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TRANSLATIONS FROM "HUNG-CH'I" (RED FLAG)
No 23, 1 December 1959, Peiping

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THE PROBLEM OF BEING "RED" AND "EXPERT"
IS A PROBLEM OF WORLD VIEWPOINT

Pages: 1-6

Hu Sheng

In order to promote our nation's cause of socialist construction, we must have a strong scientific and technical contingent and we must have outstanding scientists, inventors, and other technical experts of a high level of perfection. Our demands on this contingent are that it be both red and expert. The experts needed in socialist construction are experts who have close ties with the worker-peasant masses, who have established the proletarian world viewpoint, and who are capable of grasping modern science and technology. This is the road that all of our experts should travel. Following this road, our scientific and technical ranks in the last ten years have already rapidly grown. Many old experts of the former society have gradually changed their attitude toward the worker-peasant masses, have gradually cast off the bourgeois world viewpoint and have begun to accept the proletarian world viewpoint. A large number of young people in the new society, where they have been led and trained directly by the party, have already made themselves into -- or are now making themselves into -- outstanding specialist personnel. Not a few party cadres, who had participated in the revolution for many years, had been outsiders in matters of natural science and technology. However, in the past few years they have, in line with assignments given by the party, carried out work and study in the fields of science and technology, and after bitter effort, they have begun to attain specialization in certain fields. This is a joyous development. Of course, this group should continue to use the "red and expert" standard to make stern demands on themselves so that they can advance without interruption in the political and construction fields.

The predominance of the younger generation in our scientific and technical ranks will, of course, continue to increase. There will also be more and more specialists in the cause of socialist construction who had been cadres during the long revolutionary struggle. Generally, the burden of the old ideology on the younger generation will be less than it will be on the old experts of the former society; moreover, they have been growing up in the new society, where they are receiving revolutionary indoctrination. Many facts prove, however, that they must solve the red and expert problem and establish a genuine proletarian world viewpoint; they must thoroughly and absolutely without wavering stand on the side of the proletariat and still must exert very great efforts. If the cadres, who had been engaged in revolutionary work for many years, believe that they, in the course of efforts to make themselves into experts or after they have become experts, have already solved the "red" problem and need no longer give attention to this problem, they too will take the erroneous road in the matter of political

ideology. Thus, every expert in science and technology, regardless of how much work he had engaged in the past, must never neglect the basic principle that red and expert must be integrated, and must be vigilant lest he sink into the ideological, mistaken deviation of the so-called "only expert but not red" view.

Comrades, who had been engaged in revolutionary work for many years and who are now engaged in scientific and technical work have made efforts in line with the demand that they be red and expert. This has been true of the great majority. They deeply believe that they themselves are responsible for the serious task which the party might have directed them to undertake; they feel that inasmuch as they have attained fully beneficial conditions under which to acquire a new talent due to the party's suggestion, they must make a considerable effort to complete the task. At a time when they attain success, they are neither arrogant nor self-satisfied; this is so because they are delighted that they are able to advance to even more responsible party tasks. They are also fully aware that the duty of the party member on the scientific and technical fronts is, in addition to one of studying with effort to acquire a new talent, one of becoming the backbone (element) for carrying out the party's line and policy on these two fronts. For, effort in the political field raises them up. They strive to use themselves as the model of a proletarian warrior in order to influence and link up with the men they work with. Moreover, they struggle against all mistaken ideological deviations. This attitude is, of course, completely correct. There is, however, the attitude of a very small minority which is quite in contrast to the foregoing. They believe that after they have attained a few achievements in construction, they can adopt an attitude of independence vis a vis the party and the people; they do not see these achievements as resulting from the training given them by the party and the people. They are arrogant and consider that these achievements belong entirely under their names, doting on and hankering after honor and position. Thus, they divorce red from expert and begin to depart from the correct road of the red and expert proletarian expert.

Why do some comrades travel along this mistaken road? It is clear that comrades who make this mistake and who might have participated in the revolution for many years have not really and thoroughly solved their world viewpoint problem. Bourgeois individualism and bourgeois freedom -- these viewpoints which are the opposites of the proletarian world viewpoint -- have remained deeply hidden in their innermost soul. Inasmuch as this mistaken ideology exists, it will grow as does a poison mushroom under appropriate temperature and humidity conditions. In our society of the transition period, the lively struggle against bourgeois ideology and bourgeois and petty bourgeois habits is a long term task. Bourgeois ideology invades men through various openings and various means; it is easy for men who are not

healthy to fall victim to this invasion. Of course, if they do not engage in scientific and technical work and are active in other fields, their mistakes can likewise grow. It must be pointed out, however, that in the realm of activity of the expert on scientific or technical matters, conditions favorable to the growth of the poisonous mushroom often prevail. Therefore, work in this field -- viewed from the form it takes -- carries with it, to a rather high degree, the character of individual labor, so that in this realm bourgeois traditions exert a considerable influence.

In commenting on the unique characteristic of the intellectuals which stand them against proletarian discipline, Lenin stated that, "The peculiarity of the intellectuals, a special stratum in modern bourgeois society, generally speaking is individualism and an inability to accept discipline and organization;....this characteristic is intimately connected with their everyday living conditions and the means of livelihood akin to those of the petty bourgeoisie (working alone or in very small bodies)." ("One Step Forward, Two Steps Back." Collected Works of Lenin, volume 7, Jen-min Chu-pan She, 1959, first edition, page 256.) Lenin also cited the analysis of the intellectuals made by Kautsky when he was still a Marxist. Kautsky contrasted the mode of life of the intellectual with that of the proletariat. He stated that, "While the proletariat is still a solitary, isolated entity, he has no power. His full power, the full capability toward which he advances, and all his hopes and wishes all stem from organization, from the planned and joint activity which he participates in with his comrades. As he becomes a part of a larger organism, which is great and powerful, he feels that he himself is great and powerful." However, "The intellectual is not like this at all. He does not use physical force to carry out his struggle; he uses argumentation to carry out his struggles. His weapon is the knowledge he possesses as an individual, and the confidence he has as an individual." (Collected Works of Lenin, page 316.) Lenin and Kautsky -- during the latter's Marxist days -- were commenting on intellectuals of the capitalist society. The goal of "struggle" of these intellectuals actually was only for the individual; accordingly, they used their individual knowledge and ability as their weapons. It is quite clear that ideologically these intellectuals are following the capitalist class. Until their thoughts have been remoulded thoroughly, they will inevitably clash with proletarian discipline and socialist collectivism.

In our socialist society, the working conditions of scientists and technical experts, which have been collectivized and led toward establishing ties with the masses, are already different from working conditions of the former society. This difference clearly corresponds to the law of development of science and technology. For, any scientific discovery, superficially viewed, appears to be the result

of the research of one person. Actually, however, the result of considerable previous research (including the experiences of failures) has prepared the way. All scientific knowledge, moreover, basically speaking, has originated from the practice of labor and production of the popular masses as well as from the practice of the class struggle. At the same time, of greater importance, the socialist society sets a glorious goal of struggle for all intellectuals, simultaneously placing before their eyes the work they must do and the mighty goal. That is, the goal of struggling for the interests of the vast majority of the people and for the victory of socialism and communism. When an intellectual genuinely establishes the Communist world viewpoint, he will feel that regardless of his many talents, he is nevertheless one warrior among the vast populace engaged in a great struggle under the leadership of the party. That is, he is similar to a single cog in a machine, as the saying goes. From one point of view, this cog could not accomplish even one thing if it were separated from the machine. There is, therefore, no value to any self-praise as a cog. From another point of view, however, it is neither small nor insignificant inasmuch as it is an element belonging to a machine (organism) of tremendous life force.

If, however, one does not genuinely establish the Communist world outlook, it will be difficult for him to resist the force of habit left over from bourgeois society in his scientific and technical endeavors. The goal of the struggle in his mind's eye will be little more than a matter of individual interests and when he meets with success in scientific or technical work, he will raise high his tailfeathers. He will feel that due to his "own" knowledge and ability, he has already attained an "independent" position. His individual effort in scientific and technical work was a matter of doing the best to attain honor and position for himself. He will by then have forgotten that his abilities acquired in study were a result of the party's training and the opportunity provided for him by society. He will be as ungrateful as Liu Chieh-mei, who was born a poor peasant but rose to enjoy a prosperous life as a result of the revolution and who grumbled about party leadership, party discipline, and the party policy of developing scientific and technical endeavors -- all of which were "injurious" to his "development."

Although a very small minority of our comrades have suffered from such an infusion into their minds of the bourgeois ideological sickness, all comrades in scientific and technical work should view this as a solemn lesson.

What conclusion do we draw from all this? The conclusion is not that we should avoid becoming experts and keep at a distance the work of the scientific and technical expert because it is a "dangerous assignment." The conclusion merely is that at all times and under

all conditions we should support the proletarian world viewpoint, prevent the return to our minds of any bourgeois world viewpoint, advance resolutely along the red-and-expert road called for by the party, and firmly reject any false theories concerning striking out on the only-expert-but-not-red road.

"I am already red; the only question now is that of becoming expert." This remark is actually a demand for only-expert-but-not-red.

Many party cadres, having been given a task by the party, work diligently and become good experts in various fields. This does not mean, however, that they need no longer give attention to the matter of raising their political level or strengthening their personal proletarian world viewpoint. What is the proletarian world viewpoint we are to establish? A world viewpoint is a basic outlook which concerns all things. All things under all conditions must be treated by us by recourse to the proletarian outlook. That is, we must not waver when objective surroundings are different and we must not change because our individual situation has changed. This will be true when we are in a favorable position or when we are hard-pressed, when we are in the fervent mass struggle or in the quiet laboratory, when we have buried our heads in our work and act as "nobody's" or when we receive recognition from society for our achievements.... This we referred to as the true establishment of the proletarian world viewpoint. In order to attain this outlook, we must continue to be steeled and wrought. Following the transformation of the conditions in the whole society (for example, the change from the historical stage of the democratic revolution to the stage of the socialist revolution) and following the transformation of the circumstances of the individual (for example, turning from one line of work to another line, from work in which results have not yet been attained to work in which results have been attained), it is particularly necessary that we do not become divorced from the proletarian world viewpoint. Not long after the liberation of the entire country, Comrade Mao Tse-tung pointed out that having gone through the "pass of struggle," we must still do a good job in going through the "pass of land reform" and the "pass of socialism." This is a comment on the major aspects. It can also be said that during one's lifetime devoted to the revolution, one must go through many "passes." If men rely on the Marxist-Leninist world viewpoint, they will be able to go through each "pass" without difficulty. Some may do well in crossing one pass, but not so well in crossing the next. For example, some did well in crossing the "pass of land reform" but not so well in crossing the "pass of socialism." They did well in the "pass of defeat" but not so well in the "pass of achievement," and so on. It was not that they did not apply the proletarian world outlook in crossing the next pass; the problem lay in their view that inasmuch as this "pass"

has been crossed in good style, the question of "red" has been solved, and consequently they divorced themselves from the proletarian world outlook. Those who did not do so well in crossing the "pass" and who subsequently were not vigilant have come to find the next "pass" even more dangerous.

There are no absolutely blank areas or realms in questions pertaining to politics and ideology. The ground that is not occupied by the proletarian world viewpoint will be occupied by the bourgeois world viewpoint. "I am already read" and "I need no longer give attention to the question of red-or-not-red" -- this is a step in the direction of the bourgeois world outlook and opens the door to it.

"Inasmuch as the 'expert' task is so urgent, if the 'red' question is again raised, it will be injurious to the expert task" -- this is the stale, old tune used in the "only-expert-but-not-red" apology.

Expert tasks are very urgent, but since we want to accomplish them in a faster and better way, we must strengthen the "red." The view that "red" will damage the "expert" is entirely incorrect.

Non-red experts there surely are; they embrace the bourgeois world viewpoint and they serve the bourgeoisie. If the proletariat must, it too can hire these experts but under simple, clear-cut conditions and with no trouble-making permitted. Of course, we must also make a great effort to assist them in transforming themselves. If they are resolved not to change their bourgeois world viewpoint and even continue to stand on the side of the bourgeoisie, they will not be able to work with heart and mind for the people and cannot gain the trust of the people.

Many non-red experts are produced in the capitalist society and they may be dissatisfied with this or that aspect of the society. Generally speaking, however, their world viewpoint is identical with the ruling ideology of that society. It is therefore an easy matter for them to grow, like fish in water. In our society, however, it is increasingly difficult to be non-red and, at the same time, become an expert. This is true not only because society opposes such experts and will not train them, but also because a person who has embraced the bourgeois world viewpoint and is unwilling to reject it will inevitably find that he is repulsed -- as something incongruous -- in regard to all aspects of socialism. His strivings for an individual goal cannot be satisfied in this society. He will be unwilling, naturally, to expend great effort in seeking expertness because his world viewpoint will serve as a means to inform him that expending great effort is not "worth it" under such conditions.

In our society, what force is it that propels men in scientific and technical endeavors to be brave when confronted with difficulties and spurs them on? What force makes them so exert themselves in the ascent that while the scientific and technological peak has not been reached, they absolutely refuse to stop halfway? This force is the resolute will to build a mighty socialist nation and to move on to the construction of Communism. This force is the lofty desire to serve the interests of the absolute majority of the people and stems from the proletarian world viewpoint. It is difficult to know how much more lofty this force is than the motive of individual interest. In our society, if a person divorces himself from this force, his determination can only slip back, his spirits will drop, and he will be unable to talk about making an effort to become expert.

Is it possible that the facts are not exactly as we have stated them? These persons, who have attained a bit of success and position in the course of their undertakings, who strive for power, and who are not satisfied with this or that will not only find that their bit of "red" has vanished, but also that they have come to the end of their rope as an "expert" despite their belief that they possess "expert capital." Inasmuch as the cut of their entire brain is one tailored for calculating individual interests, where can there be room for advancing science? If they do not return their political strings, they will make no advances in the "expert" field. We need say nothing further on this point.

"After all, we are experts inside the party and are somewhat loftier and intelligent than those who are outside the party" -- these are the words of some people.

A true expert in the party, in grasping the proletarian world viewpoint, in carrying out party policy, and in comprehending the direction outlined by the party leaders, should be loftier and more intelligent than a non-member of the party. He should, moreover, become the backbone and core of the party as it leads scientific and technical undertakings. If these key points are lost, in what way will he be loftier and more intelligent than a non-member?

Some non-members, as a result of their acceptance of party leadership, their raising of their political consciousness, and acceptance of the proletarian world viewpoint can change over and become proletarian experts. Moreover, some so-called "experts inside the party" can be separated from the party as a result of ideological backsliding. Is this not a dialectical law of actual life?

The party cannot permit certain non-party experts whose bourgeois world viewpoint is firm to monopolize or control scientific and technological undertakings. At the same time,

the party also cannot permit so-called "experts in the party", whose bourgeois world viewpoint is also firm, to monopolize scientific and technological undertakings.

"Scientific and technological undertakings are specialized matters for the expert; the party cannot lead in these cases" -- this will dissolve party leadership, divorce scientific and technological undertakings from proletarian politics and from socialism, and will separate "expert" from "red."

The party is able to lead all undertakings and is able to lead scientific and technical undertakings as well. Party leadership ensures that our scientific and technical undertakings will serve the cause of socialism and will become an important part of all socialist undertakings. It also ensures that our scientific and technological cause will be able to develop faster and better along the socialist road than under the capitalist system. How can party leadership be dissolved? In the mind's eye of people who oppose party leadership, there not only is not socialism, but also there is really no view of the scientific and technological cause either. Some are concerned only with individual interests. Their views which stem from individual interests are entirely and basically incompatible with party leadership and socialism. The call for only-red-but-not-expert inevitably must lead to opposition to the party's leadership role, fully proving that this call is extremely damaging to the development of our scientific and technological cause.

The need to stress repeatedly the problem of red and expert in the realm of scientific and technical work is a reflection of the truth that the struggle between the proletarian world viewpoint and the bourgeois world viewpoint has still not been halted in this realm. However, the form of the struggle and its future course of development are clear. In this realm, the proletariat has already developed a firm base following a start based on almost no base at all and has already developed a reliable contingent under the leadership of the party. This contingent has been organized from the group of young and older personnel mentioned above. It is absolutely impossible for any adverse winds, blowing from any direction, to break or loosen up the ranks of this contingent.

The major task of all scientific and technical workers is to smash, under the leadership of the party, the adverse winds blowing against the proletarian world viewpoint, continually struggle for the red-and-expert line so that our science and technical contingent can be further expanded and cause a leap forward, without halting, in the cause of socialist economic cultural construction.

THE SLOGAN OF SO-CALLED
"FREEDOM, EQUALITY, FRATERNITY"

Pages 9-11

Chi Yao-shih

The analysis and criticism of the bourgeois slogan -- "freedom, equality, and fraternity" -- made in the article "The Struggle Between the Proletarian World View and the Bourgeois World View" in Hung-oh'i, Number 22, assist us in our anti-rightist struggle and provide us with a weapon to use in criticizing the bourgeois world view.

A comrade in one of our party organs had written in his draft-article drawn up for the celebration of the 10th anniversary of the Chinese People's Republic that, "The Chinese People's Republic of freedom, equality, and fraternity, which had been foreseen 100 years ago by the leader of the world proletarian movement, Marx, was born under the leadership of the proletariat." Other comrades, having read through his draft at the time, pointed out to him that this was an erroneous concept. He was unwilling to accept their statement and even waved a phrase by way of an excuse: that is, this evolved from Marx. Actually, this basically distorts the words of Marx.

In January 1850, Marx and Engels, on the eve of our Taiping Heavenly-Kingdom Rebellion, actually stated that, "If, in the not distant future, our European reactionaries were to flee to Asia and finally reach the Great Wall and reach the great door of the most reactionary and most protected fortress, they may well see these words: "Chinese People's Republic -- freedom, equality, fraternity." (Marx-Engels: "Comments on the International Scene (1)," Collected Works of Marx-Engels, volume 7, Jen-min Chu-pan She, 1959, first edition, page 265.) At that time, our nation's proletariat and bourgeoisie had not yet appeared upon the political stage. Marx, however, basing his view on the law of the development of societies, perceived that the development of the peasant rebellion in China would inevitably open the road for the development of capitalism in China. He predicted, therefore, that China would inevitably move onto the road of the bourgeois revolution and, in front of all reactionary Europe, would inevitably give rise to a bourgeois republic similar to European bourgeois republics; that is, a republic of so-called "freedom, equality, and fraternity." It was the Hsin Kuo revolution of 1911 in China which verified this prediction of Marx and Engels. China's bourgeois revolutionaries at that time used as their slogan the slogan of the 18th century west European bourgeoisie -- "freedom, equality, and fraternity" -- and attempted to use European bourgeois republics as the models for establishing their own state. Because the Chinese bourgeoisie was weak, however, it was unable to really attain its goal. Thereafter, the Chinese bourgeoisie

was no longer able to lead the Chinese revolution. The leadership power of the revolution could not but revolve into the hands of the Chinese proletariat.

Everyone knows that the Chinese revolution movement already has passed through several different stages. The most important of these are: it has passed through the stage of the old bourgeois-democratic revolution under bourgeois leadership to the stage of the new bourgeois-democratic revolution under proletarian leadership following the "May Fourth" movement; from the stage of bourgeois-democratic revolution to the stage of socialist revolution. The party's Central Committee has pointed out that the establishment of the Chinese People's Republic in 1949 symbolized the basic conclusion of China's bourgeois-democratic revolution stage and the beginning of the stage of socialist revolution. The comrade among us disregards the transformations in historical conditions, disregards distinctions between the nature of these revolutions, and states that the establishment of the Chinese People's Republic was the realization of Marx's prediction, made 100 years ago, that China inevitably must produce a bourgeois republic. If his equating of a bourgeois republic with the proletarian-led Chinese People's Republic and his equating of the political program of the so-called "freedom, equality, and fraternity" of the earlier western bourgeoisie -- which actually represented bourgeois interests -- with the minimum and even the maximum program of the party -- which embodies the basic interests of the proletariat and the whole people -- is not deliberate distortion and the fabrication of confused ideas, then what is it?

Marxism tells us that in the realm of social science, concepts are related to definite historical conditions and reflect a definite class content. All false Marxists dispute this view and constantly pull out the historical and class content of concepts, disregarding time, place, and conditions and abstractly shifting about, and toying with, various concepts. They constantly force concepts which conform with only one time, place, and set of conditions into another time, place, and set of conditions. The abstraction and citing of the concept "freedom, equality, and fraternity" by some comrades among us is a classic example of what we have been discussing. As Engels had stated, those comrades' method "is not one of starting with reality itself to deduce reality, but one of starting from concepts to deduce reality." In their view, "it is not the concept that should correspond to the object, but it is the object that should fit the concept." (Engels: "Anti-Duhring," Jen-min Chu-pan She, 1956, first edition, page 98.) It is precisely for this reason that these comrades among us close their eyes and cannot see the great historical transformations which have been continually taking place in China over the course of 100-odd years and cannot see the

basic distinction between the internal class relationships in the China of 1850 and of 1949. They equate the 20th century Chinese People's Republic of the people's democratic dictatorship, which is based on the worker-peasant alliance and is led by the working class, with the 19th century bourgeois republic, which Marx said would arise in China.

Of course, the mistake of these comrades is not only related to their method of abstracting and toying with concepts, but also is closely connected with their bourgeois position. In pointing to the slogan "freedom, equality, and fraternity" which had an anti-feudal, progressive significance, Marx generally continued to point out -- at the same time -- the extremely deceitful nature of the slogan and to point out that in fact the slogan was a means whereby the bourgeoisie pursued its own interests, it being useful in protecting and expanding the private property of the bourgeoisie. Why is it that these comrades of ours show absolutely no interest in Marx's discussion of the deceitful aspect of this slogan? Why is it that they constantly bear in mind those things which the bourgeois are able to accept, and proclaim these everywhere, and yet put to the backs of their minds those things which the bourgeois are unable to accept, avoiding all discussion of them? Why is it that although Marxism had at an early date set forth clearly just what is socialism and just what is Communism they still make out that the slogan of "freedom, equality, and fraternity" is an "eternal and unchanging truth" and peddle it to the people? Why is it that when we have already attained great victories in the socialist revolution and in socialist construction they still suck-and-chew on these concepts of a time past, with their mouths watering as they do so? There is no explanation other than that this proves that they have a bourgeois world viewpoint in their brains; their bourgeois thoughts and sentiments control their words and deeds. This proves that basically they are not Marxists, but are rather bourgeois revolutionists within the party.

The view of our comrade, who makes out our proletarian people's republic to be a bourgeois republic, is not an isolated view of his toward an isolated question; it is his general outlook on our society and on our revolutionary cause; it is not an accidental phenomenon, but is a concentrated manifestation of his bourgeois world viewpoint on the political plane; it is not a solitary phenomenon, but is a common language he speaks with all persons having a resolute bourgeois world viewpoint on the political plane inside and outside the party. At present, our state's dictatorship of the proletariat is becoming firmer, socialist transformation has already been basically completed, the people of the whole country have attained a high degree of organization on the political and economic planes and are now engaged in expanding large-scale, planned socialist construction. The

expansion of the class struggle has already determined that capitalism and the roots which give rise to capitalism will be completely eliminated and that the whole reactionary class will be buried after all. It is very clear just what the actual significance is of this toying with the slogan "freedom, equality, and fraternity" of the bourgeoisie of 18th century French revolutionary times. Its so-called "freedom" actually represents the bourgeoisie attitude of "free enterprise" and free business, the rich peasant attitude toward "free hired-labor" and "free trade." Its so-called "equality" actually represents the exploiting minority, who support the capitalist road and oppose the socialist revolution and socialist construction and who demand "class equality" of the whole people led by the proletariat; it represents the opposition of the reactionary class to the dictatorship of the proletariat; it is a return to the confused language used by the bourgeois rightists in their reckless attack of 1957 -- "oppose special political power" and "oppose divergent political views." Its so-called "fraternity" actually reflects all the sentiments of the exploiting class which is now dying and actually intends to cause the class awareness and militant determination of the people to become relaxed in their struggle.

These facts arm our minds and increase our strength in opposing the right opportunists. We must begin criticism of the bourgeois world viewpoint, assist those comrades, who are still preserving the bourgeois world viewpoint, to a deep understanding of the basic essence of the slogan "freedom, equality, and fraternity," to thoroughly cast off this bourgeois viewpoint, and to turn toward the proletarian position so that they can establish a completely Marxist world viewpoint and truly become thorough and militant proletarian warriors.

CARRY OUT THE REVOLUTION IN THE ORGANIZATION OF
PRODUCTION IN THE COAL MINING ENTERPRISES

Pages 12-16

Chang Lin-chih

In the past ten years, the coal industry has attained brilliant successes under the bright and glorious leadership of the party and the general line. Having gone through the democratic transformation of enterprises and the series of mass movements which followed as well as the technical revolution and the reform of the level of control over the enterprises, there have been considerable successes. Moreover, the raising of the technical level from extremely backward to modern standards has liberated coal-mine workers from heavy physical labor, thereby -- taken together with the above mentioned advances -- basically transforming the technically backward face of our coal mining enterprises; further developing production, and basically satisfying the demands of various state economic departments for coal. However, during the great leap forward in 1958, a look at the forms of the organization of production revealed, on the one hand, that there was no greatly limited special point or regulations appropriate to the production and construction of coal mining enterprises, and, on the other hand, that these forms were absolutely not tailored to meet the needs of the great leap forward. Therefore, penetrating research into the production special points and regulations of coal mining enterprises and a step forward in understanding and controlling them as well as the imposition of considerable limits and restrictions on the organization of production has become an important task for us.

We know that any form of the organization of production in enterprises must be appropriate to and meet the demands of the production special points and of the uninterrupted development of the productive forces of the enterprise. Thus, the organization of production must really be able to promote the development of production.

Well then, what is the special point of production in the coal industry? Will there be a rapid development of our coal industry if the great restrictions on the organization of production, appropriate to the special points and demands, are imposed?

The special points of production and construction in the coal industry are: working underground, producing only one product, using many tools, engaging in many types of work-operations, engaging in many work-procedures, and constantly moving as the work area continually moves ahead. These special points concerning the organization of production very naturally are such that the early work-operations and work-procedures are able to open, opportunely, a working area for later work-procedures and work-operations. That is, production in the coal industry must fully utilize space (working area)

and must strive to attain time (raise the efficiency of utilization of work-time) so that quantity of output will be raised and the work-time of men in the shaft will be shortened; it must extensively organize interconnected operations on the level of production organization. However, prior to our great leap forward, there was no complete understanding of this special point of the coal industry and, consequently, there was no greatly restricted adaptation made with regard to this point on the level of organization of production. Following the great leap forward in 1958, the great worker masses, under the brilliant leadership of the party and the general line, fully expanded their production activeness and creativity. Many workers felt that the organizational form of a three-shift day was inadequate in meeting the demands of the great leap forward. Therefore, the form of organization of production adopted for interconnecting work-operations was "four (shifts) and eight" (hours each) (hereafter referred to as the "four, eight" interconnected work system). This was a mighty creation of the coal mining workers during the great leap forward, a revolution in the organization of production in coal industry; it was a major condition which enabled the coal industry to sustain its high output.

Where was the problem in the former three-shifts work system?

The organization of production in coal mining enterprises generally had been the three-shifts work system. Basically, the three-shifts work system was appropriate to the needs of production and construction in coal mining enterprises before the great leap. However, viewed in present day context, it has shortcomings, of which the major ones are: there was no interconnection of work in the time between shifts and basically no such interconnection between work-operations and between work-procedures. The concentrated manifestation of these shortcomings appear, first, in the long time gap from shift to shift, work-operation to work-operation, and work-procedure to work-procedure; second, in the long time spent by the workers in the shaft. Because of the existence of these shortcomings, there is a disadvantageous influence on the regular progress and advance of production.

In the three-shifts work system, two shifts are generally devoted to the gathering-up of the coal (coal extraction) and one shift is generally used for preparatory work (loosening and chopping down the top rock, retrieving the pro-supports, moving the coal-gathering machine, rectifying the coal-gathering area, etc.). (Note: Rock which has floated and formed above the coal seam is called the top-rock). That is, during each day 16 hours are spent on coal gathering and eight hours in preparatory work (and in a small number of cases, two shifts are devoted to preparatory work and one shift to coal gathering). That is, of the 24-hour day, eight or more hours

could not be devoted to coal gathering. During the changing of shifts, all workers on one shift must retire from the work area before the next shift can enter the area; thus, during the change one or even two hours are used up in carrying out the work of collecting what has been left behind and in making new preparations. Moreover, due to the fact that work-operations and work-procedures are interchanged during production and due to the time breaks and gaps in production and various accidents impeding work, the regular progress of production is also affected. Therefore, the actual coal-gathering time of each shift is only five to six hours per day. Thus, the phenomena of restricted time and spare time arise in the work of the miners and in the moving of equipment. When time is short, the work force becomes inadequate. When spare time abounds, some of the miners have no work to do while part of the equipment is not moved; the time-waste is considerable. As a result of wasting time (taking as a norm 8 hours of work-time for each worker, each man actually works only five or six hours and the other two or three hours are wasted), some workers must work for extended periods in the shaft in order to complete their tasks. As a result, their rest period and the time allotted for participating in political and cultural activities cannot be fully guaranteed. The "four, eight" system of interconnected operations, however, can overcome these defects.

What is the "four, eight" interconnected operations work system? Where does its superiority lie?

The "four, eight" interconnected work system is based on the original labor force and equipment and divides the previous three shifts into four, with eight hours still the working span for each shift and with two hours of each shift devoted to interconnected operations. The "four, eight" interconnected work system is a product of the large-scale mass movement and of the technical renovation and technical revolution which followed the great leap forward of 1958. It was also a product of the condition of uninterrupted raising of the technical level (for example, rapid moving of the tien-liu-tzu, the dynamiting and loading of coal, and other production techniques). (Note: Tien-liu-tzu is a machine for transporting coal). For this reason the three shifts can be split into four on the basis of the original labor force and equipment. The shifts are specialized, so that generally three shifts collect coal and one shift performs preparatory work. The concrete content of the "four, eight" system consists of sending the second shift in to start operations in the work area when the first shift has reached its sixth hour of work, both shifts under the united direction of the first shift's foreman. When the first shift reaches its eighth hour and has withdrawn from the work area, the men of the second shift continue to work. At the same time, the various work-operations and work-procedures are further

interconnected. For example, in the matter of gathering the coal, coal-collection and the loosening and chopping down of the top-rock are interconnected operations, as are the moving of the tien-liu-txu and the setting up and taking down of the prop-supports. This eliminates the time-gap between the changing of shifts and between various work-operations and work-procedures, reaches a continually parallel set of production goals, and raises the labor production efficiency and the efficiency of equipment utilization.

The implementation of the "four, eight" interconnected work system plays an extraordinarily useful role in ensuring and sustaining a high production level in the coal industry and in reforming the control of enterprises. Its superiority is manifested primarily in the following four fields.

1. The labor force can be blended and arranged so that there is a syncoated organization of production and a sustained raising of the level of coal output. The reason why the "four, eight" system permits a rational arrangement of the labor force so that there can be a syncoated advance in production between work-operations and work-procedures is because, on the one hand, during the last two hours of interconnected operations of every shift there is a complete reserve force permitting arrangement and blending. On the other hand, during the process of gathering coal, the work capacity of various operations and procedures is always irregular, some having too many and others not a sufficient number of men on the spot. The "four, eight" interconnected work-system can make adjustments to this production special point. Because, when the first shift is about to be finished it is simultaneously the best time for sorting the coal in large quantities; the second shift is by this time engaged in the operation of the hot-boring of holes and needs few men. Therefore, after the miners in the second shift have entered the coal-gathering area, the surplus miners can be used temporarily by blending with the miners in the first shift to aid them in sorting the coal while a minority of the second shift are engaged in the hot-boring of holes. In this way the fulfillment of the first shift's production quota can be completed in eight hours, the second shift can opportunely enter the work area and avoid the need for the first shift to increase the time span of the shift due to a labor force shortage. The phenomenon of a prolonged work period for the second shift -- resulting from its inability to get to the work area in time, is also avoided. Regular production is thereby ensured. Coal production and the efficiency of labor is thus raised while costs are lowered. Coal production in the Tzupo, Yangchuan, and Fushun coal mines increased, as compared to the three-shifts system, from 40 to 60 percent following the implementation of the "four, eight" interconnected work system. Labor productive efficiency was increased from 19 to 35 percent and original cost of

coal was reduced from 10 to 15 percent. It is quite apparent that the "four, eight" system is superior.

2. Spare-time and work-time is fully utilized and there is a much better integration of work and leisure time. Following implementation of the "four, eight," the daily work time was increased in these mines from 24 hours -- in the previous three-shifts system -- to 32 hours. Actual daily coal-gathering time was increased from 10-12 hours to about 20 hours. As a result of the full utilization of spare-time and the striving for work-time, work-time spent in the shaft by miners has been shortened. This enables miners to carry out production by toiling and by easing off. Previously, time spent from first entry into the coal area to the end of the work period generally was eight or more hours and, taken together with the time to get into and back out of the shaft, the over-all work period generally was nine to eleven hours. At present, the time span is only eight to ten hours; some shifts, having completed their task in seven hours, can come out of the shaft an hour earlier, thereby shortening the work-time by one hour or more. The reason why the "four, eight" system is able to carry out a better integration of work and leisure time is because of the use of the circuit as a unit in the plans of mining operations. (In the three-shifts system, the work-capacity of one coal-gathering shift was one-half a circuit.) (Note: In certain work procedures used in coal-gathering -- such as the hot-boring of holes, cutting down of coal, sorting coal, transporting coal from the work area, moving of the tien-liu-tzu, retrieving props, etc. -- there is a close integration of work-time and spare-time. The completion of these operations is called a circuit.) The extension and dragging out of the work-time previously in some shifts was due to the fact that a circuit could not be completed in the course of eight hours. As a result of the improvement of the organization of production, and the subsequent faster rate of coal-gathering, the circuit now can be completed -- or nearly completed -- in eight hours. This not only avoids the phenomenon of increasing shifts, but also gives precedence to early return to the surface. This ensures that the miners will have adequate rest and the time to participate in political, cultural, and recreational activity. Previously, under the three-shifts system, the third shift generally was the night shift; the miners slept during the day and toiled at night. They did not sleep well nor could they see the sun (previously, the system of reversing or switching shifts was adopted in order to give the miners a chance to see the sun). Following the change to the four-shift work-system, with the increase of shifts, the time spent in the shaft by miners has been decreased. Therefore, a definite time-period is open for each miner daily in which he can see the sun outside the shaft and a definite time-period is opened, during which he can sleep. This plays an important role in strengthening the physical health of miners. The "four, eight" system, consequently,

receives widespread and enthusiastic support from the miners and their families. The miners say with satisfaction that, "As a result of the 'four, eight' system, the shifts are not dragged out, we sleep sufficiently, we have adequate time for study and recreation so that when we go to our shift, our strength is more than adequate." Mothers tell their sons that, "The party is concerned about the workers in every place. Prior to liberation, your father worked for a lifetime in the mine and yet never got such good conditions as these. You have the conditions to work infinitely better in the mine." Because the miners have full time to rest, their energy and spirit are overflowing and accidents and illness are reduced. As a result, their diligence in work -- work-intensity rate -- has been raised five to ten percent above that which had prevailed previously. The miners therefore say that, "The 'four, eight' system has five good points. That is, it is good for production, for rest, for work-intensity, for study, and for recreation. This is only found in a socialist country under the leadership of the Communist Party."

3. Strengthen production safety and economize on pit timbers. There are occasional cave-in accidents in the coal mining industry, endangering production safety in the mines. (Note: During spare time in the coal-extracting and coal-digging levels, breaks in the top-rock roof and inopportunately placed -- or poor-quality supports (supporting capability is inadequate) -- lead to partial or entire top-rock roof collapse. These are called cave-ins). Everyone knows that in extracting-work in the shaft, pit timbers are used to support the top-rock layer (roof). However, complete guarantee against a cave-in of the top-rock depends on two strength features: one, the natural support-strength of the top-rock layer (Note: after coal is extracted from the coal-extracting area, the natural strength of the rock layer above the coal (that is, the roof layer) prevents the rock from collapsing for a definite period. This force is called the natural support-strength). and, two, the support-strength of the pit timbers. The natural support-strength of the top-rock layer generally is related to the duration of work-time in the area. That is, if the work-time has been exceedingly long, the downward thrust of the roof will be exceedingly great and the support-strength correspondingly weak. If the work-time has been exceedingly short, the downward thrust of the roof will be exceedingly small and the support-strength correspondingly great. If the work-time in the pit is too long, then there is reliance on the support of the pit timbers in the coal extracting area: the top-rock roof will create pressure and lead to a cave-in. We spent some time and energy in solving this problem, in conducting research on the law of cave-ins and on preventive measures, arriving at the following conclusion: a quick tempo used in the coal-extracting area will enable completion of coal extraction before the natural supporting-strength of the roof is completely dissipated. That is, the rate of extraction is speeded up

to excel the rate of roof weakening or collapse. The hydraulic extracting area therefore does not need pit timbers because the rate of coal extraction exceeds the rate of roof weakening. We have now adopted the "four, eight" interconnected work-system and, although it has not yet fully reached our thoughts, we are very close to it.

The speed-up in the extraction rate in the coal-extraction area and the full utilization of the natural support-strength-of the top-rock layer, on the one hand, reduces cave-in accidents and is helpful in achieving production safety; on the other hand, it increases the rate of retrieving and utilization of pit timbers. According to test conditions carefully imposed in the eleven coal-extracting work-areas of the Hsia-chiao Coal Mine in Hsuehow from 1958 to 1959, the rate in the extraction area and the relative waste of pit timbers are: if the daily rate in the extraction area is taken as one meter/hour, the amount of pit timber wasted will be 40 cubic meters for every 1,000 tons of coal produced; if the daily rate in extraction is taken as 1.5 meter/hours, the amount of pit timber wasted will be 24 cubic meters for each 1,000 tons of coal produced; if the daily rate in extraction is taken as 2 meter/hours, the amount of pit timber wasted will be 12 cubic meters for each 1,000 tons of coal; and if the daily rate in extraction is taken as 2.8 meter/hours, the amount of pit timber wasted will be 6.4 cubic meters for each 1,000 tons of coal. That is, as the rate is speeded up in the coal-extraction area, the top-rock (roof) pressure is very small and the waste of pit timbers is also very small. By adopting the "four, eight" system, we can raise the daily rate in the extraction area to 3 or more meters/hours above the three-shift rate of an average 2 meter/hours. This will reduce cave-ins and economize on pit timbers.

4. The Communist spirit of cooperation is elevated. The "four, eight" system strengthens the solidarity between the shifts and further manifests and elevates the Communist spirit of cooperation. As a result of interconnected work-operations for a time-space of two hours in which two shifts work together, there has been -- in the organization of production and in actual work -- relations of mutual understanding, mutual solidarity, and mutual support (these relations were not close under the three-shifts system). For example, one shift in the number 5 extracting area of the Victory Mine at Fushun used eight men for three hours to move pit timbers 460 meters. Because of the full use of reserve forces of the next shift under the new system, however, the same task was completed in two hours, thereby guaranteeing regular production. The same shift had discovered on one occasion that the top-rock was weak and that supports had to be created in order to avoid a cave-in; as a result of the utilization of the collective effort of two shifts, the beams were set in place within two hours and an accident was avoided. Some workers were deeply

impressed: "Sharing in this work where there are many men, who made no you-me distinction, we feel no fear of difficulties no matter how serious they may be." Such urgent and complex work as the above mentioned is very difficult to complete in an extremely short period of time with a force of only one shift. Accordingly, the "four, eight" system can show itself to advantage in this cooperative work.

Improve the control over enterprises; adjust to the demands for new organization of production.

The "four, eight" interconnected work-system has had a great expansion this year, particularly in the last two months, on the foundation test-built in 1958. As of the end of October, there were already 119 extraction areas, among the total of 1,918 extraction areas in the modernized coal mines, which had adopted the "four, eight" system. The results they attained are outstanding. It must be pointed out, however, that the emergence of a new form of organization of production inevitably leads to a series of transformations in the control system in enterprises. The universal implementation of the "four, eight" system will inevitably require that a comparable revolution take place in the entire control system in mine-shaft production. For example, mine-shaft planning, calculations, and supply of materials, as well as the departments which assist in production, must be adjusted to the demands of the "four, eight" system in extraction and digging operations. In the field of planning the control system, the four-fixed method of "fixed task, fixed personnel number, fixed rate, and fixed time-period" and the supply-transportation system should be adopted so that materials rapidly can be sent to the production area. In the matter of calculating wages, pay for a set quota and estimates based on each shift is a method which will be replaced by the circular-shift calculation system. (Note: The daily calculation of the wages of all four shifts taken together and pay according to wage grades based on diligence in work is called the circular-shift calculation system.) At the same time, there must still be a full number of leadership personnel on the production front and leadership on the first-line must be strengthened. The shortage of shift-foremen following the switch from the three-shift to the four-shift system must be rapidly made up. When the first and second shifts are interconnected and working together, there must be unity of command on the production front; that is, the workers of the newly-arrived shift must take their orders from the foreman of the earlier shift and the foreman of the newly-arrived shift will have as his major task -- during the interconnected period -- the essential job of familiarizing himself fully with conditions of production in the extracting area. He can then prepare to rationally organize and arrange all the production tasks of his shift.

The "four, eight" interconnected work-system is something new in the production process of coal mining in general. We therefore have as yet only inadequate experience. This new form of the organization of production is being universalized in our coal industry and, at this time, can still meet the resistance of some cadres, who have dogmatic or empirical thoughts; moreover, in its implementation, this or that difficulty will occur. However, if we have firm political guidance and if we resolutely rely on the masses and on the fervent support of work personnel, always follow the mass line, and continually draw conclusions to improve on our experience or to create new ones, we will definitely smash all difficulties, cast off all kinds of ideological stumbling blocks, and cause the "four, eight" system to blossom and bear fruit in all of our nation's coal mines. The cause of production and construction in the coal industry will surely be able to develop rapidly and leap forward again and again.

ONE RESULT OF THE LABOR COMPETITION: INTRODUCING
EXPERIENCES OF COMPETITION IN TECHNICAL DEMONSTRATIONS
AT ANSHAN

Pages 17-23

Chao Min, Secretary to
the Secretariat of the
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I

Competition in technical demonstrations is an innovation that was produced in 1959 by personnel of the Number Three Steel Foundry of the Anshan Iron and Steel Works while they were carrying out the party's general line and continuing the great leap forward. It is a new development in the competition movement of the masses within modern industrial enterprises and takes as its core technical renovation and technical revolution. It is an important method to be used in further expanding socialist labor competition. This experience, which was produced last May in the Number Three Steel Foundry at the Anshan Iron and Steel Works, has been used for several months now in various Anshan factories and in industrial enterprises, communication and transportation units, and in basic construction throughout Liaoning Province. It fully proves that it is something new which is at the same time full of vitality and strength.

Competition in technical demonstrations does not refer to direct competition in quantity, quality, and cost. It is a pointer to the key or production; it stimulates and organizes the entire work-force. The use of demonstrations and emulation of good operations -- the use of such methods as competition in putting forth physical effort, competition in technical labor, in production standards, and in cooperation and mutual-aid -- have as their goal the raising of production, improvement of quality, reduction of waste, and elevation of production safety-measures. These competitions in technical demonstrations permit everyone to participate and many things can be demonstrated to all. It is not only demonstration, it is competition. There are demonstrations by individuals or individual items; there also is collective manual labor and demonstrations of joint cooperation; progressive production-ists can be demonstrated and backward workers, too, can be on demonstration. Experts and master-workers can be demonstrated, as can students. Old workers as well as new workers are on display; matured experiences as well as the untested ones, the immature ones; important production departments as well as supporting departments; workers as well as leadership cadres and technicians -- with the leadership cadres not only participants in demonstrations in competition, but also as organizers of such demonstrations. Competition in technical demonstrations adopts the

method of having the viewers work at the side, teach at the side, test at the side, talk at the side to experts, draw conclusions at the side, and disseminate knowledge at the side. It is comparatively effective in promoting new techniques and experiences and in integrating these with manual labor competition, in concentrating leadership and integrating this leadership with the mass movement. It is a good form for making technical renovation and the technical revolution the core of the mass competition movement.

Competition in technical demonstrations in the Number Three Steel Foundry at Anshan began in May 1959. The Number Three Steel Foundry is a new plant, with about 54 percent of the workers being new personnel. Because their equipment was now different from the equipment previously used at the Anshan Iron and Steel Works, the manual labor techniques of the older workers, too, were insufficiently advanced; whether new workers or old workers, neither was able to grasp manual techniques connected with the mechanically advanced furnace. As a result, although production was gradually raised after work with the furnace had begun, the quantity and quality were not sufficiently stable or reliable; there arose certain technical accidents, almost continuously. Prior to April 1959, among a section of the cadres a spirit of laxity and laziness arose; they stressed difficulties and said, "The plant is new, and so are the workers here and the equipment. It will not do." They expressed their doubts about the good points and advantages of the new furnace. Under these conditions, the plant's party committee on the one hand organized all the cadres to study the documents of the sixth plenum of the party's Eighth Central Committee, raised the cadres' consciousness, overcame their dread of difficulties, called upon them to rely on the masses, dug out their inner latent energy, and attained a great leap forward in production. On the other hand, on the basis of the special features -- new plant, new workers, and new equipment -- the party committee pointed out that the major contradiction was that the technical level of the workers did not mesh with the objective requirements of the modern technical equipment. In order to solve the contradiction, it was necessary to raise the technical level of the workers at the most rapid tempo and thereby solve the key problem in the matter of production. By adopting such methods as training to be "red and expert," establishing an interrelations between master and pupil, inviting advanced production-ists to dispense their advanced experiences, and so on, the plant took a definite step forward. However, because the dispensing of experiences was not well-integrated with actual practice, and because of the pressure to produce, the workers were never able to study resolutely the technical aspects they lacked understanding of; at the same time, in dispensing knowledge, the advanced production-ists could not be on hand on a regular basis. As a result, the effective attainments in this education process was not great.

In April 1959, the plant organized a section of the cadres and workers to study the work experiences of Soviet experts. Afterwards, demonstrations were held for all to see, thereby solving a key problem in production at that time. This enlightened the party committee, which realized that technical demonstrations were an excellent means for quickly raising the technical level of the workers. In mid-May, the party committee decided to begin a technical demonstration movement in the entire plant, and called on everyone to see the demonstrations and to study them. The party committee's decision was enthusiastically supported by the majority of the workers. However, it did meet with obstacles from some cadres, who had rightist ideas. They did not have faith in the organizing of technical demonstrations. Some older workers feared that the men would not want the demonstrations; some new workers felt that they could not demonstrate. Accordingly, the party committee carried out broad propaganda and encouragement-work, first organizing party and youth-league members as well as activists to take the lead in demonstrations. The demonstrations were very successful, encouraging the entire plant. The Committee immediately raised leadership cadres at various levels, directing them to organize positiveness in the demonstrations, encourage the old and new workers to be brave and show interest in participating in the demonstrations; the relatively backward workers also actively demanded to participate in demonstrations. Thereupon, a mass-type technical demonstration movement was developed throughout the plant.

In the course of the technical demonstrations movement, there emerged a high-tide of competition in technical demonstrations, marked by competition between individuals, between furnaces, and between work-sections. There was mutual improvement, mutual study, and the method of you-follow-as-I-lead. In July 1959, the party committee further analyzed the new conditions in the development of the mass movement and decided to carry the technical demonstrations a step farther so that the technical demonstrations could be closely integrated with labor competition. The committee put forward the slogan for an all-round development of "competition in technical demonstrations" and met with a warm, quick response from all personnel in the plant. A fervent, mass-type high-tide of competition in technical demonstrations rapidly developed throughout the plant. Following the announcement of the Report and Resolution of the eighth plenum of the party's Eighth Central Committee, the positivism of the masses was considerably increased, the party's leadership over competition in technical demonstrations was further strengthened, the content of competition was made even more-all-round, more along line of a definite pattern, and more extensive. Thus there developed, from a small number of advanced production-ists engaged in technical demonstrations, mass-type technical demonstrations, which were further developed into the new form of labor competition in technical demonstrations.

Following the introduction of competition in technical demonstrations in the Number Three Steel Foundry, the technical level of the workers was raised very quickly; workers formerly unable to perform the new-type work are now able to do so, those who had been untutored in technology are now more familiar with it, and those who could only perform at their own job are now able to handle many types of jobs. The open hearth, mold-casting, and furnace-repair sections revealed that a total of 1,016 men had become capable of performing their work, whereas formerly they had not been able to even understand it; the number of well-trained technical workers rose from 341 to 671; and a total of 48 men were promoted to be furnace foremen, work foremen, and assistants. The workers said, "We have grasped all the 'extraordinary skills' of the old master-technicians." "One demonstration leads to three months of successful lessons." Production was continually raised because the technical level of the workers was raised. The effective work-rate of the Number Three Steel Foundry rose from 68 percent in April to 80.2 percent in August. The daily output of the plant in steel was raised 25-plus percent in September over the May output figure and was raised 9.5 percent in September over August. The workers said, "If our plant institutes competition in technical demonstrations at an early date, output will be raised at an early date." Prior to the institution of competition in technical demonstrations, some of the leadership cadres in the Number Three Steel Foundry had lost faith in their ability to complete this year's production task. Following the groping-out of the experiences of the competition in technical demonstrations, these leadership cadres recognized that not only would they be able to complete the 1959 task, but also could strive to overfulfill the task.

II

Competition in technical demonstrations leads the mass-type labor competition directly to the study of technology, the grasping of technology, and the cross-exchanging of technical experiences; it integrates bitter toil, practical labor, and skillful work; it makes concrete the basic spirit which recognizes that technical renovation and technical revolution must be the core of labor competition. In August 1959, when the party's Central Committee issued the directive against rightist deviation, encouraging strenuous effort, and calling for an intensive development of the increase-production-and-economy movement, the Anshan municipal committee and the Anshan Iron and Steel Works party committee, under the leadership of the Liaoning Provincial Committee, developed deeply the anti-rightist struggle, wherein rightist ideology was sharply criticized and the positiveness of the masses reached an unprecedented high-tide. On the basis of competition in technical demonstrations, the experiences of which all were summed up in the Number Three Steel Foundry at

Anshan, there was begun a joint competition in technical demonstrations. This competition used unified leadership and unified planning throughout the entire Anshan Iron and Steel Works; it started in mid-October 1959. This mass-type production competition movement, which took technical renovation and technical revolution as its core, was unprecedented in its depth and extent in Anshan Iron and Steel's history.

We know that in the course of production, particularly in the course of modern industrial production, that in order to attain an even greater leap forward, individual effort will not do. It is necessary to carry out research in technology and to improve technology so as to raise the level of labor productivity. After the ideological consciousness of the masses has been greatly raised and effort has been thrown into the tasks, it is the job of the leaders to increase the organization of the masses, whose enthusiasm has been made full-blown and whose efforts reach to the sky, to lead them on to study and to understanding, and to raise and reform the level of techniques. Revolutionary fervor, strenuous effort, and technology are mutually interconnected elements making for an uninterrupted increase in production. Political guidance and the raising of the Communist consciousness of the workers are the guarantees of an uninterrupted leap forward in production. The strengthening of political guidance and continual improvements in technology, play an extraordinarily important role in sustaining the labor enthusiasm and effort of the personnel at full pitch, in consolidating the mass movement, in raising labor productivity, and in enabling production to rise upward without interruption. Competition in technical demonstrations is an effective means by which to attain this goal. Competition in technical demonstrations, whether demonstrations given by individuals or by groups, directly affect the ability of all; this competition further stimulates them to conduct research into undertakings and raises technical positiveness. Because everyone participates in the demonstrations, "The Eight Immortals, in crossing the sea, can individually display their separate abilities;" there is mutual-aid among every group, mutual substitution, joint study, and common improvement. Therefore, each person is able to study the best abilities in the course of the demonstrations. Workers praise the competition in technical demonstrations as enabling all to "manifest themselves and explain the (Buddist) Law." They say, "Listening one hundred times is not as good as seeing once; seeing one hundred times is not as good as striving-in-work once." Because competition in technical demonstrations concentrates the wisdom of all and enlightens mutually, it leads to the creation of new techniques, considerably raises the level of labor productivity, and permits an even greater leap forward in production.

Competition in technical demonstrations has a very extensive mass nature. It stimulates positiveness among all personnel in enterprises and forms a dashing, lively, and mighty mass movement, with technical renovation and technical revolution at its core. Developing the process of competition in technical demonstrations is developing the process which continually spurs on the masses and continually overcomes rightist-conservative ideology. Because all personnel -- from the broad working masses to the leadership cadres and technicians, from advanced production-ists to ordinary production-ists, from masters to students -- under the leadership and urging of the party, have become swept forward by the flood of competitions in technical demonstrations, all rightist sentiments and conservative ideas have been broken. The broad masses, particularly the ordinary production-ists, as well as technically backward workers and student (trainee) workers, are aware of studies and are now comprehending technology; their advance is significant regarding the speeding-up of socialist construction, inasmuch as they have taken on the dare-to-think, dare-to-speak, dare-to-do spirit during the competitions. Under the guidance of advanced production-ists, they are striving to move forward, to ride upon the wave, conducting research in a positive way, studying seriously, and struggling to display their talents in the competition in technical demonstrations. This mass movement is therefore made more extensive and thorough than previous competition movements had been. At the same time, this large-scale, enormous competition in technical demonstrations is under unified leadership and advances under unified planning. Leaders and technicians of various levels in the enterprises also have enrolled in the movement and are participating in demonstrations. On the one hand, this strengthens leadership and technical guidance over this large-scale mass movement. On the other hand, it further steels and trains cadres and technicians, raising their ability to conduct organization-work and work among the masses and making closer their ties with the masses. Many technicians received an education from the selfless toil and creativity of the masses during the competition; and the workers, too, were moved to seek out the technicians and to conduct research with them in order to solve key questions. Thus the fervor of this competition movement was ensured and the mass movement was closely integrated with collective leadership.

Competition in technical demonstrations is now the basic form of labor competition at the Anshan Iron and Steel Works. Competition in technical demonstrations not only avoids criticizing other forms of competition, but is intimately integrated with these other forms, forming a whole body of competition and playing a more influential role in developing labor competition in general. The original forms adopted at Anshan were considerably varied, but the two major forms were: one, competition in similar products, similar kinds of work,

and similar types of plant organization -- for example, mutual competition between special steel plants; two, organize a cooperative-work competition among different work procedures, and different sections directed toward the same product in one enterprise -- for example, organize a competition directed toward cast-iron production in mining, smelting, transport, and foundry plants and enterprises. These different forms of competition were able to stimulate the masses through mutual cooperation in work and implementation of the technical revolution. They raised labor productivity and ensured fulfillment of the production goals. Competition in technical demonstrations is also able extensively to promote positiveness among all personnel in the enterprises. Through these different forms of technical demonstrations, there has been an all-round raising of the technical level and an improvement in work-organization. This fills out the content of the various forms of labor competition and ensures a supply of goals for various forms of labor competition. At the same time, the development of competition in technical demonstrations inevitably raises even higher demands of the other forms of labor competition, thereby promoting the development of the other forms of labor competition. Because of this, competition in technical demonstrations promotes and is intimately bound up with the other forms. It organizes other forms of labor competition, strings them together. It is a new development in socialist labor competition.

Following the introduction of competition in technical demonstration throughout the plants at Anshan Iron and Steel, considerable results were attained. The entire personnel at Anshan have carried out the directive of the Central Committee to oppose rightist tendencies, to exert great effort, and to develop deeply the increase-production-and-economy movement and, in doing so through competition in technical demonstration, they all fully realized the spirit calling for strenuous effort, striving to mount the waves of high-tide, and carrying out the general line of building socialism with more, better, faster, and cheaper. This helped the drive to fulfill and overfulfill this year's production goals and erected a good foundation for continuing the all-round leap forward next year.

III

Anshan's experience in coordinated competition in technical demonstrations is another lively proof that in modern, large-scale enterprises, it is possible not only to carry out large mass movements, but also that it is necessary to carry out large mass movements.

Right opportunists and bourgeois specialists had attacked us during the large mass movements in the modern, large-scale enterprises. They superficially stressed the special features of modern enterprises

and stated that in order to carry out technical renovation and technical revolution in modern enterprises, it is possible to rely on only a small number of specialists and technicians and that the large-scale mass movement is not good. They used the "experts' line" to oppose party leadership and the mass line. They maintained that motivating the masses in great numbers to engage in technical renovation and technical revolution would "wreck the control system, smash the balance in production, and create chaos in production priorities;" it would "go against the objective law of the development of production," and so on. According to their view, modern enterprises can only be run quietly and dispassionately and cannot be run with great bustle and fervor. Actually, this is their pretext for maintaining that science and technology are matters for the experts, so that they can oppose the general line and the mass movement. Facts, fortunately, contradict their thesis. Experiences of the large-scale competition in technical demonstrations at Anshan Iron and Steel prove that the stimulation of the masses and the implementation of competition in technical large-scale demonstrations organized the forces of the various plants and sections in a more planned manner, coordinated work, developed an even greater impetus for the mass movement, and raised technical renovation and technical revolution to a new, even higher stage. Therefore, the control system was not wrecked; on the contrary, the control system in the enterprises was raised to a higher level; production was not thrown into chaos and a mess, but on the contrary, the environment for flying leaps in production emerged. The development of competition in technical demonstrations at Anshan pulverized the attack of the right opportunists and gave a lesson to those persons who had doubts about the mass movement, causing them to recognize that in modern, large-scale enterprises, there must be carried out a bustling and fervent mass movement and large-scale technical renovation and technical revolution. Only then can the leap forward in production be attained.

In carrying out technical renovation and technical revolution in modern enterprises, we must rely on the working class, large mass movements, and strict observance of the mass line. The working masses are the practitioners of production; they have rich practical experience and limitless creative ability. If we but give them positive leadership and motivate them and organize them it will be possible for them to set many remarkable records. During the two coordinated competitions in technical demonstrations held at Anshan plants following mid-October, there were produced almost 20,000 proposals for carrying out technical renovation. This is a mighty victory for the mass movement. To rely merely on a small number of experts and technicians could not have led to these results. Of course, to rely on the worker-masses for a large-scale technical renovation and revolution movement is not to neglect the role of

technicians. The scientific and technical knowledge of experts should indeed be precious and their opinions should be carefully considered. However, if the experts do not integrate with the masses, and if their scientific and technical knowledge is not integrated with technical experience of the masses, the role they should play will not be fully developed. In the course of competition in technical demonstrations at Anshan, following their participation in demonstrations, the experts truly felt that their own role had been developed fully. The experts joined with leadership cadres and workers in the demonstrations and when they summed up the production and technical experience of the masses and received the guidance of leadership cadres, they were stimulated by the practical experience of the workers. For their part, they assisted the workers in solving several problems of a technical nature. In this manner, they genuinely accomplished the three-integrations and the three-satisfactions. The sympathies of many technicians were extended and their style of thinking was greatly advanced. In the conditions of their own competitions, these technicians established friendships with the workers. These are the lessons they have learned from the mass movement. Within the course of one week during the competition in technical demonstrations at Anshan, the North Sector Machine Repair Plant's separate and fragmentary experiences totaled 873 completed experiences; this is truly the result of implementing the three-integrations in the course of the mass competition movement.

Production in modern enterprises has a high degree of continuity and complexity; it is necessary to have a scientific control structure and control system. However, structure and system are not inalterable. They should be appropriately rectified, supplemented, and altered in order to be suitable for the leap forward. If the plant-manager-responsibility-system is strictly carried out under the leadership of the party committee; if the three-integrations method is used under the unified leadership of the party committee, if there is genuine research into new problems arising in the course of the leap forward in production, if practical experiences of the mass movement are summed up and conclusions are drawn from them, and if organizational structure is rectified and improvements are made in the system of regulations, then the control level in enterprises will be raised continually and will be suitable for new conditions of a leap forward in production. Within the short period of several months following the beginning of competition in technical demonstrations at the Number Three Steel Foundry at Anshan, 53 control systems were set up -- on the basis of the advanced experiences and advanced work-methods created by the masses during the competition in demonstrations -- including heat-worker control, furnace-repair and quality inspection, raw-material control, maintenance of equipment inspection, etc. In the course of the

second coordinated competition in technical demonstrations at Anshan from 25-31 October, advanced experiences were enlarged, reaching 4,380; of these, 751 were concerned with the system of regulations. If we do not extensively enter the mass movement in this manner and "grasp experiences and what is valuable," but only rely on a small number of experts and technicians sitting in offices to rectify structures and to revise the system of regulations, it will be basically impossible to rapidly raise the level of control and strengthen the control system.

Production should seek balance and should establish production priorities. However, this should not be used as a pretext to oppose large mass movements in production. What we need is positive balance rather than negative, motionless balance. What we need is continuous revising of old production priorities and the establishment of new production priorities. Following the assault upon a certain key to production and following the successful revision of a certain technique, a condition of imbalance emerges and old production priorities are smashed during the great leaping advance in output of a certain department. It is the duty of leaders in the enterprise not to repress that which is now high and make it lowest, moving toward a low balance and protecting old production priorities, but to assist the weak circles and realms, assist the backward departments moving positively toward a high balance, and establishing new production priorities. Viewed from the conditions which emerged on a grand scale from the competition in technical demonstrations at Anshan, following the smashing of the old production balance in a certain realm, other realms followed suit; there thus emerged a leap forward in production, with you-pursuing-as-we-catch-up, you-bypassing-us, and we-then-bypassing-you. This is an ordinary, normal phenomenon in the development of production, a phenomenon corresponding to laws. It is not, however, a "contradiction or opponent of objective economic laws." Mass competition movements, continuous revision of techniques, the raising of technical levels -- all these enable a high level of production to become a normal level of production. Afterward, new levels of production will emerge. Such uninterrupted advance is an inevitable phenomenon of the development of productive forces under the socialist system.

Coordinated competition in technical demonstrations at Anshan proves that large mass movements and great revisions in techniques must be carried out not only in small-scale and technically backward enterprises, but that they must be resolutely carried out in modern, large-scale enterprises as well.

IV

The things created at the Number Three Steel Foundry at Anshan Iron and Steel as well as the experiences in competition in technical demonstrations spread throughout each of Anshan's plants, came to the close attention of the Liaoning Provincial Committee. Under the leadership of the provincial committee, in September, 1959, a conference on competition in technical demonstrations was called at the Number Three Steel Foundry. Moreover, the Liaoning Provincial Committee issued a directive on 30 October, calling for general and wide-spread dissemination of these experiences to all industries as well as communication, transportation, and basic construction units. The central Department of Metallurgical Industry and the national committee of the Heavy Industries Labor Union also decided that these were good experiences and, on 10 October 1959 jointly issued a notice calling on all subordinate plants and enterprises to positively disseminate these experiences.

How can this advanced experience be best disseminated? According to the experience of Anshan, we must first thoroughly criticize and overcome all forms and shades of rightist-conservative ideology under strong party leadership and under the unified leadership of the party committee. Viewed from conditions which emerged at Anshan, the major manifestation of rightists-conservative ideology which blocked the dissemination of this experience was arrogance and self-satisfaction as well as the failure to accept humbly the experience of other people. For example, some persons maintained that competition in technical demonstrations is only a matter of mutual observation and that in almost all of the technical demonstrations there was not one new thing worthy of study. Some persons maintain that competition in technical demonstrations was suitable only for the steel foundry where production is fixed and there are relatively few products, but that it was not suitable for other enterprises. Some people even contrast the competition with production, and fear lest competition in technical demonstrations would cause chaos in production priorities, influence the quality of goods, ruin equipment, increase accidents, and so on. These thoughts constitute an incorrect attitude taken toward new things. Generally, the law of development of things is as follows: following the emergence of each new thing, it will inevitably be subjected to the obstruction and opposition of conservative forces. In the course of studying and disseminating the experience of this competition in technical demonstrations, there takes place a struggle between progressive ideology and rightist-conservative ideology in which the latter is continually subdued. In order to disseminate effectively and to extend the competition, it is necessary to topple these mistaken ideas in the course of the anti-rightist struggle.

In order to make competition in technical demonstrations an effective weapon for each plant and enterprise to use in raising production and in revising techniques, it is necessary to integrate the concrete conditions and production demands of each enterprise with this experience -- and according to the special features of each enterprise. The experience absolutely must not be applied mechanically. Many plants in the city of Anshan, in using the competition, paid attention to this point and consequently many forms of demonstrations emerged. These methods not only were successful applications of the experiences in competition to the work required by each plant, but also enabled competition in technical demonstrations uninterruptedly to be fulfilled and completely improved.

USE NATURAL RESOURCES AS EFFECTIVELY AS POSSIBLE
IN SERVING THE CAUSE OF SOCIALIST CONSTRUCTION

Pages 35-41

Wu Heng

Our nation covers a vast area and has many different types of natural conditions. We have the Tibetan plateau, highest mountains in the world; the extremely long coast line along one edge of the world's greatest ocean, the Pacific; extensive plains and limitless deserts; and three climate zones -- cold, temperate, and tropical. Ours is also a country rich in resources; fauna and flora and material resources are about as abundant as need be; we have already determined through prospecting and investigation that our underground resources are considerable and there are still vast areas which have not even been investigated or inspected clearly and conclusively. However, there was only a small amount of natural resource material handed down to us by the old China. Since the founding of the new China ten years ago, much work has been carried out; nevertheless, we are still a long way from being able to clarify the natural-resources condition of our country. In order to grasp and utilize these resources effectively in serving the cause of socialist construction, much more investigation work is still to be, and must be, carried out.

The high-speed development of socialist construction demands that our struggle for natural resources must be carried out in a more positive fashion. We must declare war on the earth. We must therefore acquire a more and more systematic and all-round understanding of nature. That is, we must conduct scientific and technical research and thereby -- as well as through practical production -- discover and utilize resources which have not yet been discovered or utilized; we must utilize even more fully the resources we already have been using; we must enlarge the scope of utilization of our country's resources that are relatively abundant; we must increase investigation and research work concerning resources which have been inadequately or not clearly investigated; we must eliminate or drastically reduce the danger arising from many harmful natural phenomena, transforming and putting them to use -- on the basis of their own laws -- changing disadvantageous elements into advantageous ones. This is the major task now before us; it will be our major task for a long time to come.

Each province and autonomous region in our country is relatively large in area, and each has its special features. For example, the Inner Mongolian Autonomous Region has a vast desert, Kwangtung has the extensive sea; how can we transform and use desert and sea? Shansi is rich in coal mines, Szechwan is rich in its natural climate;

how can we use coal and natural resources synthetically and rationally? Hunan, Kiangsi, and Yunnan produce an abundance of various ferrous and rare metals; Tsing-hai, Inner Mongolia, and other provinces and regions have the world-famous blue lakes; how can we grasp and use these metals and non-metallic resources? The phosphorus mines in north China and coal mines in the south still do not meet the construction needs of industry and agriculture; how can we intensify investigation and surveying? All of these matters are the most urgent tasks of our country's scientists, particularly of the scientific and technical organs and scientific and technical personnel in each province and region. We must make an effort to understand these special features, carry out research on them, and by using every means, make our work fit in with and mesh-well with these features.

I

In order correctly to understand the special features of our country's natural conditions and natural resources, we must first conduct investigations and examinations into these natural conditions and resources with an eye to using them synthetically and in special ways. In recent years, we have organized many synthetic-investigation units, which have conducted inspections and investigations of national significance in various areas of our country. For example, investigations of the Yellow River's sediment-stability and rate-of-flow and current as well as of animal and plant life in the tropical and sub-tropical areas of south China have been carried out. The development of investigations connected with synthetic use of resources in all regions of China has a definite function in the rational development and opening of those regions. In the sphere of various provinces, cities, and autonomous regions, there also are many areas fully worth opening up; they urgently require inspections and investigations. For example, the Chang-po mountain area of Kirin, the Tsingling region of Shensi, and so on. Such investigations connected with synthetic use will enable us to acquire an all-round, systematic understanding of natural conditions, to conduct research into the laws of nature, and to grasp the relationship of similarities and limitations existing in natural phenomena. In order to solve concretely certain problems of production and construction, we must conduct special inspections and research on the basis of synthesized investigations and according to need.

Specialized inspections and investigations constitute an important method for deeply understanding the particular natural resources of each region. For example, geological inspection work can ascertain the resources available for mining in a definite

region and can determine the potential available for industry. This serves as the basis for starting extraction work. Inspection of water conservancy resources can determine the volume of water passing a point in a river, rate-of-flow, shifts in the river-bed, and so on. These can serve as the basis for repairing and building water conservancy works. As for the inspection of soils, such inspection is directed toward satisfying the demands of the people's communes for rational use of the land and improvement of soils. In the past few years, considerable successes were registered in this field after much work by departments concerned in the central government and in certain research structures and higher schools. However, the central departments are only able to carry out the most important part of this work; there is still a considerable amount of work to be done by obtaining the assistance of scientific and technical structures as well as higher schools in various regions of the country. Lenin paid a considerable amount of attention to inspection and research in resources. In his Draft Plan for Scientific and Technical Work, he demanded systematic inspection and research into Russia's productive forces of nature and stated that, "Rational distribution of Russia's industries leads to the bringing of industry closer to raw-material producing areas...." (Collected Works of Lenin, volume 27, Jen-min Chu-pan She, 1958, first edition, page 296).

In order to grasp the natural conditions and laws of change in a certain region, it is necessary to carry out a few regular surveys. For example, in meteorological work it is still necessary not only to scatter an extensive survey network, but also it is necessary to complete one survey in a few hours in order to be able to make fairly reliable and regular weather reports in serving economic construction and the livelihood of the people. Ocean and waterway surveys and surveys connected with terrestrial magnetism, earthquakes, and gravitation must be regularly carried out.

The great quantity of materials accumulated by regular surveys and inspections and investigations form the foundation of production and construction, as well as the basis of defense production; it serves various fields of endeavor. If this foundation work is not done in good fashion, it will always affect directly the progress of construction. For example, surveying and charting work is at present very backward, and many regions are still blank and uncharted. Because there are no topographical maps of these areas, several major construction projects must begin by conducting surveys and charting. Detailed information on earthquakes is lacking for many areas; if basic construction is to be started in these areas, it will be necessary to supplement what is available with investigation and research into earthquakes, in

order to determine quake-intensity, and then to take quake-protection measures. Resources-investigation work is also of this nature. In order to develop economic facilities in our country's tropical and sub-tropical areas, we have already conducted investigations into weather conditions, typhoons, soil conditions, and the abundance and types of fauna and flora. This work will be of considerable use when these areas begin to develop their plans. This type of basic work when first begun does not often permit a clear picture concerning its ultimate utility. It is easy to regard it indifferently, for some work is even considered to have absolutely no connection with construction. Suddenly one day when it is needed, it will be unavailable. We must thoroughly comprehend the importance and long-term nature of examining natural conditions and natural resources; we must at an early date give our attention to it, opposing the short-sighted viewpoint. Our cause of socialist construction will be further developed for more, faster, better, and cheaper results.

II

The starting point of our work is to come to know nature and to grasp its laws. This certainly is not the last goal. Of greater importance is the use of these laws and the conversion of nature into the servant of socialist construction. We should advance toward the goal of planned transformation of nature.

Following the great leap forward in 1958, the struggle of the masses on every production front fully demonstrated the might of the laboring people in transforming nature. In thoroughly using natural resources, we must also rely on mass movements. During the tremendous iron-smelting movement, we relied on the masses to seek out large quantities of coal, iron, and other mineral resources. Various areas relied on the great mass movement in the construction of water conservancy facilities, harnessed untold numbers of large and small rivers, greatly reduced the threat from them, and turned all this to the promotion of agricultural production. The high-target and rich-yield movement in agriculture led to many new, advanced experiences in the fields of soil-improvement, deep-plowing, and close-planting, as well as in pest-control. In forestry work and in water and soil conservation work, there was considerable expansion due to the needs of the great leap forward and as a result of the great mass movement. This work is playing a tremendous role in the cause of changing our country's natural face and is supplying a wealth of practical material, opening a new and broad road for scientific and technical work and the attack on nature. As a result of Comrade Mao Tse-tung's and the party Central Committee's call to cast off superstitions and liberate our thoughts, and because of the encouragement given to production and scientific practices by the great

masses, a new flame now burns among our scientific and technical circles and there has been an unprecedented development in examination and research work directed toward understanding China's natural conditions and natural resources.

The scale of socialist construction is becoming bigger. In this enlarged sphere, we must begin work on the utilization and transformation of nature. In certain areas of long-range work, we must move into action at an early date. For example, if we want to alter basically the drought and semi-drought areas of the northwest and north China, complete reliance on the water of the Yellow River alone will not meet this demand. Therefore, in 1958 we began to examine the possibility of changing the southward course of waters to a northward direction. We carried out topographical, geological, soil, and water-velocity work and began to conduct research on the matter of how the waters of the Yangtze River could be conducted to the Yellow River in order to make up for the inadequate volume of water.

The regions of our northwest have vast deserts which are not beneficial at all to the efforts of desert-area peoples, who hope to expand production and raise their standard of living. The deserts also have a tremendous affect on the climatic conditions in north China and the regions of the northwest. Because of this, there must be planned desert-transformation work. In recent years, people in the desert areas, under the leadership of the party, have been carrying out a concerted struggle and have adopted such desert-transformation measures as planting trees and building forests, sealing-off the sand and growing grass, bringing in water for irrigation, and so on. Those areas which have adopted these measures not only protect nearby agricultural fields and grazing areas, the production there, and the safety of the people's livelihood, but also improve the people's livelihood. On the foundation of these achievements, a first-step plan for all-round transformation and utilization of the deserts was drawn up last year, desert-control work teams were organized. They penetrated deeply into the Gobi Desert, carried out investigations and research, summed up experiences of the masses, and fought against the desert together with the masses of the desert areas. It can be predicted that rich-grazing areas will be opened up in the northwest, which is now being transformed.

Changing the southward course of the river and transforming the desert areas are only two examples of our country's mighty goal of large-scale transformation of nature. Similar examples of considerable numbers can also be cited. Our people, under party leadership, has already carried out, and will continue to carry out,

mighty enterprises which our predecessors and capitalist states did not, and do not, dare to imagine. The people will no longer cower before the threat of natural calamities, for they gradually will transform all harmful elements into beneficial elements.

After grasping the special features of natural conditions and natural resources, we must use these features to develop our socialist construction. We must, therefore, appropriately develop science and technology that is connected with them. For example, after we have grasped the special features of climate in our tropical and semi-tropical areas, we must conduct research into the special features of work-materials in these hot areas, select those of superior quality, carry out anti-pest work, and thereby develop conditions for creating work-materials in our tropical and semi-tropical areas. Moreover, as concerns the many mineral mines which are so abundant in our country, we must not only conduct research in the matter of regional distribution of these mines, but also we must investigate how to go about eliminating disadvantageous elements in selecting mines and fully synthesize utilization of these metals and minerals. This should point toward research in a series of scientific and technical questions concerning special characteristics of extracting from mines, selecting mines, and organizing work in mines. The many production techniques in the chemical industries and light industry must similarly be the objects of research based on the special features of natural conditions and resources.

It is relatively easy to understand that special features of natural conditions and resources directly influence agriculture, forestry, and certain raw-materials industries and light industry. Although other industries, such as the machine industry, radio industry, etc., appear to be unaffected by natural conditions and natural resources, this is actually not true. Foreign machinery is not appropriate for use everywhere in China. Thus, foreign agricultural machinery cannot be used everywhere in China. We must carry out research on the special features of the various areas in our country. Plains areas and plateau areas have different requirements; different types of motor-powered machines are to be used in different terrain conditions. Atmospheric pressure in the plains is high and, in the plateau areas, is low. Atmospheric pressure affects power which is produced by steam furnaces and various types of combustion machines. Climate in north China is cold, and in south China, warm. Many machines, electrical devices, and radio parts accordingly must be changed. Lubricating-oil used in machines must be of different viscosity in line with differing climatic conditions. Oil used in the northeast must lubricate in low-temperature conditions and must remain fluid in temperatures as low as 40 degrees below zero. Oil used in south China must hold up under

high-temperature conditions and must not thin out or dissipate at temperatures as high as 40 degrees above zero.

The abovementioned problem of integrating science and technology with the special features of various regions in China demands that we carry out creative research. This is an important aspect of scientific integration of science and technology with practice and with production. The first principles of science, such as certain laws of biology, chemistry, and physics are similar in all regions. However, the concrete use of these principles and laws are not operative the same way in various areas. Considerable creative work must be done in this field. This is not easy work. Comrade Mao Tse-tung has instructed us that in order to understand new things in China we must create new things. This means that our scientific and technical personnel must penetrate reality, conduct painstaking research, display the Communist style of daring to think, daring to speak, and daring to act, integrate their ideas with the special features of China, and use a pioneering spirit to solve China's practical problems of production and construction and raise our country's scientific and technical level.

III

An important aspect of the utilization of resources is the question of synthetic utilization. Work in synthetic utilization of resources in the past few years -- especially since 1958 -- had a tremendous development. For example, synthetic utilization of coal, products of agricultural secondary industries, and many mineral-mine materials, seawater, and lumber have been the subjects of not a little research, experimentation, and dissemination work. Several major technical problems connected with the coal industry were solved by high-temperature distillation, low-temperature distillation, and vaporization. In synthetic utilization of agricultural and secondary industries products, such as the simplified method for distilling wine, there has been technical preparation for light industry and chemical industry for the people's communes. There have been preliminary advances in the separation of rare metals and in their use, and in the synthetic utilization of seawater. There have been, too, achievements in synthetic utilization of wood-products, marine products, domesticated animals, etc. However, there are still irrational phenomena in our utilization of resources and the level of synthetic utilization is still very low. For example, the greatest part of our coal is used merely for fuel and is directly converted and burned as fuel; the ratio of utilization of wood-products is still only 60 percent, leaving considerable amounts of waste. These major resources which are so abundant and which can yield so many products are the central points of our country's resources-synthetic-utilization work. Our work, which should be carried out

in many fields on the scientific and technical level, must adopt many channels and must be expanded and raised in conformity with conditions from region to region.

The standard and level of synthetic utilization of resources are signs of a nation's industrial level and scientific-technical state. Man's utilization of one particular natural resource has progressed from non-use to use, from a low level to a high level, from partial to complete use, and from use in one line to use in many lines. As industry and science and technology advance, the kinds of resources which can be used increase in number. As the standard or degree of synthetic utilization of resources is raised, the result stimulates the development of science and technology. Indifference to the synthetic utilization of resources is wrong. On the other hand, to attempt to utilize resources in the best and fullest way all in one blow is impossible. Viewed from the aspect of future development, there is no such thing as waste material; all material can be utilized fully.

Rational, synthetic utilization of resources is an important technical policy of socialist construction and it is an important condition for raising social labor productivity. Serious regard for synthetic utilization of resources is a question connected with the interests of socialist construction and the overall interests of the country. We must plant the overall concept and view and oppose the view of individualism. Synthetic utilization of resources is always a matter dragged into certain economic departments; it must elicit close cooperation among the various departments. The synthetic utilization of some resources may not be an economic matter when viewed from departments which supply raw materials; but when viewed from departments which must use these materials, it is a completely economic matter and is beneficial to the country. The synthetic utilization of some raw materials, when viewed from departments which must use them, may also not be an economic matter, but may be a completely economic matter with regard to the work of certain other departments. This, too, is beneficial to the country. Under these conditions, we must promote synthetic utilization to create even more wealth for the state and to speed up socialist construction.

Large-scale industry must give attention to synthetic utilization of resources. In the same way, medium and small-scale industry should give attention to this matter. Large-scale industry has conditions of its own. For example, there are many secondary products which are suitable for a definite scale of factory or section and from which other materials can be obtained, using the original machinery and equipment. Medium and small-scale industries also have their special advantages. Thus, it is not necessary to increase

equipment; production is on the spot, waster material is on the spot, investment is small, and investment return is rapid. In a people's commune, synthetic utilization of resources should also gradually be implemented. Agricultural, forestry, livestock, and secondary and fishing-industry resources are available in quantity in each people's commune. If they adopt the method of synthetic utilization and many-sided management, not only industry in people's communes will be aided, but also the quantity of commercial products in the communes will be increased.

Synthetic utilization of resources can be fully realized only under the socialist system. Capitalist production plunders resources. Although capitalists on occasion also use resources synthetically, this can be attained only in conditions where only the most limited profits can be guaranteed. For example, when a capitalist opens an extraction mine, he only opens a rich mine and only that part of it from which it is easy to extract resources. As concerns that part where the quality of the ore is comparatively poor or where a comparatively large investment is required, he pays no attention and shows no interest. The capitalist can in this way, and from a short-term point of view, obtain the greatest profit; but from the long-term point of view and as concerns the entire society, this becomes the greatest kind of waste. For profit, the capitalist would rather deliberately discard and not use some resources; this is quite common. It is a concrete demonstration of socialism's superiority in the matter of rational, synthetic use of resources.

IV

The second session (conference) of the party's Eighth National Congress in discussing the task of the technical and cultural revolutions, demanded a step-by-step change to a new technical basis for the national-economic-plan's agriculture and handicraft industry, demanded an enormous expansion of our socialist productive forces and the raising of China's labor productivity, demanded the universal raising of the people's cultural and educational level, and demanded that, on the basis of the "12-year Science Development Plan," our science and technology catch up with the most advanced levels in the world. A major measure to be taken in realizing these demands is the carrying out of investigations and research into natural conditions and natural resources.

The objects of man's labor are natural resources. In the course of labor, man transforms nature and turns it to serve him. Marx said: labor is first of all a process concerning man and labor and in the course of the process, "Man rises from his own activity to regulate and control the material exchange between himself and

nature," "he not only causes a change in the form of natural things, but also realizes his goal in these natural things." (Marx: Capital, volume 1, Jen-min Chu-pan She, 1953, first edition, pages 191-192.) Natural conditions and natural resources exist objectively; they have their own objective laws which do not need man's will for their communication. When men know these laws and use them to utilize and change nature, making nature conform to their own goals, men will then no longer bow down to nature, but will become nature's master. That is, through the subjective actions of man and through his labor, nature can be made to serve man. The demands of the technical and cultural revolutions fully utilize the superiority of the socialist system, display man's wisdom, and power, use man's labor (including physical and mental labor), penetrate nature's secrets, and most effectively utilize natural conditions and natural resources.

Bourgeois "naturalists" believe that natural conditions and natural resources are definite elements of social development. This, of course, is entirely wrong. The history of mankind has moved through many major social revolutions, but in the space of man's historical existence, changes in his natural environment have been insignificant, if discernible. Semi-feudal, semi-colonial old China has had roughly similar natural conditions and natural resources as the people's new China, but these have been put to entirely different uses. For example, the Yellow River for centuries has been known as the "hundred sorrows." In 1955, we began the tremendous project to control the Yellow River, which will become the river which will bring the "hundred benefits" to man in vast amounts of electric power, and in river transport. These transformations stem entirely from the role of man, from the actions of man under the socialist system. In the ten years since the founding of our state, our country's natural conditions and natural resources obviously have not been altered. However, following the party's announcement of the general line for "building socialism with more, faster, better, and cheaper," the production and construction pace in China became unprecedentedly high, and an even greater use was made of natural resources and natural conditions. "vast area and abundant materials" became a tremendous material force and enabled us to have the prospect to cast off more rapidly the attitude of "one poor, two blank" which was inherited from the old China. The great biologist Michurin has said, "We cannot wait for nature's favors; our task is to exploit nature." (Michurin: See Collected Works of Michurin, volume 1, first edition, introduction, Finance and Economics Publishing Company, 1955, page 4.) We must display fully the subjective ability and role of the people, greatly strengthen investigations into and research work in natural conditions and natural resources, and objectively use existing

conditions of nature to the utmost.

Man lives in nature's surroundings; in the course of productive labor, he regularly struggles against nature. "To declare war against the earth" is a mighty, difficult task. The myriad masses must participate, for it is also a cause beneficial to the personal welfare of the broad masses. In the course of investigations into and research work in natural conditions and natural resources, we must fully display the method of mass line work. Since 1958, the myriad masses, under the party's general line, participated in this work, with enormous results. In geology, for example, within the course of 1958, 160,000 mineral sites were discovered -- almost three times the number discovered in the past eight years. As of October 1959, the mass-type soil inspection work carried out during the year covered 4,300,000,000 mou, including 1,300,000,000 mou of tilled land -- or about 77 percent of China's cultivated land. In meteorological work, there had been, previously, only a few big cities which conducted weather reporting; but following the masses' participation in meteorological work, weather teams were organized throughout the country; these issued weather reports for the small area of the local county or local commune. This greatly assisted production in agriculture, animal husbandry, fishing, and certain other industries. Other fields of endeavor, such as investigations for planting in barren areas, have also been greatly developed. If the broad masses had not participated in this extensive work, if a tremendous mass movement had not been started, the work of only the small number of scientific and technical personnel would have been inadequate. Party leadership and the mass line speed up our country's investigations into and research work in natural conditions and natural resources; they are the basic guarantees for raising the scientific and technological levels of China.

Investigation and research work connected with natural conditions and natural resources and other scientific and technical work connected with nature form a part of our country's socialist construction which must not have inadequacies; form a condition for more, faster, better, and cheaper development of China's economy, and a major aspect for developing China's science and technology and for raising its scientific and cultural level. Under the brilliant light of the party's general line to "build socialism with more, faster, better, and cheaper" and the great call of the eighth plenum of the party's Eighth Central Committee to oppose rightist tendencies and to defend the general line, a new high-tide has developed in the cause of socialist construction in China. The continual, all-round leap forward on all fronts of construction in our national economy has further promoted the rapid development of science and technology. We definitely will thoroughly penetrate the spirit of the resolution of the eighth plenum of the Eighth Central Committee; we will rely

on party leadership in line with the demands of the tasks of the technical and cultural revolutions, carry out the mass line, fully demonstrate the subjective role man can play in utilizing nature, and use our investigations and research in transforming and utilizing natural conditions and natural resources in raising levels and realizing an uninterrupted and continuous leap forward.

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