistance

In the mid-fifties Liu Shao-chi, trying to restore capitalism in China, pushed a revisionist line. Everything was copied from foreign countries. Technique came first, specialists ran plants and workers' enthusiasm was stimulated by material incentives. The new socialist relations of production broke down.

In the power plant a clear line began to be drawn between leaders and workers. The plant director and chief engineer held supreme authority. The director's words were law, even if they were wrong. The workers were not supposed to criticize. Leaders very seldom appeared among the workers, much less consult them. Their only advisers were a few specialists. The veteran workers were angry. "We keep house and they're the masters," they said.

The leaders tried to stimulate production enthusiasm with material incentives. They handed out more than thirty kinds of bonuses for safety records, rationalization proposals, good fulfilment of master-apprentice contracts, etc.

Material incentives had a corrosive influence and did much to sap the vitality of the spirit of the working class. People racked their brains to come up with "rationalization proposals" so they could win bonuses. For example, bonuses were handed out several times for moving the coal grinder, each time to a more "rational" place and eventually even back to the

original place! Monthly meetings were held to discuss and recommend bonus receivers, and sometimes unpleasant arguments led to strained relations between fellow workers.

Material incentives also kept workers from using their initiative. Once a worker had time on his hands when the generator he was in charge of was not running. He noticed that the man at the next generator was having trouble closing the main valve of the steam turbine and went over to help him. He was criticized for "leaving his post" and had his bonus taken away.

In the rectification and anti-Rightist movements of 1957 the workers put up a large number of wall posters criticizing the revisionist line. The bourgeois idea that money is omnipotent came under heavy fire. The plant Party committee organized meetings where veteran workers compared life in the old society with the present. Moved to a deeper love for socialism, the workers and cadres agreed to cutting out 18 kinds of irrational benefits.

In 1958 Chairman Mao put forth the general line of **"going all out, aiming high and achieving greater, faster, better and more economical results in building socialism"**. The response led to a big leap forward in industry and agriculture. The socialist relationship of equality and mutual help again became the style of work. When there was difficulty in one place, help came in from all sides. Early in 1960 the Soviet social-imperialists broke their contracts with China and recalled their specialists. Intimidated, Liu Shao-chi called for drastic cuts in economic construction. A new power station at Shihchingshan was one of the Soviet-aided projects to be scrapped. The plant resisted. "We can do without Soviet specialists and build a better one ourselves," the workers said.

The leaders and workers immediately began the new station, Kao-ching, on their own. Every evening, joined by their wives and teenage children, they helped construction crews move materials. In 12 months they unloaded 30,000 tons of cement, 7,000 cubic meters of lumber and huge quantities of other construction materials. The

new station was ready toward the end of the same year.

In the face of the social-imperialist sabotage and bad weather conditions in many parts of the country, Liu Shao-chi again pushed a revisionist line, putting profit first. He called this "running socialist enterprises with economic methods". Revisionism again interfered with the socialist growth of the Shihchingshan Power Plant.

Setting the Line Right

The cultural revolution begun in 1966 and the movement to criticize Lin Piao and Confucius which followed, all started and led by Chairman Mao, destroyed the two bourgeois headquarters of Liu Shao-chi and Lin Piao. The plant's workers, taking class struggle as the key link, repudiated their revisionist lines. They criticized some of the plant's leaders for carrying out the revisionist lines.

To Lu Tseng-chih, a worker who had become secretary of the plant Party committee, another veteran worker said, "We are old comrades-in-arms and we used to work side by side in the coalyard. Now I hardly ever see you there. You're putting on airs. You ought to know that the workers are criticizing you not because they hate *you* but because they hate the revisionist line."

This set Lu and the other leaders thinking. Reviewing their work they saw the results of following two different lines in managing the plant. One was represented by Chairman Mao who taught that **"political work is the life-blood of all economic work. This is particularly true at a time when the social and economic system is undergoing fundamental change"** and **"we must wholeheartedly rely on the working class"**. The other was a line putting profit above everything, using material incentives, relying on specialists to run the plant and keeping the workers under strict control. They realized that choosing the road the plant should take was actually a struggle between Chairman Mao's revolutionary line and the revisionist line in industrial management. Only under the revolutionary line can the working class become the real masters of their own house

and bring about fast growth in every aspect of work.

In the cultural revolution new leading groups in the Party committee and revolutionary committee were set up according to the principle of combining the old, middle-aged and young. Outstanding workers came into the leading groups at all levels. Cadres taking part in labor and workers taking part in management became a system.

Workers as Masters

Toward the end of 1973 higher authorities wanted the plant to put a new station's generating unit into operation and also install another 100-megawatt generating unit in its Kaoching station — all within a year. The schedule was tight and there wasn't enough manpower. The plant's Party secretary lost a lot of sleep trying to think of a way out.

The Party committee called an enlarged meeting, inviting more than a hundred workers. After the secretary explained the situation and task, everyone became excited.

It is a good thing that industry and agriculture are demanding more electricity, they said. Look at the way the Taching oil workers exploded the China-is-poor-in-oil myth and helped make the country self-sufficient in oil in a short time. We should start on this task in the same spirit!

Word of the enlarged meeting spread quickly. Many sections sent in requests to work on the construction. Workers and cadres, again joined by their families, gave their spare time to clearing the worksite and finished it in a week.

Under the revisionist line, those in production and those in construction often opposed each other, each trying to find fault with the other. This time all the workers had one aim. Operating crews helped attend to maintenance while maintenance crews helped with construction. This spirit of mutual-aid had the firm backing of the plant leadership. Plant staff and workers took on more than 20 installation jobs for the Kaoching station's No. 5 unit. In spite of the difficulty of meeting the deadline,

Worker-representatives discuss a leap-forward plan.



A new power station near completion.

the new station began operating on time.

Construction of the No. 6 generating unit followed. This time the plant sent one-fourth of its regular operational workers to tackle 40 installation jobs. An operational steel platform was a key part of the project, but the construction crews couldn't spare men for the installation. Plant leaders gave the job to the boiler maintenance crew. Lacking a heavy hoist, the crew moved the 3-ton beams with pulleys. When the crane boom couldn't swing into position, everybody pitched in to ease the beams onto the steel legs. Concerted effort finished 15 days' work in four.

The introduction of computer control for a 100-megawatt generating unit was another lesson for the leaders in the significance of wholehearted reliance on the working class. Before the cultural revolution experiments to introduce computer control had not been successful. More than a hun-

dred engineers and technicians from 30 work units took part. But instead of having them work in cooperation with workers, the leaders let them experiment by themselves. As time dragged on and many technical problems remained unsolved, one by one these people left. Eventually only a dozen people of the station's own computer group were left.

During the cultural revolution the masses criticized the revisionist line of reliance on a small number of "experts". The project was proposed again in 1972. Under the new Party committee, formed the year before, the workers discussed what Chairman Mao's words meant for the plant: "**The Chinese people have high aspirations, they have ability, and they will certainly catch up with and surpass advanced world levels in the not too distant future.**" They decided that nothing would stop them from introducing computer control.

A three-way cooperation group of workers, cadres and technical personnel was formed. Assisted by other units, several hundred experiments over three years produced an amplifier resistant to common mode interference which solved the long-standing problem of magnetic fields interfering with the computer's input signals. Then, on the suggestion of some workers, the group abandoned the method of writing the control program based on a model obtained by mathematical analysis, and based it instead on the practical experience of the operators. The computer has been partially controlling a 100-megawatt steam-driven turbogenerator and its 410-ton coal-fired boiler safely and efficiently for over a year.

Now before taking important decisions, the plant's Party committee invites workers to enlarged Party committee meetings or holds general workers' representatives meetings—an effective way to have workers help the committee keep to the correct orientation and line.

In 1972 a small number of workers, influenced by bourgeois thinking, began to think more of better living than they did of work. A few leaders brought up the idea of encouraging production enthusiasm with gifts and even worked out a

plan for it. Then the Party committee put the matter before a meeting of workers' representatives for final decision. It evoked a heated discussion and caustic criticism of revisionism: "We workers are not doing our job for awards, but for socialism!" "You can't buy socialist enthusiasm!"

By participating in actual struggle, the workers have become increasingly able to recognize various forms of the revisionist line. At present, under the leadership of the plant Party committee, with wall posters and newspapers, study and discussion, they are criticizing the revisionist line of Teng Hsiao-ping, the unrepentant capitalist-roader in the Party who tried to negate the cultural revolution (see *article on p. 2*).

Ideological Education

In the entire historical period of socialism there will still be classes and class struggle, and for a long time bourgeois thinking will continue to be a corrosive influence on the working class. Realizing this, the new plant Party committee instituted the system of 12 hours of political study a week. All leading members of the Party committee and revolutionary committee study Marxism-Leninism and Chairman Mao's writings.

One of these is Wang Kuo-chen, a veteran worker and vice-chairman of the revolutionary committee. He did not have many years of schooling and is not in very good health. But he persists in study every evening. When his wife tries to make him go to bed early he says, "Of course good health is important in making revolution, but how am I going to do more for the revolution if I don't know much about revolutionary theory?"

The Party committee devotes just as much effort to organizing the masses in theoretical study. They knew that only workers who have mastered Marxism-Leninism-Mao Tsetung Thought can become masters of their own house and help the leaders keep to Chairman Mao's revolutionary line and steer the plant in the socialist direction. Theoretical study groups, about 10 percent of all workers, have been formed in every shop. There are in addition about a hundred spare-

time groups for the study of Marxism-Leninism. The workers throughout the plant are developing a deep urge to master revolutionary theory.

Liu Tsen, for example, a Party member and veteran worker, lost his hearing after an illness and also has serious eye trouble. But every night, with the help of a magnifying glass, he studies Marxist-Leninist works and Chairman Mao's writings. "Without theory we won't be able to keep to the correct orientation and line in complex class struggles," he said. Urged to rest more, he replied, "I'm a Party member and want to serve the people to the best of my ability. The other comrades are contributing their part to building socialism. Let me do it in my small way."

Unable to resist his repeated requests to let him go back to work, the leaders gave him a job helping with environmental sanitation. He is always trying to do more.

The plant Party committee gives special attention to the political and ideological education of young workers. Visits, exhibitions and studies on class struggle are among the ways used to help deepen their political awareness. A while ago a young worker at the coal yard grew restless about his job, feeling there was no future in unloading coal. He got more and more depressed. The Party suggested some readings in Chairman Mao's works. Then it asked the young man's mother to give a talk at the coal yard about the terrible life his pedicab-driver father led in the old society. Shaken, the young man realized that in not wanting to be a coal dumper he had forgotten his class origin. That night he wrote a letter expressing his determination to be a better coal dumper. Last year he was cited as an advanced worker.

Good ideological and political education has led to the emergence of many outstanding individuals and collectives in the plant. Last year 400 men and women were cited by their fellow workers for good work and 14 were given the title of pacesetter. Class-conscious workers with revolutionary drive are making Peking's Shihchingshan Power Plant a topflight socialist unit.

After going back to work, electric welder Li Hung-pin demonstrates welding using his left hand in a follow-up examination by Dr. Chen Chung-wei (second left).



Free Muscle Transplant —A New Surgical Technique

THE orthopedic department of the Shanghai No. 6 People's Hospital has carried out a free muscle transplant for Li Hung-pin, a young worker, restoring the function of his left hand. This is a new development in the use of microsurgery and another contribution to the replantation of severed limbs by Chinese doctors.

Li Hung-pin is an electric welder at a farm machinery plant in the Sinkiang Uighur Autonomous Region. An accident in June 1972 broke his left forearm. Improper application of the cast damaged muscles and left the wrist and fingers stiff.

A year later Li Hung-pin entered the Shanghai hospital. Scars on the palm side of the left forearm indicated extensive muscle damage due to lack of circulation. Restoring function with a tendon transplant would be difficult. The best method would be a muscle transplant.

A free muscle transplant involves cutting out a muscle, along with its nerves and blood vessels,

and transplanting it in place of the damaged muscle, using microsurgery to join the nerves and small blood vessels. This is a new method of restoring function to replanted limbs and in other cases where muscles have been damaged by disease or injury.

The operation is exacting, but the doctors were determined to restore the function of Li Hung-pin's left forearm so that he could continue working to build socialism.

Led by the hospital Party organization, the doctors carefully worked out the plan for the operation. They decided to use part of the greater pectoral muscle from the chest to replace the flexor muscle group in the forearm. Each step of the operation was thoroughly discussed.

The operation was performed on July 21, 1973. Dr. Chen Chung-wei, head of the orthopedic department, opened the patient's left forearm, carefully freed the blood vessels and nerves of the damaged muscle group and cut it out. Then

he opened the patient's left chest, freed a portion of the greater pectoral muscle bit by bit, cut the ends of the muscle, and moved it along with its blood vessels and nerves to the left forearm. Working intently under a microscope, he used nylon sutures only a third the thickness of a human hair to join the nerves, veins and arteries. Under traditional Chinese drug anesthesia, the patient remained calm throughout the 10-hour operation.

With a period of postoperative care, circulation in the patient's arm was good. There was no swelling or infection. The incision healed well. An electromyogram examination three months later showed that the muscle was alive and the nerves had started regenerating. After six months Li Hung-pin could bend his wrist and fingers. Before long he went back to work.

THE successful free muscle transplant was based on much research and experimentation by the personnel of the hospital's Research

Laboratory for Replantation of Severed Limbs.

Once Dr. Chen Chung-wei was called in as a consultant on a case involving a replanted but immobile hand. "Wouldn't it be wonderful," he thought, "if we could replace the dead muscles with live ones." He proposed doing research on free muscle transplants as a method of restoring the function of replanted limbs. With support from the Party organization, he and others in the laboratory began experiments in 1972.

Muscles have different lengths and a complex distribution of blood vessels and nerves. The muscles chosen for transplants should have the right length and sufficient contractive strength. The blood vessels and nerves should be relatively concentrated and the caliber and direction of the blood vessels should be similar to those of the muscle replaced. Removing

the muscles should not basically impair the health or function of the rest of the body.

In their research the medical personnel performed many animal experiments. They used a dog's greater pectoral muscle or straight thigh muscle to replace the inner muscle group of its foreleg. The experiments failed at first but later began to succeed. In this way the medical personnel found the theoretical basis and acquired the skill needed for clinical use.

Recently the Shanghai No. 6 People's Hospital asked Li Hung-pin to come from Sinkiang for a follow-up examination. He was happy to show the doctors what he could do with his left hand. He lifted a five-kilogram weight and picked up a thermos and poured water into a cup. Then he picked up a welding torch in his right hand and a welding rod in his left and, sparks flying, welded a

straight seam on a steel plate. He told the doctors he'd been working for over a year. Before the operation, he had sharp pain in his left forearm when it rained but this has stopped.

In 1963 the Shanghai No. 6 People's Hospital successfully replanted a worker's severed hand, a new achievement in our medical science. Guided by Chairman Mao's proletarian revolutionary line, they continued to make progress. From replanting severed limbs they went on to the far more difficult task of replanting severed fingers. They have successfully replanted carefully preserved limbs detached for as long as 36 hours, as well as mangled hands. They have also replaced a patient's thumb with a toe. After the successful free muscle transplant, they are now summing up experience and preparing to scale new heights in medical science.

STAMPS OF NEW CHINA

Children of New China

THE Ministry of Posts and Telecommunications of the People's Republic of China issued a special set of five stamps depicting the children of new China on December 1, 1975. The set reflects the vigorous moral, intellectual and physical development of Chinese children who are nurtured by Mao Tsetung Thought and

loved and cared for by Chairman Mao and the Communist Party of China.

Stamp 1. A new recruit to the Little Red Guards receives a red scarf, which denotes membership in this organization. Magenta, vermilion, salmon, turquoise-blue, light blue and black.

Stamp 2. Children use songs in the current mass revolutionary struggle. A boy writes on the wall newspaper, "I Battle with a Song" while a girl prepares to paste up the characters meaning, "Criticize Lin Piao and Confucius". Salmon, green, vermilion, light blue and black.

Stamp 3. Two pupils review their lessons. While a boy with a textbook looks on, a girl writes in large characters,

"Study well and make progress every day", a quotation from Chairman Mao. Magenta, brown, blue-green, indigo and black.

Stamp 4. With love for labor, a boy and a girl glean a wheat field. Lemon, salmon, vermilion, purple, scarlet and black.

The above four stamps are all of 8 fen denomination.

Stamp 5, 52 fen. Stressing physical fitness, children compete in a tug-of-war. Yellow-green, bright blue, vermilion, lilac and black.

All stamps measure 31 x 38.5 mm., perf. 11.5. Photogravured. Serial numbers: T14 (5-1 to 5-5).



Lesson 18

一件小事
Yi Jiàn Xiǎo Shì
A Small Matter

解放军 某部 一连 战士
Jiěfàngjūn mǒu bù yī lián zhànshì
Liberation Army a certain unit First Company soldiers

野营 训练 来到 红星 生产队。
yěyíng xùnlìan láidào Hóngxīng shēngchǎnduì.
field training came (to) Red Star production team.

当时 天气 干旱, 他们就帮助社员
Dāngshí tiānqì gānhàn, tāmen jiù bāngzhu shèyuán-
At that time weather (was) dry, they helped commune

们 抗旱。一天, 连长 从
men kàng hàn. Yītiān, liánzhǎng cóng
members resist drought. One day, company commander from

贫农 张大娘家 借了两个水罐, 在
pínóng Zhāng dàniáng jiā jièle liǎng ge shuǐguǎn, zài
poor peasant Zhang Aunt's home borrowed two water jars. At

劳动中, 一个水罐被六班长
láodòng zhōng, yí ge shuǐguǎn bèi liù bānzhǎng
working middle, one water jar (was by) Sixth Squad leader

不小心打破了。当天晚上, 他就买了
bù xiǎoxīn dápòle. Dāngtiān wǎnshàng, tā jiù mǎile
(due to) carelessness broken. That day's evening, he bought

一个水罐, 还给大娘。第一次
yí ge shuǐguǎn, huángěi dàniáng. Dìyī cì
a water jar (and) returned (to) Aunt. The first time (it was)

送去, 大娘叫小孙子送了回来。第二
sòngqu, dàniáng jiào xiǎo sūnzi sòngle huilai. Dìèr
sent, Aunt asked little grandson (to) bring back. (The) second

次刚送去不久, 就有人来
cì gāng sòngqu bù jiǔ, jiù yǒu rén lái
time just (was) sent not long, then had person come (and)

叫门。
jiào mén.
call (at) door.

六班长开门一看, 还是
Liù bānzhǎng kāi mén yí kàn, hái shì
Sixth Squad leader opened door (and) took a look, still was

那个小朋友。他把水罐放在门
nàge xiǎo péngyou. Tā bǎ shuǐguǎn fàngzài mén-
that little friend. He took water jar putting down at door

口, 笑嘻嘻地说: “奶奶又叫我送
kǒu, xiàoxixīde shuō: “Nǎinai yòu jiào wǒ sòng
entrance, smiling said, “Grandma again told me (to) bring

水罐来了。”
shuǐguǎn lái le.”
water jar come (here).”

“小朋友, 听话, 抱回去跟奶奶
“Xiǎo péngyou, tīng huà, bào huíqù gēn nǎinai
“Little friend, listen to (my) words, carry back to Grandma

说损坏东西要赔。”
shuō sǔnhuài dōngxi yào péi.”
(and) say (that) damaged things must be replaced.”

“不, 奶奶说了, 解放军叔叔帮助
“Bù, nǎinai shuō le, jiěfàngjūn shūshu bāngzhu
“No, Grandma said, Liberation Army uncles help

咱们生产队抗旱, 打破了个水罐
zánmen shēngchǎnduì kàng hàn, dǎpòle ge shuǐguǎn
our production team resist drought, broke a water jar,

不用赔。”说完, 就跑了。
bú yòng péi.” Shuōwán, jiù pǎo le.
no need to replace.” Finished speaking, then ran away.

六班长第三次把水罐送到
Liù bānzhǎng dìsān cì bǎ shuǐguǎn sòngdào
Sixth Squad leader (a) third time took water jar brought to

大娘家, 跟大娘再三说明“损坏
dàniáng jiā, gēn dàniáng zàisān shuōmíng “sǔnhuài
Aunt's home, to Aunt again and again explained, “Damaged

东西要赔”是毛主席的教导, 遵守
dōngxi yào péi” shì Máo zhǔxí de jiàodǎo, zūnshǒu
things must be replaced” is Mao Chairman's teaching. Following

革命纪律是中国人民解放军的
gémìng jìlǜ shì Zhōngguó rénmin jiěfàngjūn de
revolutionary discipline is Chinese People's Liberation Army's

光荣传统。大娘听了, 激动地说:
guāngróng chuántǒng. Dàniáng tīng le, jīdòngde shuō:
glorious tradition. Aunt heard this, (in a) moved (way) said,

“好, 我收下。我要把它保存起来, 经常
“Hǎo, wǒ shōuxià. Wǒ yào bǎ tā bǎocúnqilai, jīngcháng
“Fine, I accept (it). I will it preserve, often

向人们讲讲这个水罐的故事, 让
xiàng rénmen jiǎngjiāng zhège shuǐguǎn de gùshi, ràng dàjiā
to people tell this water jar's story, let everybody

都向解放军学习, 做遵守纪律的
dōu xiàng jiěfàngjūn xuéxí, zuò zūnshǒu jìlǜ de
all from Liberation Army learn, (to) be follow discipline

模范。”
mófàn.”
models.”

Translation

Once soldiers of a People's Liberation Army unit's First Company went to the Red Star production team for field training. The weather was very dry, so they helped the commune members fight the drought. One day the company commander borrowed two water jars from the house of Aunt Zhang, a poor peasant. One of them was broken during the work due to carelessness by the leader of the Sixth Squad. That evening he bought a new jar and returned it to Aunt Zhang. The first time he sent it to her, she asked her grandson to take it back. It was dispatched to her a second time. Before long someone called out at the door.

When the Sixth Squad leader opened the door, there was the child who put down the jar at the entrance. He smiled and said, "Grandma asked me to bring it back again."

"Listen, little friend, take it back to your Grandma and say that damaged things must be replaced."

"No, Grandma said there is no need to replace the broken jar because the PLA uncles are helping our production team fight the drought." With these words, he ran away.

The Sixth Squad leader took the jar to Aunt's house for a third time and explained to her over and over that Chairman Mao teaches that damaged things must be replaced. Revolutionary discipline is one of the glorious traditions of the People's Liberation Army.

When she heard this Aunt Zhang was deeply moved. "Fine, I'll take it, I'll keep it and often tell its story so that everyone can learn from the PLA to be models of discipline."

Notes

1. The passive voice.

There are two ways to create the passive voice in Chinese. One is by connotation, as in **Shōuyīnjī fāngzài zhuōzishàng le** 收音机放在桌子上了 (The radio is placed on the table). **Ni yào de zázhì mǎilái le** 你要的杂志买来了 (The magazine you want has been bought). The subjects 收音机 and 你要的杂志 are acted upon instead of being the active agents.

A second way is to use the preposition **bèi** 被 before the doer of the action. The word order is: object — **bèi** 被 — doer — verb — other element. **Shuǐguǎn bèi liù bānzǎng dǎpò le** 水罐被六班长打破了 (The water jar was broken by the Sixth Squad leader). **Háizimen yào gěi jiěfàngjūn shūshu xǐ yifu, dànshi bèi jiěfàngjūn shūshu zhīdao le** 孩子们要给解放军叔叔洗衣服, 但是被解放军叔叔知道了 (The children wanted to wash the Liberation Army uncles' clothes, but were found out by them).

In speaking, **ràng** 让 or **jiào** 叫 are often used instead of **bèi**. In a sentence when **bèi** is used, the doer can be omitted, but not in the case of **ràng** or **jiào**. We can say, **Shuǐguǎn bèi dǎpò le** 水罐被打破了 (The water jar was broken) but we must say, **Shuǐguǎn ràng liù bānzǎng dǎpò le** 水罐让六班长打破了 (The water jar was broken by the Sixth Squad leader). Sometimes the doer can be represented by **rén** 人 (person), such as in **Tā ràng rén qǐngqù kàn pingpāngqiúsài qu le** 他让人请去看乒乓球赛去了 (He was asked by someone to go to see a table-tennis game).

In the passive voice the verb is usually followed by other elements, and the auxiliary verb or word of negation is placed in front of **bèi**. For example, **Shèyuánmen xiūle shuǐqú, zhuāngjia jiù bú huì bèi hóngshuǐ chōngdǎo le** 社员们修了水渠, 庄稼就不会被洪水冲倒了 (When the commune members build an irrigation channel, crops won't be washed out by floods).

2. The verb **sòng** 送 can mean either to bring or take a thing yourself, or to have someone else take it. It also means to accompany someone to the door, or part of the way. In lesson 17 we had **Qǐng sòng tā qù huàn sān lù qìche** 请送他去换三路汽车 (Please accompany him to the No. 3 bus). Another usage is equivalent to the verbs "give" or "present", as **Wǒ yào sòng gěi nǐ yí jiàn lǐwù** 我要送给你一件礼物 (I want to give you a gift).

3. **Tīng huà** 听话 (listen) is often used when grownups speak to children, but not between grownups. It has the meaning of obedience. For example, a mother says to her child, **Māma qù shàng bān, nǐ tīng huà, zài jiāli wánr** 妈妈去上班, 你听话, 在家里玩儿. (Mama is going to work. You mind and play at home).

Exercises

1. Change the following into passive sentences:

- (1) 姐姐拿去了那些花。
- (2) 熊猫把孩子们逗得哈哈大笑。
- (3) 从前侵略者把颐和园烧毁过一次。

2. Complete the following sentences:

- (1) 邮递员把包裹通知单_____。
- (2) 船让他_____。
- (3) 他把那些画报_____。

3. We have learned that most Chinese characters consist of two or more components. The one at the left or top (most often but not always) of the character is known as the radical. Below write characters learned in previous lessons which have the following radicals, noting the difference in each pair.

| | | | |
|-------|-------|-------|-------|
| 艹 () | 宀 () | 广 () | 田 () |
| 艹 () | 宀 () | 疒 () | 由 () |
| 欠 () | 礻 () | 亻 () | 辶 () |
| 女 () | 礻 () | 亻 () | 又 () |
| 亻 () | 月 () | 扌 () | 贝 () |
| 讠 () | 日 () | 木 () | 见 () |

(Answers on p. 40)



