CHINA

After Five Years of War

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FOREWORD

While peace reigns, the spirit of a nation can only be passively displayed ; in war it shines out in its full magnificence, especially when the war is against aggression and in defence of all that has become dear by the sanction of immemorial tradition and by the instincts that lie closest to the human heart.

So has it been with China. She has now entered upon her sixth year of war. For the past five years, she has been subjected to a test for which historical records supply no precedent. And this was a test for which she was singularly unready, although the Generalissimo had made strenuous, almost frantic, efforts to put to the best use the few years available for preparation, to repair the gaps in her defences torn by the parricidal hands of contending factions.

On the one side was a warrior nation, with a thin cultural veneer but within consumed by the most primitive passions, which had prepared for conquest for several decades with all the care and astuteness natural to a nation whose drama and literature glorified might and treachery and whose philosophy taught that powerful evil was infinitely more worthy of survival than good without power.

On the other was a nation which had long advanced beyond the ideas that obtained when the feudal system was supreme in other parts of Asia and in Europe, and which had consigned the warrior to the lowest rank in the hierarchy of the social organization. A country, moreover, which had recently—as time is applied to the life of nations —thrown off the antiquated garments of imperial tyranny and was still uneasily adjusting herself to the plainer but more becoming robe of freedom.

The expulsion of the Manchus from the Dragon Throne in China was rapidly followed by an attempt to saddle another dynasty upon the country. That failed, but after the disappearance of Yuan Shih-kai, the would-be Emperor, from the scene, a number of aspiring generals defied the authority of the Government and ruled as warlords over satrapies which waxed or waned as their individual fortunes fluctuated.

These were men whose pretensions were greater than their powers and whose ambitions were not balanced by their abilities. They were petty chiefs, struggling among themselves for supremacy and inspired by no higher motive than the acquisition of personal wealth and power. It may be truly said that of statecraft they knew nothing and that patriotism found no abiding place in their mercenary bosoms.

Such were the men with whom Generalissimo Chiang Kai-shek had to fight, and who had to be eradicated before China could aspire to be a modern State. As the devoted disciple of Dr. Sun Yat-sen, he had to see that the purposes of the Revolution were accomplished and that obstacles to the consummation of a Republican Government, sufficiently powerful to ensure peace and order, were swept away. He was successful, but not until the country had been subjected to so long and severe a process of blood-letting that it would have taken years of careful nursing to restore her to national health. That tremendous task had scarcely begun when Japan struck her long premeditated blow. The machinery of civil government had undergone temporary repairs and was beginning slowly to move again when the Chinese nation was called upon to fight for its existence against an implacable enemy who aimed at nothing short of its complete subjugation.

In such circumstances, it might have been expected that China would throw herself heart and soul into the struggle for the preservation of her independence, regardless of all else. She did make a stupendous war effort, but she did more. She also looked to the future. While seemingly concentrating solely upon preparing herself for a long war which would entail a crushing expenditure of blood and treasury, she was also laying the foundations for a social and political system that would qualify her to take her place among the most progressive nations in the after-war world. How she accomplished these two disparate objects, either of which in itself demanded the exercise of the highest powers of organization, of concentration and of endurance, is told in the succeeding pages.

This book is an imperishable testimony to the qualities of resilience and recuperation peculiarly characteristic of the Chinese people. It has the inestimable advantage of having been written while the struggle was still going on, when the skies at Chungking might, at any moment, be darkened by a swarm of enemy planes dropping fire from heaven

—a demonstration of the ineradicable urge of mankind to degrade its triumphs over natural laws to destructive and criminal purposes. Possibly the book has lost something of the polish and decoration that might have resulted from long and uninterrupted searching for the just word and the most felicitous phrasing of a sentence.

But, if it has lost anything in this direction, it is more than compensated for by what it has gained in another. The writers have painted a lively picture of what their own eyes have seen and are seeing, of what lay around them while they wrote. The historian, sitting in a quiet study and sifting the records of "old, unhappy far-off things and battles long ago" may be able to produce more finished work, but it will not be instinct with life. It will have the same resemblance that a painting, though exquisitely executed, bears to a stage production, where the scenery, the costumes, the very gestures and intonation of voice of the actors recalls the people of whom they give a depiction, and the period in which they lived.

The writers of this book are not actors using their art to revivify what has long passed away, or only had existence in the inspired mind of a great dramatist. They themselves were and are actors in one of the most tragic and sublime dramas ever displayed to man. The argument is the fate of the most populous country on earth. The stage is a great land whose climate varies from the frigid to the torrid. The scenes, months in duration, changed as the nation's fortunes rose or fell. The acts lasted a year, and as the curtain falls on the fifth their epitome of what is past, and what is promised in the future, is placed in the hands of the reader.

They have told the story of how the Chinese race, in the greatest crisis they have ever faced, bent themselves to the solution of the gravest problems of peace and war simultaneously and—as the future will prove—successfully. The world will learn from these pages how, with infinite patience and resolution, the Chinese people overcame appalling difficulties and setbacks and throughout maintained a calm confidence, due to the knowledge that they possessed an inexhaustible reserve of courage and determination which would not only save them from defeat but would carry them on to victory.

The writer of this Foreword can express himself the more freely because he is not Chinese. What might appear, if it fell from a Chinese

pen, as scarcely pardonable vainglory comes naturally and appropriately from a foreigner who has been a passive spectator while these glorious pages of China's history were being unrolled. He has had no personal share in her terrible suffering, deeply moved though he has been. But he feels that it is his duty to testify to the splendid courage with which she has confronted and overcome adversity and borne with tranquil dignity the rebuffs or rewards of fortune.

To China's allies of the United Nations this book can be warmly recommended. They still imperfectly know the value of the ally upon whom fell the heaviest blows of total war long before they were drawn into the vortex. The following pages will tell them much that they did not know and should know. China deserves to be better understood by the world. This book will do a great deal to promote that understanding.

F. L. P.

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I. GOVERNMENT

I. CHINA ORGANIZES FOR WAR

War usually causes many changes in a nation's political structure, and China's is no exception. The creation of a unified super-organ to direct the prosecution of the war, centralization of powers in the hands of one man or of a comparatively few, restrictions on the functions of the legislative branch of the Government, amalgamation of existing organs and establishment of new ones—familiar characteristics with governments of all countries at war—have likewise occurred in China in varying forms and degrees. Another thing, outwardly incongruous but logical when viewed in the perspective of China's contemporary history, has also happened. It is the steady progress of institutionalized democracy.

An all-important fact to remember in discussing Chinese politics is the party rule established throughout the nation by the Kuomintang, or the Chinese Nationalist Party, in 1926—1927. Therefore, on one side is the Kuomintang and on the other the National Government. The latter, first organized in 1925 in Canton, later moved to Nanking in 1928, and to Chungking upon the outbreak of the hostilities in 1937, has three divisions. First, there are the Chairman of the National Government, the State Council with 36 members, and the civil affairs, military affairs, and the comptroller-general's departments. Second, there are the five Yuan, namely, the Executive Yuan, the Legislative Yuan, the Judicial Yuan, the Examination Yuan and the Control Yuan, and the ministries, commissions and administrations under them. Third, there are organs directly under the National Government. The most important one is the National Military Council, which is equivalent to the Generalissimo's Headquarters. The Kuomintang has its own administrative machinery but in order to direct the National Government, it created many years ago a Political Committee under its Central Executive Committee. Since the beginning of the war, however, the functions of the Political Committee were taken over, first, by the Supreme National Defense Conference and since February, 1939, they have been exercised by the Supreme National Defense Council.

Pending the promulgation of a permanent constitution, the present National Government is responsible to the Kuomintang Central Executive Committee, which elects the Chairman of the National Government, members of the State Council, and presidents and vice-presidents of the five Yuan. In theory, when the Kuomintang National Congress is in recess, the Central Executive Committee is the highest organ of direction and supervision in China. In actual practice, these two functions used to be carried out in pre-war days by its Political Committee.

This Political Committee was formed in 1924, following the re-organization of the Kuomintang that year. In its early days it directed political as well as party affairs. In February, 1928, party affairs were taken out and the committee was concerned only with political affairs. In the years that followed, though it had undergone numerous changes in organization and in its competency, the Political Committee retained its essential features. First, it remained under the Central Executive Committee to which it is responsible. Second, it served as a controlling body created by the party over the National Government, and all new measures decided by the party concerning the Government's programme of reconstruction, and policies on domestic and foreign affairs must pass through it to the National Government. Third, during the period of political tutelage—the second of three periods stipulated by Dr. Sun Yat-sen, father of the Chinese Republic and founder of the Kuomintang, as necessary steps in the course of China's nation-building, the other two periods being of military operations and of constitutionalism—the Political Committee had the power to make final decisions on all fundamental policies and programmes. The National Government, in executing these political measures, was responsible to the Political Committee.

The existing (but no longer active) Political Committee was formed in November, 1935. According to its organic law revised in May, 1938, its chairman, vice-chairman, and from 19 to 25 members were chosen by the Central Executive Committee from among its own members and those of the Central Supervisory Committee. It had the power to hold deliberations and make decisions on the following topics: First, principles of legislation; second, administrative programmes; third, military and political policies; fourth, financial plans including budgets; and fifth, the appointment and dismissal of government officials of the "special appointment" and "special commission" ranks, and of officials in charge of political affairs as distinct from those

in charge of administrative affairs. The principles of all laws enacted during the years before the war were decided first by the Political Committee and then passed on to the Legislative Yuan in the National Government for legislation. The Legislative Yuan was obliged to accept and adhere to these principles. In addition, the Political Committee has the right to interfere with or restrict any of the five Yuan in the National Government in the discharge of their duties. Therefore, both in status and in power, the Political Committee was the supreme organ in China's pre-war political structure.

Shortly before the war broke out in July, 1937, and in view of the worsening Chinese-Japanese relations, there was created a National Defense Conference which met irregularly to hold discussions and make decisions on questions concerning national defence. In August that year when major hostilities occurred in Shanghai, the Standing Committee of the Central Executive Committee, with a view to increasing the powers of the National Defense Conference, especially powers of its chairman, ordered its re-organization into the Supreme National Defense Conference. As this new body was endowed with powers almost identical with those of the Political Committee and because the latter comprises too many members and cannot be easily convened, the Standing Committee in November, 1937, ordered the suspension of the Political Committee and the discharge of its functions by the Supreme National Defense Conference. In point of fact, therefore, this new body became the highest organ of direction with regard to wartime policies. Nay, it became the final authority in deciding wartime policies.

Something else, however, was needed. Though a policy-making organ had been established, a centralized organization to direct the entire administration remained to be set up. From August, 1937, to January, 1938, the National Military Council, which comes directly under the National Government, virtually became the Headquarters of the Commander-in-Chief of China's Armed Forces. During this period, the National Military Council directed all party, political and military affairs through its eight boards or departments in charge of military operations, military training, light industry and commerce, heavy industry, international publicity, people's movement, military transportation and army and civilian medical service. To a certain extent this arrangement resulted in a unified command. Nevertheless, there was a big drawback in that the scope of functions thus grouped under the National Military Council was not comprehensive enough.

For many organs, both under the National Government and in the Kuomintang, had not been brought into the orbit of the National Military Council. Then in January, 1938, all non-military functions which were normally carried on by the civil branch of the National Government were returned to their original organs concerned, with the result that the unified direction of administration already achieved was divided again.

The situation was not remedied until the formation in February, 1939, of the Supreme National Defense Council, which according to its organic law, has the power of unified direction over all party, political and military affairs. In other words, the Supreme National Defense Council has the power to take a direct hand in regulating the functions of the five Yuan under the National Government and their respective ministries, commissions and administrations, of various units in the National Military Council, of all organs directly under the National Government, and of various boards or departments under the Central Executive Committee of the Kuomintang. The Supreme National Defense Council, now not only a policy-deciding body but an executive organ as well, is the super-organ China has created for the prosecution of the war. Because of its importance, its personnel and inside organization are not generally known apart from the fact that Generalissimo Chiang Kai-shek is its chairman.

To-day Generalissimo Chiang Kai-shek is China's supreme leader. But in pre-war years though he had been unfailingly the principal guiding spirit since 1926-1927, there was no official recognition of his leadership. When the war broke out in the summer of 1937, he was chairman of the National Military Council. In the Kuomintang he was but one of nine members of the Standing Committee, and vice-chairman of the Political Committee, and one of 120 full members of the Central Executive Committee.

At the extraordinary session of the Fifth National Congress of the Kuomintang held in March, 1938, Generalissimo Chiang was unanimously elected *Tsungtsai* or director-general of the party with the power to lead and direct affairs of the party. As *Tsungtsai*, he now holds an office in the Kuomintang similar to that held by the late Dr. Sun Yat-sen. In other words, the system of leadership which formerly existed in the party was restored after a lapse of almost thirteen years.

It must be added here that when fighting broke out in 1937 Generalissimo Chiang was also president of the Executive Yuan. In April, 1938, at the 4th plenary session of the Kuomintang Central Executive Committee, because of the critical military situation following the fall of Nanking the previous December, he resigned from his concurrent post in order to be able to devote his time and energy to military affairs. Whereupon Dr. H. H. Kung, the Finance Minister, was made his successor in the Executive Yuan. This arrangement lasted until November, 1939, when at the 6th plenary session of the Kuomintang Central Executive Committee, Dr. Kung asked that he be relieved of his presidency of the Executive Yuan in favour of Generalissimo Chiang. Dr. Kung's reason was that with the nation entering upon its third year of war it was imperative to have concentration of power for the successful prosecution of the war. Hence Generalissimo Chiang was re-elected president of the Executive Yuan with Dr. Kung as vice-president. So, by the end of 1939 Generalissimo Chiang had gathered in his hands all the necessary powers, being *Tsungtsai* of the Kuomintang, chairman of the National Military Council which places him at the head of all Chinese armed forces, and president of the Executive Yuan which makes him the real chief executive. The Chairman of the National Government is the titular head of the Republic of China without actual political responsibility.

This process of concentration of power went a step further with the formation of the Joint Board of the Four Government Banks in September, 1939. The four banks concerned are the Central Bank of China, the Bank of China, the Bank of Communications and the Farmers' Bank of China. The Board has three executive directors. They are Dr. Kung, governor of the Central Bank of China, Mr. T. V. Soong, chairman of the board of directors of the Bank of China, and Mr. Chien Yung-ming, chairman of the board of directors of the Bank of Communications. The functions of this Board, among other things, include the adjustment of note-issue among the four banks, the centralization and utilization of capital funds, the inspection of note reserves of the four banks, the joint extension of loans and discounts and the collection of gold and silver. As its chairman, Generalissimo Chiang, with the assistance of the three executive directors, has general charge of all banking affairs. The Ministry of Finance has authorized the Joint Board to take necessary steps on its behalf and on behalf of the four banks to cope with financial conditions in time of war. In June, 1942, the power of note-issue was centralized in the Central Bank of China. The Bank of China will henceforth become a foreign exchange

bank, the Bank of Communications an industrial bank and the Farmers' Bank a rural bank to develop China's agrarian economy.

This process reached a new height toward the end of 1941 when, in the absence in Washington of Dr. T. V. Soong, the new Minister of Foreign Affairs, Generalissimo Chiang took on the concurrent post as acting Minister of Foreign Affairs. Finally at the 9th plenary session of the Kuomintang Central Executive Committee in December, 1941, he was given emergency powers and the Standing Committee was instructed to make all necessary changes in laws and regulations and to adopt all practical measures under the leadership and upon the decisions of Generalissimo Chiang.

In addition, Generalissimo Chiang holds at least a dozen more concurrent posts. He is the principal of all military academies in China, chairman of the Central Training Institute, leader of the *San Min Chu I* (Dr. Sun's Three People's Principles) Youth Corps, principal of the Central Political Institute, chairman of the Central Planning Board, chairman of the Party and Political Work Perscrutation Committee, both organs set up in accordance with decisions reached at the 7th plenary session of the Kuomintang Central Executive Committe held in January, 1940.

The war has also resulted in the restriction of functions of the legislative branch of the National Government. According to the organic law of the Supreme National Defense Council, its chairman does not have to abide by the peace-time procedure of legislation in time of war. Instead, he has large discretionary powers and may issue emergency mandates to cope with all party, political and military matters. But such mandates must be sent to the Legislative Yuan for legislation afterwards. Before taking up for discussion any bill of a wartime character, the Legislative Yuan is required to submit it to the Supreme National Defense Council for consideration and guidance.

In the last five war years the executive branch of the National Government has undergone several reorganizations. By a mandate of the National Government dated January 1, 1938, the following changes were effected in the Executive Yuan: first, the abolition of the Ministry of Navy and the transfer of naval affairs to the Office of Naval Headquarters in the National Military Council; second, the transformation of the Ministry of Industry into the Ministry of Economic Affairs which absorbed the functions of the National Reconstruction Commission, the conservancy department of the National Economic

Council, and the third and the fourth Departments in the National Military Council in charge of light industry and commerce, and heavy industry; third, the merger of the Ministry of Railways and the Bureau of Highways of the National Economic Council with the Ministry of Communications; and fourth, the transfer of the National Health Administration from under the Ministry of Interior to the Executive Yuan and its absorption of the Public Health Department of the National Economic Council. In another mandate dated February 12, 1938, a number of minor changes were effected and the National Relief Commission was created.

At the 6th plenary session of the Kuomintang Central Executive Committee in November, 1939, it was decided to have a Ministry of Agriculture and Forestry under the Executive Yuan and to transfer the Ministry of Social Affairs from under the Kuomintang Central Executive Committee to the Executive Yuan. The former was subsequently established in July, 1940, with five departments handling general affairs, agriculture, forestry, rural economy, fishing and animal husbandry, and a special land reclamation administration. The latter was duly transferred in June, 1941, with three departments in charge of general affairs, organization and training of public bodies, and social welfare and a separate National Co-operative Enterprises Administration.

At the 7th plenary session of the Kuomintang Central Executive Committee in July, 1940, it was decided to establish a Ministry of Economic Warfare and to transform the Ministry of Economic Affairs into a Ministry of Industry and Commerce under the Executive Yuan, to have a Ministry of Women in the Kuomintang Central Executive Committee, and to organize a Central Planning Board and a Party and Political Work Perscrutation Committee under the Supreme National Defense Council. So far practical difficulties have delayed the realization of the first three mooted changes or additions. The Central Planning Board and the Party and Political Work Perscrutation Committee, however, have been duly established with Generalissimo Chiang as chairman of both new organs. The former takes charge of the preparation and examination of all plans and programmes of political and economic reconstruction of the country, while the latter checks up on the finances and personnel of all party and Government organs and on their actual accomplishment in comparison with their original plans and programmes. Much significance is attached to the creation of these two organs, because in conjunction with the

executive branch of the Government, they have completed a chain for a well-regulated government machinery in which every project is planned beforehand, put into effect and then examined afterwards to see how much has actually been done.

The 8th plenary session of the Kuomintang Central Executive Committee held in April, 1941, adopted among other things a Three-Year Plan of Reconstruction to be enforced as from January, 1942. It also authorized the National Government to take over and reorganize the collection of land tax from the local governments, and to reorganize and strengthen the fiscal system of the country. Both of these decisions were later enforced. Furthermore, the same session resolved to establish under the Executive Yuan two new ministries, one for food and the other for trade. The former was duly organized in May, 1941, with seven departments in charge of military food supplies, civilian food supplies, storage and transportation, personnel, finance and investigation. Up to the end of June, 1942, the latter has not yet been set up.

The establishment of the National General Mobilization Council and of the Land Administration was decided upon at the 9th plenary session. The former with a Standing Committee of three comes directly under the Supreme National Defense Council while the latter becomes a new addition to the Executive Yuan. Moreover, the plenary session decided to set up a small advisory board with members to be chosen by the Supreme National Defense Council from among members of the Kuomintang Central Executive Committee, leading personages in cultural, social and economic fields and those who have distinguished themselves in service to the nation in time of war. This board will advise the Government on important political matters. In the summer of 1942, preparations for the formation of this board were being completed.

Another wartime organization which should be mentioned is the Economic Council of the Executive Yuan which was set up in January, 1941, as a co-ordinator of the activities of different ministries in the Executive Yuan which pertain to economic affairs. The council had a large secretariat and eleven sections in charge of food, finance, wage, commodity, military administration, political affairs, transportation, investigation, inspection, trade and co-operatives. Each section had a chief and a deputy with responsible officials in government organs concerned serving in a concurrent capacity. The council, though

not an executive organ, provided a machinery for the exchange of views among officials in charge of the administration of various aspects of the nation's economic life so that duplication and waste of effort could be avoided as much as possible. In May, 1942, upon the inauguration of the National General Mobilization Council, the Economic Council ceased to function with its duties taken over by the new organization.

During the last five years most of the ministries under the Executive Yuan were partially reorganized at one time or another, all for the purpose of enhancing their efficiency. As it stands at the end of June, 1942, the Executive Yuan has the following principal units: Ministry of Interior, Ministry of Foreign Affairs, Ministry of War, Ministry of Finance, Ministry of Education, Ministry of Communications, Ministry of Food, Ministry of Social Affairs, Ministry of Agriculture and Forestry, Ministry of Economic Affairs, plus the National Health Administration, the Land Administration, the National Relief Commission, the Mongolian and Tibetan Affairs Commission, the Overseas Chinese Affairs Commission and the National River Conservancy Commission.

War is ordinarily no time for the institution of political democracy. In China, however, something unique is happening. When the war broke out in July, 1937, there was no organized representation in the country. To-day, five years afterwards, a complete system of representation has taken shape. It ranges from the National Government on the top all the way down to the smallest administrative unit in the country.

To those familiar with Chinese political trends, this development does not come as a surprise, for the underlying theory behind the Kuomintang rule is one of trusteeship. The sovereignty rests with the people, but is being temporarily exercised on their behalf by the Kuomintang whose political ideal is the realization of political democracy. After the country has gone through the periods of military operations and political tutelage, it is to enter upon a constitutional period when a People's Congress will be held to adopt and promulgate a permanent constitution and the reins of the Government will be handed over to representatives duly elected in accordance with the provisions of the constitution.

A year before the outbreak of hostilities, a Draft Constitution was published by the National Government and a date was set for the

People's Congress to be convened on November 12, 1937. This arrangement was upset by the fighting. Another attempt to convene the People's Congress in 1940 was rendered impracticable by transportation difficulties encountered by its 2,000 delegates in trying to arrive in Chungking in time from various parts of the country, including areas under enemy occupation.

The moment major hostilities broke out in Shanghai, the need was felt that some sort of representation must be secured from the people. So, an advisory council, composed of leaders of different political parties, was created and attached to the National Defense Conference. As this was soon found inadequate, the Kuomintang National Congress, meeting in Hankow in March, 1938, in an extraordinary session, decided to form a People's Political Council "in order to unify the national strength, to utilize the best minds of the nation and to facilitate the formulation and execution of national policies." The first council was duly organized in July the same year with 200 members, all of whom were selected by the Kuomintang. It had the power to receive government reports, interpellate ministers, and make proposals. Except in cases of emergency, the National Government was required to submit to the council for approval all important measures regarding domestic and foreign affairs before putting them into execution. The first council held five plenary sessions, and early in 1941 it was succeeded by the second council with 240 members. Instead of being all selected by the Kuomintang, 102 of these members were elected by the provincial representative assemblies on a regional as well as professional basis. In addition to powers enjoyed by its predecessor, the second council could conduct investigations upon the request of the Government, but it had the initiative to suggest the subjects of investigation. In the summer of 1942, a third council is about to be inaugurated with the same number of members as the second council, but more of them, 164 instead of 102, will be elected by the provincial representative assemblies.

Regarding provincial representative assemblies, the National Government as early as September, 1938, promulgated a set of regulations governing their organization. Up to the end of June, 1942, such assemblies have been formed in seventeen provinces and one special municipality, that is, Chungking. China has altogether twenty-eight provinces, plus Mongolia and Tibet. The presence of Japanese troops in the four northeastern provinces (Manchuria and Jehol) and seven northern provinces has made it impossible to set up such assemblies

there. As in the case of relations between the National Government and the People's Political Council, the provincial government, before putting into execution any important administrative measure, is required to present it to the provincial assembly for discussion and decision. The latter has the power to make proposals to the provincial government, to listen to its reports and to interpellate its responsible officials. If the provincial government should find any decision reached by the provincial assembly impossible of execution, it may ask for reconsideration at its next session. If two-thirds of the assemblymen present should decide to uphold or revise the original decision, the provincial government, unless exempted from doing so by the Executive Yuan of the National Government, is obligated to put the measure into execution.

The New *Hsien* (county) System, while it also aims at strengthening local administrative machinery, has as its primary objective the laying of a good foundation for political democracy from the bottom up. There are roughly about 2,000 counties in China, and at the end of June, 1942, the new system was being enforced in half of them. Both for administrative and representative purposes, the county, which comes under the province just as the latter comes under the National Government, is normally divided into the following grades: ward (*chia*), borough (*pao*), town (known as *hsiang* in the rural area and as *chen* in the urban area) and the county itself. In some unusually large counties, another intermediary known as *chu* (district) exists between the town and the county.

In the ward, which is the smallest unit, there are from six to fifteen households with two kinds of representative councils, one comprising the heads of the component households and the other all adults in the ward. Six to fifteen wards make one borough, and each borough will have an assembly composed of one representative from each household in the unit. The borough chief and his deputy will be elected by the assembly. Six to fifteen boroughs make one town, and each town will have an assembly composed of two delegates from each component borough. The borough delegates are elected by the borough assemblies. Then each county will have a county assembly composed of representatives elected by the town assemblies. In addition, organized professional groups in the county may send representatives to the county assembly but their number must not exceed thirty per cent of the total. Beginning from July, 1942, provisional county assemblies will be formed in Szechwan to set an example for other provinces.

Members of the existing provincial representative assemblies were all appointed by the Executive Yuan from among persons nominated jointly by the provincial governments and provincial party offices. But when the New *Hsien* System is completed, delegates to the provincial assemblies will be elected by the county assemblies just as the provincial assemblies are now electing two-thirds of the 240 delegates of the People's Political Council. An integral part of the New *Hsien* System is the establishment of a citizenship school in each borough and a center school in each town, totalling 800,000 and 80,000 units altogether.

The People's Political Council is a wartime organ. It will have outlived its usefulness when peace is restored. By that time the People's Congress, already postponed twice, the first time directly and the second time indirectly because of the war, will take place to adopt and promulgate a permanent constitution for the country, which will then, as visualized long ago by Dr. Sun Yat-sen, enter upon its final period of nation-building, namely, constitutionalism and responsible government.

JAMES SHEN

2. KUOMINTANG GUIDES CHINA'S DESTINY

I

Three events stand out prominently in contemporary Chinese history. In each case the Kuomintang, or the Chinese Nationalist Party, was and is the source of wisdom, strength and leadership.

These events, in chronological order, are: first, the overthrow of the Manchu regime in 1911, and with it the antiquated millenium-old monarchy in China in favour of a republican form of government; second, the eradication of warlords in 1926—1927, and with it the removal of provincialism in the interest of domestic unification; and third, the momentous decision, in face of relentless Japanese encroachments after September, 1931, to launch a nation-wide war of resistance in 1937 for the sake of national security.

In retrospect it appears only natural that the Kuomintang which had so successfully led the Revolution against the Manchus and later the Northern Expedition against the warlords, should have again provided the leadership in galvanizing China's teeming millions in self-defence against Japanese invaders. Underlying these three epoch-making events there is a continuity of purpose, and in fact, a logical sequence of development.

The final aim of China's nation-building endeavours throughout the last half century can be summed up thus: internally, modernization and unification; and externally, independence and a place of honour and equality in the comity of nations. As the Manchus and the warlords who followed them stood in the way of China's move toward her domestic objective, they were ruthlessly struck down. Similarly, as Japan blocks China's road to full nationhood and sovereignty, she will have to be beaten down too. These two phases of China's gigantic task are inter-related. The country has to be unified so as to pave the ground for modernization, but before a progressive, prosperous and powerful nation can be built up, external hindrances must be removed.

Compared with the two major parties in the United States or with some of the parties in Britain, the Kuomintang is a late-comer. It was organized only over 40 years ago at a time when a Manchu Emperor was sitting on a shaky throne in Peking helplessly watching his empire totter under the combined impact of internal weakness and external pressure. Chinese intellectuals quietly but resolutely banded together to start a revolution. Others who went into the initial composition of the *Hsin Chung Hui* (Revive China Society) and subsequently the *Tung Meng Hui* (Brotherhood Society) were members of anti-Manchu societies, persecuted and driven underground by the alien rulers in their 267 years of sway in China. It was only through the untiring efforts of far-sighted men like Dr. Sun Yat-sen that the Revolution of 1911 transcended racial hatred into something infinitely more far-reaching, namely, the building of a new nation.

The Revolution of 1911 was preceded by numerous futile up-risings in various parts of the country. The name *Chung Kuo Ke Min Tang*, or the Chinese Revolutionary Party, was written large on the standard which unfurled on October 10 in Wuchang when armed revolutionaries stormed the Viceroy's Yamen. The up-rising was a success. The Manchu court abdicated and a republic was set up. For the party which organized and engendered the Revolution, however, it was for the time being a failure. Power already within reach slipped into the hands of Yuan Shih-kai who later outlawed the party and put himself on the vacated throne as the first Emperor of a new dynasty. This was followed by a period of internal strife, while Dr. Sun and other members of the revolutionary party retired to South China to reap lessons from the debacle and to prepare for the future.

The name *Chung Kuo Ke Min Tang*, later abbreviated to Kuomintang in usage, was adopted in 1919 and five years later the party underwent a thorough re-organization. Soon a small military academy appeared at Whampoa near Canton to train a cadre as the nucleus of a new army indoctrinated in Dr. Sun's principles. In 1926—1927 this new army set out from Canton under Generalissimo Chiang Kai-shek to crush warlordism and unify the country. The National Government originally in Canton was moved to Nanking, the new Capital.

The period between its coming into power in 1927 to the outbreak of the Chinese-Japanese war ten years later found the Kuomintang and the National Government busy tackling numerous problems. Despite an unprecedented flood along the Yangtze, the Japanese invasion of Manchuria, the recurrence of warlordism and the

long and sanguinary campaign against the Communists in Central China, they spared no effort to modernize and evolve a compact political entity out of China's sprawling provinces and unlimited resources. New lines of communications were built, financial reforms enforced, more schools opened, new industrial plants established, better equipment found for the armed forces and steps taken for the inauguration of a constitutional government.

All in all, under the leadership of the Kuomintang, a new spirit had taken possession of the four hundred and fifty millions. In fact, China in the few years prior to the outbreak of the war was doing too well to suit Japanese militarists. The latter feared that once China should succeed in her nation-building programme, all their designs on the continent would have to be abandoned. So using Manchuria as a base, they made steady inroads into North China in 1935—1936 with the design of detaching five northern privinces from the National Government. This having failed, they enacted a well-rehearsed scene at the Marco Polo Bridge outside the sombre city of Peiping (Peking) during the night of July 7, 1937. A Japanese soldier was said to be missing during a field practice in places where Japanese soldiers had no business, much less right, to be manœuvering. When their demand to search a Chinese garrisoned town was refused, they started shooting. Thus the curtain went up for the bitterest war ever fought on the Asiatic continent, and the Kuomintang manfully rose to the occasion by leading China's oppressed masses to defend their homes and their birthright to be free.

II

A brief account of the Kuomintang's structure, its ideology and its relations to the National Government may serve as a good basis for understanding the Party's all-important role in China's grim struggle for independence and freedom during the last five years.

The Kuomintang imparts a rigid training in principles to, and enforces a strict discipline among, its members, whose exact numerical strength is roughly estimated at over two millions. Unlike other countries in which party membership is acquired through paying a fee, Kuomintang membership is fairly difficult to obtain. An applicant must have the recommendation of two active members and undergo several tests concerning his knowledge of party principles. Only after he has passed them all and taken an oath to be loyal to the Party and the nation does he become a full-fledged member. Every month he

pays his membership fee and from time to time he may be called up for further training or for various kinds of service.

In the counties and provinces there are regional party offices. Aside from directing party affairs in their own districts, they elect delegates to the Party National Congress, in which is vested the supreme authority of the Kuomintang and which, until China has a constitutional government, exercises the sovereignty on behalf of the people. On the average, the National Congress meets once every two years. The first Congress was held in 1924 shortly after the re-organization of the Party that year, the second in 1926, the third in 1929, the fourth in 1931 and the fifth in 1935. An Extraordinary National Congress was convened in Hankow in 1938, the year after the outbreak of the war with Japan. When the National Congress is in recess, the highest organs are the Central Executive Committee and the Central Supervisory Committee. The two incumbent committees were elected by the fifth National Congress. The war and other problems have made it impracticable to elect another National Congress.

These two committees with altogether 260 full and reserve members meet for a plenary session approximately once every six months. The last plenary session, the ninth consecutive one in six years, was held in mid-December, 1941, one week after Japan had precipitated a major war in the Pacific.

Of the two bodies, the Central Executive Committee is by far the more important. It is competent to decide on any matter in regard to party and government affairs, subject only to revision by the National Congress. It elects the Chairman of the National Government, Presidents and Vice-Presidents of the Executive, Legislative, Judicial, Examination and Control Departments of the Government who are all responsible to it, pending the promulgation of a constitution. The Central Executive Committee designates a Standing Committee to take charge of routine affairs during its recess, and a Political Committee to deliberate on matters relating to Government policy and to give directives to the Government. Since February, 1939, the functions of the Political Committee as a link between the Party and the Government have been taken over by the Supreme National Defence Council with full authority to direct all party, government and military organs. The Kuomintang has an administrative machinery of its own at its national headquarters. Under its Central Executive Committee are four divisions: the Secretariat, the Organization Board,

the Publicity Board (Ministry of Information) and the Overseas Board plus a number of special committees.

The teachings bequeathed by Dr. Sun Yat-sen, father of the Chinese Republic and founder of the Kuomintang, who died in 1925, form the ideological basis of the Kuomintang rule in China. His trilogy, the *San Min Chu I* or the Three People's Principles of nationalism, political democracy and economic democracy, constitutes the highest guiding principles in China. The New China he had in mind is free, independent and possesses equality in its relations with other nations of the world, wherein the people will have a constitutional form of government. There will also be an equitable distribution of wealth through the enforcement of three policies, the equalization of land ownership, the development of state capital, and the regulation of private capital.

Dr. Sun divided sovereignty into two portions, with the political powers to be exercised by the people and the governing powers by the Government. As he believed in direct democracy, he wanted the people to have the rights of recall, initiative and referendum in addition to the right of election. The Government, he said, should be entrusted with five powers, namely, executive, legislative, judicial, examination and control. The first three are too familar to need any explanation. The last two are Dr. Sun's own devices based on China's traditional practices. The power of examination is concerned with the selection of officials through competitive contests with a view to the creation of a civil service system, while the power of control pertains to the impeachment of government officials.

Dr. Sun divided the course of nation-building into three stages of military operations, political tutelage and constitutional government.

During the first stage everything should be subordinated to military needs. The second stage begins in any province when peace and order are completely restored. Its component counties must each take a detailed census, survey all land, set up an efficient self-defence force and build all principal roads. Before a county qualifies itself for self-government, its people must be given training in the exercise of their four political rights, namely, election, recall, initiative and referendum. When all the counties in any province have become fully self-governing, that province moves on into the stage of constitutionalism and a representative assembly must be organized. Finally, when more than half of the provinces in the country have advanced

into the same stage, a People's Congress shall be held to adopt and promulgate a constitution. This will be followed by the formation of a new National Government responsible to the People's Congress instead of to the Party National Congress as is the case at present.

The procedure thus laid down by Dr. Sun was followed by the National Government after it came into power in 1927. The stage of military operations came to an end in 1928 and the following year the stage of political tutelage began to last for a period of six years. A provisional constitution was promulgated in May, 1931. In 1934 work was begun on a draft constitution which was promulgated by the National Government on May 5, 1936, to be adopted by the People's Congress scheduled to meet on November 12, 1937. The Japanese invasion upset the entire programme. With the spreading of hostilities, the nation unofficially reverted back to the stage of military operations.

III

If the Japanese militarists had hoped that an invasion would find China divided, they must have been sadly disappointed. The immediate effect of the war was a general spontaneous rally behind the Kuomintang's resistance policy. Even the Chinese Communists, who had defied Government attempts at disarming them for several years in Central China provinces, decided to acknowledge the Kuomintang leadership in the nation-wide war of self-defence. The initial spark of the war flashed on July 7, 1937, and on September 22, the Chinese Communist Party issued a formal declaration, wherein it pledged to fight for the realization of Dr. Sun's principles, to abandon its policy of insurrections which formerly aimed at the overthrow of the Kuomintang political power, to abandon its policy of land confiscation and subversive propaganda, to abolish the Soviet system of government, to re-organize the Red Army and to place it under the unified command of the National Military Council. Generalissimo Chiang, Chairman of this Council, said in response:

"The declaration made by the Chinese Communist Party shows clearly that national interests supersede all other considerations. Its numerous pledges all tend to strengthen the National Government in its resistance to foreign invasion. The reference made by the Communist Party to its readiness to fight for the realization of Dr. Sun Yat-sen's revolutionary principles shows further that the efforts of the entire nation are directed to one single aim . . . I hope they (Communists)

will sincerely carry out what is contained in the declaration, and further expect that they will work in unison with the rest of the nation to accomplish the task of national salvation."

Though in the last five years numerous incidents have occurred, making people wonder whether the Chinese Communists have faithfully abided by their pledges, no irreparable split has happened to China's national unity.

Major hostilities began in Shanghai in August, 1937. Fighting against great odds, Chinese troops battled valiantly on the outskirts of that metropolis. By November the war spread westward with the Chinese fighting rear-guard actions along the railway to Nanking which, after a short defence, was evacuated in mid-December. The war had entered one of its most difficult stages. Many problems had to be studied and solved. As it was impossible to have a new election, the fifth National Congress chosen in 1935 was called to meet in an extraordinary session in Hankow in March, 1938. Deliberations centred around three wartime questions: How to strengthen and substantiate the organization and work of the Kuomintang, how to organize and train the people, and how to accelerate progress in Government functions and economic matters. Many resolutions were adopted. An outstanding one was that creating a system of leadership for the Kuomintang. After the death of Dr. Sun in 1925, there had been no official provision in the Party's by-laws as to who should succeed as its leader, though there could not be the slightest doubt in the public mind as to who should and is capable of assuming this responsibility. At the extraordinary session, it was decided to leave all Party affairs in the hands of Generalissimo Chiang with the title of *Tsungtsai* or Director-General.

The most concrete achievement of the extraordinary session was the adoption of a *Programme of Armed Resistance and National Reconstruction.* Important points in this programme are as follows:

Dr. Sun Yat-sen's revolutionary principles and his other teachings are declared to be the supreme authority, regulating all wartime activities and the work of national reconstruction. All wartime powers and forces are placed under the control of the Kuomintang and of Generalissimo Chiang.

China is prepared to ally herself with all states and nations that sympathize with her cause and to wage a common struggle for peace and justice; prepared to safeguard and strengthen

the machinery of peace as well as all treaties and conventions that have the maintenance of peace as their ultimate object; prepared to ally herself with all forces that are opposed to Japanese imperialism in order to check Japanese aggression and to safeguard peace in the Far East, and prepared to improve still further the existing friendly relations with other powers in order to gain more sympathy for the cause.

The army shall receive more political training; all able-bodied men shall be trained; people with arms shall be organized into guerilla units; the wounded and dependants of soldiers killed in action shall be pensioned; and families of soldiers fighting at the front shall be treated with the utmost consideration.

A People's Political Council shall be created in order to unify the national strength, to utilize the best minds of the nation and to facilitate the formulation and execution of national policies.

The county shall be taken as the fundamental unit of local self-government, conditions for which shall be fulfilled as soon as possible so that the political and social basis of the present war shall have been firmly established and a preparation shall have been made for the eventual promulgation of a constitution.

A thorough reform in the Central and Local Government machinery shall be instituted with the object of simplifying and making it rational, because only thus can administrative efficiency be obtained to meet the urgent needs of war.

Economic reconstruction shall be pushed, village economy emphasized, co-operative enterprises encouraged, mining projects undertaken, wartime taxes levied, banking business controlled, facilities of communication and transportation improved, speculation and hoarding of commodities prohibited.

Freedom of speech, press and assembly shall be fully guaranteed to the people provided they do not contravene Dr. Sun Yat-sen's revolutionary principles or the provisions of the law.

The youth of the nation shall be properly trained, the whole educational system re-organized, and various technical experts trained and assigned to proper posts.

All bogus political organizations which Japan has created in consequence of her military occupation of Chinese territory and all their actions are repudiated and declared null and void.

When this programme was published in April, 1938, there was an instantaneous and warm reception from all sections of the nation. As another concrete proof of the Kuomintang's ascendancy to be the acknowledged leading party in China, heads of the National Socialist Party and the Young China Party wrote to the Kuomintang in mid-April the same year, both identifying their programmes with Dr. Sun's principles and pledging their hearty support to the National Government. In his replies, Generalissimo Chiang as leader of the Kuomintang, expressed the hope that men of ability would either join the Kuomintang and share in its work or sympathize with the Kuomintang principles and endeavour to work for their realization. A common characteristic of party rule is the non-existence of other parties. The magnanimity of the Kuomintang in forgiving the Communists, despite their years of armed uprisings, and in accepting the support of the National Socialist Party and the Young China Party who were among its severest critics goes to show its growth to full height as China's guiding light in her hour of unprecedented difficulties.

Supplementing the Provisional Constitution promulgated in May, 1931, the *Programme of Armed Resistance and National Reconstruction*, has become the highest law of the land for the duration of the war. Since its adoption, most of its provisions have been put into effect. Its stipulation concerning China's foreign policy has been faithfully adhered to until to-day China is one of the 26 (now 27) United Nations waging a common war against the aggressor powers.

Also, in accordance with the programme, a People's Political Council was organized in the summer of 1938 with 200 members, half of whom were jointly nominated by the local governments and party offices, both on regional and professional basis, and the other half nominated by the Supreme National Defence Council "from among those who have served for more than three years in representative cultural and economic bodies or have long been devoted to political activities and have thereby contributed to national welfare." All

the members were later appointed by the Kuomintang. The first council, after having held five full sessions, was succeeded in 1941 by a second one which had 240 members, of whom 102 were elected, instead of nominated, by representative assemblies in various provinces while the rest were chosen in the same way as those of the first council. After two full sessions, the tenure of office of the second council expired on February, 1942. By June, elections were being held by provincial representative assemblies in various parts of China to produce two-thirds of the delegates or 164 out of a total of 240 in the incoming council which will be the third one in succession. Before putting into execution any important measure with regard to domestic and foreign affairs, the National Government has to obtain approval from the People's Political Council. (In case of emergency, the Chairman of the Supreme National Defence Council may issue mandates.) The latter has the power to receive Government reports, interpellate cabinet ministers, make proposals and conduct investigations. The council functions in a democratic way. Only a majority quorum is necessary to the holding of a full-session. Likewise, only a majority vote of all those present at such a session is required for the adoption of a resolution. There is absolute freedom of speech in the conference room. Outside of it, however, the members are answerable to the same laws as the ordinary citizens for their public utterances and writings.

Between them, the first two councils passed several hundred resolutions. Most of them have been enforced by the Government. Experience thus gained in free discussion of national affairs and in the formulation of concrete and practical resolutions will doubtless prepare the Chinese people for full political responsibility when a permanent constitution is promulgated. The very existence of the People's Political Council proves the Kuomintang's determination to introduce gradually a democratic form of government in the country. Therefore, this council may well be the precursor of a Chinese representative assembly.

The training of Chinese youth, as stipulated in the *Programme of Armed Resistance and National Reconstruction*, was begun in July, 1938, through the organization of the *San Min Chu I* Youth Corps. Young people between 16 and 25 years of age with proper recommendations by two members are admitted into the corps which aims at instilling into the nation's coming generation a strong faith in Dr. Sun Yat-sen's

revolutionary principles. In a short period of four years, the membership of the Youth Corps has grown from a handful to 400,000. The Youth Corps has set up branches throughout China, even in enemy occupied places, and in foreign countries. A Youth Corps member automatically becomes a full-fledged Kuomintang member upon the attainment of the necessary age requirement.

In his speech as concurrent leader of the Youth Corps at the time of its formation, Generalissimo Chiang called upon all Chinese youths to rally to the national cause under the banner of the new organization, which he said, has three objectives: first, to strengthen China's war effort and to fulfil her reconstruction programme; second, to conserve new vitality for the furtherance of the revolution and third, to put the Three People's Principles into greater effect. When formally initiated into the Youth Corps, a member has to take an oath to practise Dr. Sun's principles, to obey orders of the Leader, to observe rules of the Corps, to enforce its decisions, to live up to the tenets of the New Life Movement, not to shun difficulties but on the contrary, to be always ready to make sacrifices for China's cause.

Another item in the *Programme of Armed Resistance and National Reconstruction* which has been enforced is the new county (*hsien*) system, which aims to make the county an autonomous unit. Under this system the county administration is divided into four grades: ward (*chia*), borough (*pao*), town (known as *hsiang* in the rural area and as *chen* in the urban area), and county (*hsien*). Provisions are made for the establishment of 800,000 citizenship schools in the borough and 80,000 centre schools in the towns. The new system provides that in each grade of the county administrative hierarchy, from the lowest ward to the borough, the town and the county itself, there should be representative assemblies with full authority to handle all matters of local nature. As the highest representative organ in the local government, the county assembly will have power to adopt and audit the annual budget of the county government, to initiate and pass local statutes, to supervise county administration, to decide upon such measures as will promote the social and economic welfare of the people. In the future, it may even have the power to elect the county magistrate. Right now, over 1,000 counties in China have started to re-organize themselves in accordance with the new system. It is expected that, by the end of 1942, all the counties not under enemy occupation will have become autonomous units.

IV

From the outbreak of the war in July, 1937, to the end of June, 1942, the Kuomintang Central Executive Committee elected by the fifth Party National Congress in 1935 had held six plenary sessions, the 4th, the 5th, the 6th, the 7th, the 8th and the 9th, the first three plenary sessions having taken place before the war. At each of these sessions, Kuomintang leaders reviewed past events, studied current problems and planned for the future, always showing sound judgment, a high sense of responsibility, courage and practical statesmanship. However difficult the times might be and however dark the situation might look, they clung to their faith in China's ultimate victory and imparted to the Government and the people their guidance, encouragement and exhortation to still greater efforts.

At the 4th plenary session in April, 1938, it was decided that Generalissimo Chiang should also serve as Leader of the *San Min Chu I* Youth Corps and it laid down detailed regulations governing the organization of the People's Political Council. Both of these were resolutions reached at the extraordinary session of the fifth National Congress the previous month.

The 5th plenary session in January, 1939, promulgated among other things "The Citizen's Pact for Resistance to Japan" and laid down the principles for a Spiritual Mobilization Movement. This movement officially began in March the same year. Its three catchwords are: "State Above All," "Military Needs First," and "Oneness of Purpose and Concentration of Efforts." Of still greater importance was the decision to create the Supreme National Defence Council which since February, 1939, has been placed in charge of the direction and supervision of all organs in the Kuomintang Central Executive Yuan, the five *Yuan* in the National Government, and the various boards and departments in the National Military Council. Functions formerly performed by the Political Committee of the Kuomintang Central Executive Committee were absorbed. It was also at the same plenary session that Generalissimo Chiang made the historic statement that, following the fall of Canton and Hankow in October, 1938, China's war of resistance had entered upon its second stage. Whereas during the first stage efforts were directed toward wearing out the enemy's strength, preparations should be intensified in the second stage to lay a solid foundation for prolonged resistance and to complete necessary plans in military and political strategy for counter-offensive. He

also said that whereas in the first stage the Japanese had all the advantages the tables would begin to turn in China's favour in the second stage. Subsequent developments proved the accuracy of his views.

The most important resolution of the 6th plenary session, which began its 10-day deliberations in mid-November, 1939, was the decision to convene the People's Congress on November, 12, 1940, for the purpose of adopting and promulgating a permanent constitution for the country. Though later the Congress was postponed because of the impossibility of its 2,000 delegates arriving in Chungking in time from all parts of the country, including areas under enemy occupation, the forthright manner with which the Kuomintang put down on record its readiness to convene such a Congress indicates its staunch faith in a constitutional form of government. The same session appointed Generalissimo Chiang concurrently President of the Executive Yuan. Since then he has been China's Commander-in-Chief, Kuomintang's Director-General and head of the Executive Branch of the National Government, all in one. This change was effected in order to fulfil a pressing wartime need for concentration of power which is deemed essential to the successful prosecution of the war. In his opening speech at the session, Generalissimo Chiang re-affirmed China's determination not to lay down her arms until the last Japanese soldier had been driven out of the country and denounced Japan for setting up a puppet regime in Nanking. He also reiterated the Chinese people's belief that friendly nations would eventually realize that the war in China was part of a much larger issue.

In January, 1940, the Kuomintang Central Executive Committee met again in its 7th consecutive plenary session. With the war becoming more and more one of attrition, the conferees devoted their major attention to economic problems. From the standpoint of administrative efficiency, the resolution for the creation of a Central Planning Board and a Party and Political Work Perscrutation Committee was far more important. These two organs have been duly set up under the Supreme National Defence Council. The resolution aims at the co-ordination and integration of government activities in all three stages, namely, planning, execution and perscrutation. In his speech at the last meeting of the session, Generalissimo Chiang declared that though the international situation was changing rapidly, all future developments would turn in China's favour, whereas Japan, more arrogant than ever, was incurring the enmity of all peace-loving nations in the world. He strongly refuted

Japan's version of a Monroe Doctrine. The principles underlying the American Monroe Doctrine, he stressed, are mutual help, self-defence, equality and independence for all nations in the Central and Southern Americas, whereas Japan was prompted by her insatiable desire for exploitation, domination and nay, outright conquest.

The 8th plenary session was held in March, 1941, when economic phases of the war received considerable attention. As Generalissimo Chiang put it in his opening address, China's war of resistance would henceforth be 70 per cent economic and only 30 per cent military, and China's victory would be decided as much in the economic field as in the battle-field. It was at this very session, therefore, that a Three-Year Reconstruction Plan was passed to be enforced as from 1942. Principal points in this plan are as follows: (1) all military, political, economic and social activities should be further substantiated to win the war; (2) the production of military supplies and civilian needs should be increased; (3) all measures concerning national defence should not only be strengthened in time of war but also be carried on after the war; (4) the nation's political structure should be improved so as to lay a foundation for responsible government; (5) existing political, economic and social organizations should be re-adjusted in accordance with the Kuomintang's policies and programmes with a view to the general mobilization of the people for defence purposes; and (6) all educational and cultural enterprises should be conducted on the basis of actual defence needs and the training of all types of personnel should be co-ordinated with other departments of the three-year plan.

Other important resolutions reached at the 8th plenary session include those calling for the creation of two systems of budget in the country, namely, national (Central Government) and local (county administrations), the taking-over of the land tax by the Central Government from the provincial administrations; the establishment of a Food Ministry and last but not least, the resolution, later incorporated in the manifesto, exhorting the government and the people to redouble their efforts in the task preparatory to the introduction of a constitutional form of government in the country.

The Pacific War broke out on December 8, 1941, and on the 15th of the same month the Kuomintang Central Executive Committee met in Chungking for a momentous session which was the 9th consecutive one. The National Government's declarations of war on Japan,

Germany and Italy were read aloud by General Wu Te-chen, Secretary-General of the Committee. When Generalissimo Chiang rose to address the session, the conferees stood up and remained standing until he finished his speech.

China's national leader told the session that with the Japanese spreading their aggression, China's war of resistance had merged with the world-wide struggle against aggression. The outbreak of the Pacific War, he said, would mark the beginning of improvement in China's situation from precariousness to security and from reverses to victory. After having fought single-handed for four and a half years, China had at last found herself among numerous worthy comrades-at-arms. This was indeed a most glorious page in the history of China's revolutionary endeavours. It did not mean, however, that China's victory had already been won. On the contrary, many difficulties would remain to be overcome, said the Generalissimo who asked all Kuomintang members and the people to strive harder for the successful completion of the Party's mission. Continuing, he stressed three tasks, namely, the cultivation of strength, the securing of capable citizens for public service and the acceleration of general mobilization of the people.

In pursuance of his directives, the plenary session passed several resolutions. One called for the formation of a small body composed of members to be chosen by the Supreme National Defence Council from among members of the Kuomintang Central Executive Committee, leading personalities in cultural, social and economic fields and those who have distinguished themselves in service to the nation in time of war, to advise the Government on important wartime political affairs. The functions of this body of men will in no way conflict with those of the People's Political Council which is assuming more and more representative features as time goes on. The intensification of general mobilization of the people was envisaged in another resolution. A third resolution aimed at the creation of a Land Administration in the Executive Yuan. The significance of this resolution becomes obvious when it is remembered that it is the Kuomintang's policy to introduce economic democracy in China through three policies, namely, the development of state capital, the regulation of private capital, and the equalization in land ownership. Its passage shows that the Kuomintang leaders, though still in the midst of directing a major war, have already

looked far into the future when, after the war is over, the nation can resume its strides toward democracy, both political and economic.

In a fourth resolution, the Central Executive Committee gave emergency powers to Generalissimo Chiang and left instructions to its Standing Committee to make necessary revisions in all laws and regulations and to adopt all practical measures under the leadership and upon the decision of Generalissimo Chiang, with a view to hastening the completion of China's dual programme of armed resistance and national reconstruction and of expediting the re-establishment of world peace in joint effort with all the friendly nations who have become China's comrades-at-arms.

JAMES SHEN.

3. TOWARDS CONSTITUTIONAL GOVERNMENT IN CHINA

I. A Historical Sketch

The history of the Constitutional Movement in China dates back to the Opium War of 1841, or at least to the Sino-Japanese War of 1894, when the "Celestial" Empire, hitherto so proud and so self-confident, was forced to open her eyes to the painful truth that she had as yet many things to learn of Western civilization, amongst which a constitutional government was one. From 1894 onwards the Movement went on without a break, and various attempts were made from time to time to introduce a constitutional form of government into China. Among these, we may mention *The Outlines of 1905*, *The Nineteen Articles of 1911*, *The Provisional Compact of 1912*, *The T'ien Tan Draft of 1913*, *The so-called Tsao K'un Constitution of 1923*, and *The Provisional Constitution for the Period of Political Tutelage of 1931*. Although these attempts, one and all, deserve detailed consideration from the technical point of view, yet as they have no very close bearing upon our subject and as even a superficial discussion of them would swell this paper to an inordinate length, I propose, therefore, to leave them out altogether and confine myself wholly to the constitutional movement of the last ten years or so, when the task of constitution drafting was formally delegated by the National Government and the Kuomintang to the Legislative Yuan, whose long and assiduous labour had resulted in the production of the final Draft Constitution of the Republic of China, which was formally released for publication by the National Government on May 5, 1936, and was waiting for adoption and promulgation by the first People's Congress to be convened therefor later, when the Sino-Japanese hostilities broke out.

For the sake of convenience we may take the memorable date, September 18, 1931, when the Three Eastern Provinces (Manchuria) were forcibly occupied by Japanese troops, as our starting point. Since then, far-sighted statesmen in our Government have realized that to cope with the present national crisis, all the forces, military, economic, intellectual and otherwise, both in and outside the Kuomintang, should be consolidated. To check the grasping and formidable aggressor,

China must be truly and effectively united. Many have felt that a constitutional government, instead of party dictatorship, would be the best means of bringing about such a consolidation and unification. In the National Emergency Conference held in April, 1932, at Sian a resolution was passed that the Kuomintang should wind up its party rule (that is to say, put an end to the so-called Period of Political Tutelage) as soon as possible. In the Third Plenary Session of the Fourth Central Executive Committee of the Kuomintang, another resolution, proposed by Dr. Sun Fo, was passed to the effect (1) that the People's Congress should be convened in March, 1934, and (2) that the Legislative Yuan should draw up a draft constitution as soon as possible.

On the basis of the latter part of the resolution, the Legislative Yuan began immediately to devote itself to the task of constitution drafting. A committee of forty-two was formed with Dr. Sun Fo, President of the Legislative Yuan and the staunchest champion of the cause of constitutional government, as chairman, and Dr. John C. H. Wu and Mr. Chang Chi-pang, two eminent jurists, as vice-chairmen.

Dr. John C. H. Wu's labour deserves special mention here. He was commissioned to produce single-handedly a draft on the basis of a few guiding principles agreed upon by his fellow committee members: this draft, consisting of 214 articles, since popularly known as *Dr. Wu's Tentative Draft*, he was authorized to publish under his name. The publication of this draft had two purposes in view: (1) to sound out public opinion regarding the constitution, and (2) to use it as a basis for the drafting of a permanent constitution. Its reception by the public, though very critical, was on the whole more favourable than one could have expected under the circumstances. When we bear in mind that it is the first attempt of its kind and when we compare it with the later drafts, noting how far they have been influenced by it, we at once realize how essentially right Dr. Wu has been on, at least, the fundamentals of constitutional drafting.

Using *Dr. Wu's Tentative Draft* as a basis for discussion, and numberless criticisms thereon from various quarters as reference material, the Draft Constitution Committee proceeded to draw up another draft which consisted of 160 articles and was formally published on March 12, 1934. This was the first draft drawn up by the Legislative Yuan: it is usually known as the *Preliminary Draft of the Constitution of the Republic of China*. The main purpose of its publication was,

as in the case of Dr. Wu's Draft, to invite public criticisms. During the two and half months that followed its publication, 281 articles containing opinions on the draft were received by the Legislative Yuan. This showed that the public was greatly interested in the Constitution. To examine the merits of the opinions and criticisms contained in these articles, Dr. Sun Fo appointed a committee of three, with Dr. Foo Ping-sheung, an able jurist, now Vice-Minister of Foreign Affairs, as chairman.

The achievement of this little committee is noteworthy. It carefully analysed and classified all the opinions and criticisms received and then produced a book entitled *The Compilation of Opinions on the First Draft of the Constitution*. The book was of great service to the Draft Constitution Committee. After more than one month's discussion and deliberation, the Draft Constitution Committee produced a revised draft which was the second published by the Legislative Yuan ; this second draft is known as the *Amended Preliminary Draft of the Constitution of the Republic of China*.

The second draft, a few months after publication, underwent another revision. Dr. Wang Chung-hui, a jurist of international fame, formerly President of the Judicial Yuan, and then Judge of the Permanent Court of International Justice at the Hague, who just happened to be back in China at the time, also participated in this revision in an informal capacity. Criticisms and suggestions from other quarters were, of course, also carefully considered. The revision was finally completed by October 16, 1931, after three readings and many lengthy discussions in the Legislative Yuan. This draft containing 12 chapters and 178 articles, was the third drawn up by the Legislative Yuan and was supposed to be final.

But this supposed final draft did not prove to be final. It was first submitted to the Central Political Council of the Kuomintang, which in turn submitted it to the Fifth Plenary Session of the Fourth Central Executive Committee, held in December, 1934. The latter in one of its resolutions expressed only a general principle by which the Standing Committee of the Central Executive Council should be guided in its examination of the contents of the third draft. The Standing Committee did not, however, take upon itself the task of actual revision, but simply drew up some specific instructions which, together with the draft itself, were again sent to the Legislative Yuan. The latter acting upon these instructions which favoured simplicity and elasticity amended the draft once more. Two chapters on Finance and Military

Affairs were struck out, and three chapters on Provinces, Districts and Municipalities were combined into one under the caption of Local Government. Thus the draft was greatly simplified and reduced in length, consisting in its final form of only eight chapters and 150 articles. This draft, the fourth one, was submitted to the Sixth Plenary Session of the Fourth Central Executive Committee of the Kuomintang, held in November, 1935, which readily expressed its general satisfaction and approval. To give the final draft a finishing touch, the Central Executive Committee appointed a Committee of nineteen. The Committee addressed itself to its work, and as a result of its labours, instructions containing three specific points were drawn up, which in turn were again sent to the Legislative Yuan. The latter, basing its deliberations upon the instructions, amended the draft for the last time and thereby gave it its final form.

The final draft was formally proclaimed by the National Government on May 5, 1936, and was awaiting for adoption by the first People's Congress to be convened at the end of the year. But the increasingly tense diplomatic relationship between China and Japan and the likelihood of an immediate war between the two nations prevented the original scheme from being carried out. With the actual outbreak of the hostilities in July, 1937, the possibility of convening a People's Congress for the enactment of a permanent constitution, of course, became even more remote. It is, however, inaccurate to say that, since the outbreak of the war, the movement towards constitutional government in China has been at a complete standstill. In fact, quite a few things have been and are still being done during wartime which should prove to be encouraging from the standpoint of the constitutional movement. With these, I shall deal in the last part of this paper.

Such, in brief, is the history of the movement towards constitutional government in China up to the outbreak of the present war. Into the details of the various drafts mentioned, I shall not choose to enter. I propose rather to devote the remaining parts of this paper to a brief discussion of the following points: (1) The outstanding features of the *Final Draft Constitution*, formally proclaimed on May 5, 1936. As this *Final Draft Constitution* will in all likelihood be adopted by the future People's Congress without much radical change, it might be considered to be the Chinese Constitution *in potentia*; (2) The efforts being made during wartime towards the realization of constitutional government in China; (3) A forecast of the future of the constitutional movement in China.

II. The Final Draft Constitution

The outstanding characteristic of the *Final Draft Constitution*, as well as the preceding ones, is undoubtedly its permeation with the principles and teachings of Dr. Sun Yat-sen, Father of the Chinese Republic, especially those advanced in his *San Min Chu I*, the "Bible" of the Kuomintang. Even a cursory glance at the draft will not fail to give one such an impression. Although Dr. Wu's idea of naming the chapters according to the three principal headings of the *San Min Chu I* has not been adopted in the final draft, yet we find the spirit of *San Min Chu I* present everywhere. It pervades every chapter, every article.

Let us look at the preamble of the Draft Constitution. It reads as follows:

"By virtue of the mandate received from the whole body of citizens and in accordance with the bequeathed teachings of Dr. Sun Yat-sen, Founder of the Republic of China, the People's Congress of the Republic of China hereby ordains and enacts this constitution and causes it to be promulgated throughout the land for faithful and perpetual observance by all."

Article I of the *Final Draft Constitution* reads as follows:

"The Republic of China is a *San Min Chu I* Republic."

Dr. Sun Fo said: "To understand why we should provide in our Constitution that our Republic is to be a *San Min Chu I* Republic, we must first grasp what *San Min Chu I* really means. The so-called *San Min Chu I* consists of three principal parts, *viz.*, *Min Tsu Chu I*, *Min Chuan Chu I*, and *Min Sheng Chu I*. The purpose of *Min Tsu Chu I* is to make China an entirely independent State, free from the control of any other country or nation. The purpose of *Min Chuan Chu I* is to make China a really democratic State in which its sovereignty will be vested in the body of its citizens. The purpose of *Min Sheng Chu I* is to improve our social and economic systems, so that all the people will be able to find means of satisfying their livelihood and their right of existence. Although this is the simplest and most rudimentary interpretation of the *San Min Chu I*, yet it is precisely what this great doctrine means: and, we may say, it is also precisely what we want China to be . . . When thus understood, should we object any more to the constitutional provision that China should be a *San Min Chu I* Republic? . . ." Dr. Sun Fo has manifested

here his usual sagacity and candour, as indeed he has done throughout the whole movement towards constitutional government for the last ten years.

I shall not quote other articles or provisions to demonstrate the presence of the *San Min Chu I* everywhere in the *Final Draft Constitution*. Suffice it to say that the words "in accordance with the bequeathed teachings of Dr. Sun" in the preamble are by no means put there for euphonic or rhetorical purposes. They are there in letter and in spirit. As we proceed further, we shall be more convinced of this.

Another distinctive feature about the *Final Draft Constitution* is its unique provisions regarding the Separation of Powers. To a Western student of political science, the term "Separation of Powers" at once suggests a system of checks and balances among the Executive, the Legislative and the Judicial branches of government. But the principle of the Separation of Powers provided for in our *Final Draft Constitution* means much more than that. Here again the bequeathed teachings of the Father of the Chinese Republic are followed. Dr. Sun Yat-sen after more than thirty years of research has worked out an elaborate and well thought out system of his own in regard to the Separation of Powers. The famous Theory of the Five-Power Constitution, important as it is, is but one aspect of his whole system.

When stripped of all details, Dr. Sun Yat-sen's system is something like this: To be efficient, a government must have power, nay, great power. But a too powerful government is likely to be more dangerous than one less powerful. It is likely to do more mischief and apt to get out of control. To prevent such a government from getting out of hand, the people must also have great power and be provided with the means of exercising effective control over it. Thus, we have here two kinds of Powers: the Power of the Government and the Power of the People. Dr. Sun Yat-sen calls the former the Governing Power, and the latter the Political Power. With these two kinds of Power, supplementing and checking each other, the government of a state can be highly efficient, and yet at the same time thoroughly democratic.

With regard to the Political Power, Dr. Sun Yat-sen considers that the Power of Election alone is not at all sufficient; there must also go with it the equally important Powers of Initiative, Referendum and Recall. All these Powers have been embodied in the Draft Constitution, to which are added many provisions for their effective functioning.

With regard to the Governing Power, Dr. Sun Yat-sen is not satisfied with the Western practice of dividing it into the Legislative, the Judicial and the Executive. He adds two more functions to it—the Power of Censorship and the Power of Examination. Hence his famous theory of the Five-Power Constitution. Space does not permit me here to elaborate on this theory at any length. Suffice it to say that this theory is well supported by Chinese political traditions and institutions, and the experience of its practice since the establishment of the Central Government at Nanking has shown quite encouraging results. The *Final Draft Constitution* has accepted the theory *in toto*, and the division of governmental powers and functions therein is almost in exact accordance with what Dr. Sun Yat-sen has laid down in his teachings.

Besides the permeation of the Draft Constitution by the *San Min Chu I* and the doctrine of the Separation of Powers, we may note a third characteristic: in the *Final Draft Constitution* a *via media* is taken between extreme individualism and extreme socialism. This again is based upon our late Leader's teaching, for he in his lectures on the *San Min Chu I* has repeatedly denounced the sort of individualism advocated by the Eighteenth Century Natural Law School; but at the same time he has shown serious dissatisfaction with undiluted Marxist Communism both in theory and in practice. He would prefer an intermediate course between the two, and this he finds in his own *San Min Chu I*, especially in *Min Sheng Chu I*, the part that deals with the livelihood of the people. Dr. Sun Yat-sen's *Min Sheng Chu I* tackles two vital factors in the economic life of the nation, *viz.*, Capitalism and Land Ownership. With regard to Capitalism, Dr. Sun favours its limitation and regulation rather than its entire or immediate elimination. He prefers State control and ownership of important public utilities and basic heavy industries. With regard to Land, Dr. Sun is strongly opposed to big land ownership and to the principle of unearned increment; he prefers a sort of "landowning farming" or "self-tillage." All these ideas, which Dr. Sun Yat-sen has elaborated in more or less detail, are realized to a considerable extent in the provisions of the Draft Constitution. A perusal of the chapter on National Economic Life will convince one of the truth of this assertion. A study of the chapter on Rights and Duties of the People and that on Education will also result in the same conviction.

With regard to Education, it may not be entirely out of place to note here that Mr. Wen Yuan-ning, the Editor of the *T'ien Hsia Monthly*

(Vol. II, No. 5), has called special attention to article (137) in the Draft which reads as follows:—

"Educational appropriations shall constitute no less than fifteen per cent of the total amount of the budget of the Central Government and no less than thirty per cent of the total amount of the provincial, district and municipal budget respectively . . . . . "

Mr. Wen remarked: "The wisdom of such an article, no one in his senses can dispute. It is possible for other forms of government to exist with an illiterate population. But illiteracy goes ill with constitutionalism. The proper functioning of a constitutional government, especially in China, depends upon an intelligent and educated public. The more intelligent and educated the governed in a constitutional state, the smoother the wheels of government will run. Anything, therefore, which will forward the cause of education in China will also help the cause of constitutional government here." With this observation of Mr. Wen, I heartily agree. I believe, it is on education more than on anything else that the future success of constitutional government in China will depend.

III. War and the Constitutional Movement

It is, of course, natural to assume that since the outbreak of the present Sino-Japanese War in July, 1937, all movements towards constitutional government in China must come to a full stop. But the real state of affairs is not so. No doubt, when China's armed conflict with Japan got started and when Nanking was captured by the enemy forces, neither the Chinese Government nor the Chinese people had much time to think of the constitution. But as soon as the outlook of the war had turned out to be not so dark as one might have expected it to be, and the Chinese Government as well as the Chinese forces had stood firm on their feet again, the thought of a constitution as a permanent basis of government came back once more to the Chinese mind. Here the unique quality and the peculiar characteristics of the Chinese people must be taken into account. A Chinese can seldom get so absorbed in to-day that he forgets to-morrow. It is interesting to note that the war slogan in China is not "War against aggression," but "War against aggression *and for national reconstruction.*" To a Chinese, the present war with Japan is but a means while national reconstruction is the end. When thus understood, it is small wonder that the quest and urge for a constitutional government should be alive again in the Chinese mind as soon as the war took a brighter and more stable outlook.

However, we would be guilty of gross exaggeration, or even false representation if we should say that the movement towards constitutional government in China has not been affected by the war, or that it has progressed with the same speed that it would have progressed had there been no war. What we can justly claim is only that in spite of the war, which, we must note, is one unequalled in scale or intensity with any that China has ever waged against a foreign Power, the constitutional movement has not been forced to a complete standstill. At least we can enumerate three things being done during wartime, which should prove to be encouraging from the standpoint of the movement towards constitutional government.

First of all, we may mention the efforts being made in the last three years for the promotion of local self-government in China. To those who are familiar with the bequeathed teachings of Dr. Sun Yat-sen, especially his constitutional programme, the importance of local self-government cannot be overestimated. To Dr. Sun, the completion of local autonomy is an absolute prerequisite to a government by a constitution. According to him, China should begin the government by a constitution only when local autonomy has been achieved throughout the whole country, or, at least, a large part of it. Thus, anything done to promote the cause of local self-government must be counted as a contribution to the cause of constitutional government. And, here, it is interesting to note that, in spite of the war, the Chinese government has never overlooked this important duty or neglected to take proper steps for its accomplishment. Generalissimo Chiang Kai-shek is certainly right, when he says: " The most important work for us to do in the immediate future is to promote local self-government, for it is in local self-government that the foundation of our government by a constitution in the future lies."

The second thing that deserves our attention from the standpoint of the constitutional movement is the establishment in wartime China of the various grades of representative assemblies, national, provincial, local and municipal. These assemblies are advisory bodies in nature and their members chosen by the government as representing different classes and interests, territorial as well as professional. Their function is to give counsels to the government and to make representations on behalf of the people. They have the right to hear reports from responsible government officers of the various departments and to ask them questions whenever they feel like it. In the case of the National People's Political Council, the government is bound to consult it before

any policy of an important but non-urgent nature should be put into execution. Although these councils are by no means strictly representative organs, yet their establishment on a wide scale does certainly have a beneficial effect on the movement towards democracy and constitutionalism in China. It gives the Chinese masses some idea of the working machinery and of a constitutional system, which they are going to have in the future. It has an educational value for, and uplifting influence on, the common people, besides its effect to encourage and to inspire.

Last but not least, the attempt made by the Kuomintang sometime ago to convene the first People's Congress in order to enact and promulgate the constitution must not be overlooked. To be precise, the attempt was made in 1940, three years after the outbreak of the Sino-Japanese conflict. At the suggestion of the National People's Political Council, the Central Executive Committee of the Kuomintang then immediately passed a resolution to the effect that the first People's Congress should be convened at the end of the year for the sole purpose of enacting the constitution. To help in facilitating the work, the Legislative Yuan soon organized a Propaganda Committee of forty-two, with Dr. Foo Ping-sheung as its head. Although the war situation and international development at that time had prevented the intended scheme from materialization, yet the sincerity of the Kuomintang to wind up its party dictatorship and to put the Chinese Government on a permanent constitutional basis as soon as possible should not be doubted. Since the Kuomintang has attempted to do this even amidst the war, do we have any justification to think that it will not do so soon after the war?

IV. A Forecast

I do not claim to be a prophet. But judging from what has been done before and during the war, I venture to conclude that as soon as the war is over and the final victory won by China, the People's Congress to enact the constitution will be convened within the shortest possible time, and thereafter the Chinese Government will be put permanently on a constitutional basis. The support for this conclusion may be found in the opinion of Generalissimo Chiang Kai-shek, Leader of the Kuomintang, who declared not long ago: "My urgent desire for the enactment and promulgation of our Constitution is not of one or two years old. Indeed, for the last ten years, I have been consistently and persistently advocating the early adoption and realization of a Constitution." On another occasion, he said: "Personally, ever since

the holding of the People's Conference and the promulgation of *The Provisional Constitution for the Period of Political Tutelage* in 1931, I have not forgotten for a minute the problem of how we should bring about the realization of constitutional government as soon as possible. This is the unfinished task left to us by our late Leader, Dr. Sun Yat-sen: it is also the ultimate goal of all our revolutionary efforts. We must exert our utmost for its accomplishment. My urgent desire for an early enactment and promulgation of the Constitution needs no repetition in words by myself: it is unmistakably understood by all of you, as well as by all our countrymen."

The above citation from the Generalissimo's address to the People's Political Council represents, in fact, the common sentiment and the general desire shared by all the Chinese leaders, both in and outside the Kuomintang.

Granting that a constitution will be adopted by the People's Congress to be convened soon after the war, what will the constitution be like? Here, again, I venture to make a forecast: the *Final Draft Constitution* of May 5, 1936, will be the one to be adopted without much radical change. Of course, it is reasonable to expect that some changes will have to be made. The experience and lessons gained from the present war will certainly find their way into the constitution. The position of the Executive may be made more elevated; and the provisions on National Defence may be greatly amplified. It is not unthinkable that National Defence may even form a separate chapter in our future constitution. But aside from these possible changes, and viewing the situation as a whole, we may safely conclude that the constitution we are going to have will be substantially the same as the *Final Draft Constitution.*

MEI JU-AO

II MILITARY AFFAIRS

1. SOME WELL-KNOWN BATTLES : THEIR STRATEGY AND SIGNIFICANCE

Battles fought in China's fifth year of war (July, 1941—June, 1942) reveal three outstanding facts testifying to the gallant spirit and strength of the Chinese Army. The Battle of Burma manifested China's readiness to aid her Allies and her willingness to send troops beyond her frontiers to fight for the common cause even though major battles were raging within the China theatre. The second and third battles of Changsha proved that the poorly equipped Chinese troops could hurl back the invaders through using good strategy and tactics. Furthermore, the Chinese attack on Ichang revealed that the Japanese could not successfully defend any point if the Chinese should bring enough pressure to bear on them.

China's strategy in the year under review was still one of attrition, although space was no longer traded for time. In the last twelve months, the Chinese made good use of active defence and were also able on a number of occasions to wrest the initiative from the invaders. Close co-operation was achieved in the different war areas and among the various units. The Chinese "magnetic warfare," used with great effect in previous years, continued to absorb invading columns along the elongated lines, bog them down and annihilate them one after another.

When Japan started invasion of Burma early in 1942, General Sir Archibald Wavell was the Commander-in-Chief of the Allied forces for defence. The Chinese Expeditionary Force sent to Burma under General Joseph W. Stilwell, comprised three armies, assigned to positions east of the Rangoon-Mandalay Railway, extending to the Burma-Thailand border, a stretch of more than 500 miles.

Upon the invaders' attack on Pegu, the Chinese troops moved from the border to Central Burma. At that time the situation on the Irrawaddy front had already been critical. The Chinese vanguard pushed up beyond Toungoo where they began digging themselves in on muddy fields on March 7. By the middle of March, cavalry patrol had reached south of Toungoo. The Chinese and Japanese met at Toungoo on March 19, and for ten days a lone Chinese division fought the Japanese motorized 55th Division and regiments from the 33rd

Division. Relay bombing and intensive artillery shelling caused the Chinese position untenable, while poison gas used by the enemy suffocated many of the defenders. Still the Chinese held on. Finally, the Japanese dug tunnels into Toungoo whereupon the Chinese had to withdraw from the city. It was the second time that the Japanese army had employed tunnel tactics, the first time in the Russo-Japanese War in 1904-1905, when the Japanese tunnelled into forts around Port Arthur.

After the fall of Toungoo, the Japanese concentrated their attacks on the British and Indian armies west of the railway. Fighting a rear-guard action, the defenders gradually retreated along the Irrawaddy to northwestern Burma. The Chinese subsequently found their right flank exposed. Action was imperative. The assault on the Japanese besieging the Yenangyaung oilfields successfully carried out by a Chinese division rushed from Lashio on April 19 saved 7,000 British, Burmese and Indian soldiers and at the same time strengthened the Chinese flank. Thereafter, the Japanese shifted the bulk of their strength to the Chinese left flank besides continuing their pressure against the British.

Using Thailand as their base, the Japanese 12th Division and part of the 18th Division advanced in a three-pronged thrust against the Chinese in Northern Shan States. One column entered Taunggyi on April 23, but was driven back by the Chinese who had moved down along the railway the following day. Another Japanese column took Loilem and the third force executed a flanking movement further to the west. Well-paved roads, which the Burma authorities had failed to destroy, facilitated the Japanese movement of their tanks and motorized units northward. With a division originally stationed at Lashio transferred to Yenangyaung, the Chinese did not have enough troops around Lashio to stop the Japanese advance. After taking Hsipaw between Lashio and Mandalay the invaders entered Lashio on April 29.

Later, a Japanese column along the railway advanced toward Mandalay and Maymyo. The Chinese evacuated Mandalay on May 1. Another Japanese column advanced along the Burma Road and entered into Yunnan Province on May 3. Its vanguard crossed the Salween River but it was destroyed on May 5 by the Chinese, who were effectively supported by the Chinese bombing squadrons and A.V.G. pursuit planes. A reinforced Japanese column, however, took Tengchung in western Yunnan on May 11.

In Burma, the Japanese occupied Akyab, Bhamo, Myitkyina and other strategic cities. The forces under the British retired to India. The Chinese armies remained behind the Japanese lines. They were ordered to harass the invaders in Burma. As they were fighting on foreign soil and received no co-operation from the Burmese, planes were used on several occasions to drop them supplies.

In some way, the Battle of Burma resembles the Battle of Shanghai in 1937. During the fighting around the east China port, as in the Battle of Burma, the Japanese appeared on the stage first with the Chinese rushing to their positions when the situation had become critical. As in Shanghai, the Chinese had to defend a flat muddy country in Burma under intensive Japanese fire. The great sacrifice in Shanghai was repeated at Toungoo. The Chinese again braved hailstorms of bombs and shells, blew up Japanese tanks by running into the formation and threw hand grenades into their loopholes. The spirit of the Shanghai defenders, as symbolized by the Lone Battalion, was shown again in Burma.

The Battle of Burma was lost in the same way as the Battle of Shanghai. After repeated unsuccessful attacks on the Chinese positions in Shanghai for three months, the Japanese effected a flanking movement by landing at Chinshanwei on the Hangchow Bay to cut the rear of the defenders, thus forcing them to retreat in a westernly direction. In Burma, the invaders failing in their assault on the Chinese positions on the central front, detoured to the east and cut off the retreat of the Chinese to Lashio, thereby forcing them to withdraw northward.

Most outstanding Chinese victories gained in the year under review were the second and third battles fought at the gates of Changsha in September-October, 1941, and January, 1942, respectively, the first Changsha Battle having taken place in October, 1939. The second Battle of Changsha, during which the Japanese employed 120,000 men with support from both air force and naval units, began on the night of September 17, when the Japanese crossed the east-west Sintsiang River and drove back the Chinese army (A). Meanwhile, three Chinese armies (B, C, D) from the northeast were moving toward Kwanwang-chiao (War God Bridge) south of the river to attack the Japanese flank. On September 19, the Japanese forces crossed the Milo River further to the south where they were engaged by another Chinese army (E). South of the Milo lay the second Chinese defence line, stretching from Chintsin to Fulinpu which was held by still another Chinese army (F).

These armies formed a vast circle around the Japanese. From Hsiangying in the northwest one more Chinese army (G) was marching, while from the east two more armies (H, I) were coming from Pingkiang and Onkiang. From the north, three armies (B, C, D) wnich had swooped down from the northeast and attacked the Japanese left flank north of the Milo River, made a 45-degree turn, crossing the Milo River on the heels of the Japanese.

The most critical stage of the battle after September 26, took place on the north bank of the Laotao River at the outskirts of Changsha. Here was deployed only part of one Chinese army (J). By the time the Japanese entered this area, more Chinese reinforcements arrived at their designated positions. These included one army (K) from Liuyang, two armies (H, I) from Pingkiang and Onkiang, three armies (B, C, D) which had followed the Japanese from the northeast, one army (G) from the northwest and one army (L) from the southwest of Changsha. The last one defended the city's environs.

Originally it was the Chinese plan to engage the Japanese in a decisive encounter south of the Milo River. Delay in the arrival of some reinforcements made it necessary for the Chinese to withdraw to the Laotao River which flows southeast of Changsha. Small Japanese detachments reached the Liuyang River east of Changsha. On September 27, Japanese plain-clothes men entered the north gate of Changsha and others broke into the northeast section of the city on September 28 and 29. Eventually, however, they were forced to retreat.

From the Sintsiang River to Changsha, the distance is roughly 100 kilometres. The farther the Japanese pushed, the longer and more vulnerable became their lines of communication. They had not suspected that the Chinese would place huge armies on their flanks and in their rear. As the battle continued, they soon ran short of ammunition which had to be dropped from airplanes in the last stage of the fight.

To say that the Japanese neglected their communication lines was wrong. The invaders press-ganged thousands of Chinese farmers and employed road repairing machines to re-build roads previously destroyed by the Chinese. But, when they reached the southern bank of the Milo, they could not do anything because of the presence of large Chinese armies. Consequently, the Japanese failed to bring over any sizeable amount of heavy arms. This enabled the Chinese troops on

the Laotao-Liuyang front to fight them on equal terms. The Chinese control of the Hsiang River by the use of mines and land batteries, the landing of Japanese at numerous points around the Tungting Lake notwithstanding, adequately protected the Chinese flank.

The Japanese drive broke on the afternoon of September 30, when a general retreat ensued. With the Chinese troops on their heels and others attacking their flanks, they suffered heavily all the way to the Sintsiang River. By October 8, the Chinese pushed right to the gates of Yochow, Japanese base south of Hankow along the Canton-Hankow Railway.

One feature of the second Battle of Changsha was the using of paratroops by the Japanese for the first time in the Sino-Japanese war. Trained by German instructors, these parachutists on three different occasions dropped on the outskirts of Changsha, each time numbering no more than 30 men. The Japanese also employed fifth columnists during the campaign to tap and sever Chinese military telephones, to spread alarmist rumours in the countryside, to snipe at Chinese units moving to the front, and in several cases to set fire to Chinese villages. Due to the Chinese precautionary measures, neither the paratroops nor the fifth columnists were of much help to the Japanese. The Japanese lost 41,250 killed and wounded.

Barely two months after the debacle and two weeks after the outbreak of the Pacific war, the Japanese launched another attack on Changsha only to suffer a third defeat. More than 100,000 men were employed, most of them veterans of the second Battle of Changsha. They expected that the Chinese had taken a portion of the defenders from northern Hunan to the Kwangtung and Yunnan fronts.

The Japanese broke through the first Chinese line of defence on the Sintsiang River on December 23, 1941. The Chinese defenders gradually stepped aside. A week later the invaders crossed the Milo River. Between the Laotao and Liuyang Rivers east of Changsha, the Chinese formed a wide and deep pocket for the Japanese with the city of Changsha as the bottom of the pocket.

The Japanese kept on rolling toward their objective, putting their main force in the right and central columns. The poor condition of the roads, which had been badly cut and damaged by the Chinese as part of their defence plan, prevented the Japanese from bringing heavy weapons to bear on the defenders. Their weapons and supplies had to be carried southward on pack animals.

Halfway between Milo and Changsha the Japanese met with stiff resistance which necessitated the right column making a detour to the east. The right and central columns were thereby kept closer together than at the outset.

The Japanese 6th Division was the first to cross the Sintsiang and Milo Rivers, closely followed by the 4th Division. The Japanese 3rd Division came down in the central column with reinforcements after them, and the Japanese 40th Division formed the left wing.

In the city of Changsha, Lieutenant-General Li Yu-tang, Commander of the Chinese 10th Army, remained with his men. The order he received was to defend Changsha to the last. He and his men must not leave the city even temporarily, even if their positions should be rendered untenable. The only other alternative was to counter-attack and drive eastward from the city, and this could be done only with a specific order from the high command. In other words, there should be no retreat.

One regiment of the Japanese 6th Division came into contact with the Chinese the night of December 31, and severe fighting continued for several hours. The attackers began to realize that they had underestimated the Chinese strength. Throughout the night, the Japanese made repeated onslaughts against the Chinese outer defences, but everytime they were hurled back with heavy losses. The following day, additional Japanese troops arrived, including units of the 4th Division. The combined Japanese forces stormed the southeastern defences. Having failed to make any advance, they shifted their attack to the southern and then the eastern part of the city's outer defences. On January 2, a part of the 40th Division joined the attack. Meanwhile, Changsha's northern outskirts were stormed. Once the Japanese succeeded in breaking through the outer defence, but before they could consolidate their gains, they were pushed back. Testifying to the severity of the fighting, one height Hungshanton or Red Peak, on the southern outskirts was attacked eleven times and changed hands four times. The peaceful burial ground, which commands the Changsha defences, became a land of violent death during those bitter struggles.

The stiff resistance came as a great surprise to the enemy who was compelled to make repeated calls for reinforcements. As the Japanese troops were besieging Changsha, the Chinese army at the bottom of the pocket, east of Changsha moved to the southern outskirts of the city to take the Japanese rear. Meanwhile, a new trap was set for the invaders along the Liuyang River.

On January 4, Chinese reinforcements began to tighten their ring around Changsha, but what surprised the Japanese most was the heavy guns which fired on Japanese troop concentrations. Several mountain guns, which the invaders had brought up with difficulty all the way from Yochow, were silenced. With their lines of communication dissected, the Japanese again had to rely on air transport for ammunition and food supply. On the afternoon of January 4, the Japanese collapsed. For 11 days, retreating Japanese columns were harried from point to point by the Chinese. The last Japanese remnants crossed the Sintsiang River northward on January 15, thus concluding the third unsuccessful Japanese attempt to occupy Changsha. The invaders lost in this battle 57,000 killed and wounded and 2,300 captured, and large stocks of supplies.

The two Changsha Battles were highly illustrative of the Chinese strategy. Instead of offering frontal resistance, the Chinese steadily withdrew after exacting high prices in life and material from the Japanese while shifting strong forces to the flanks and rear of the enemy. At important strategical points, the Chinese offered determined resistance to absorb the Japanese main force, thus facilitating the movement of other units in the flanking movement. This is what the Chinese call "magnetic warfare."

This strategy was successfully employed during the Battle of Taierhchwang in 1938 when two Japanese divisions, while advancing rapidly on the northern Kiangsu railway town, were surrounded by the Chinese troops who moved to their flank, cut their communication lines, and later inflicted considerable casualties on the retreating invaders, thus winning China's first major victory of the war. The same strategy was used with success later in the Battle of Suihsien-Tsaoyang in northern Hupeh in May, 1939, the first Battle of Changsha in September-October, 1939, the Battle of Tsaoyang-Ichang in western Hupeh in May, 1940, the Battle of southern Honan in January-February, 1941, and the Battle of Shankao in northern Kiangsi in March, 1941. Many minor engagements were also successfully fought with the same strategy.

Besides the similarity in strategy, the three Battles of Changsha had many things in common. With the left wing resting on the Tungting Lake, the Chinese used mines to blockade the water passage, and thus prevented Japanese warships and steam launches from sailing up the Hsiang River to threaten the Chinese left flank. Although Japanese planes were active with varied intensity in all three battles, Chinese

bombers gave effective support at crucial moments by bombing Japanese troop and ship concentrations. Road wrecking also played an important part in the three engagements when destroyed highways and paths forced the Japanese to advance without their heavy arms, thus putting the opposing forces on the same footing as far as the weapons were concerned.

The Japanese three times made the same error by falling into the trap. They found themselves fighting against a cordon instead of on the exterior lines of the Chinese. In the first Battle of Changsha in 1939, the invaders moved simultaneously in northern Kiangsi, southern Hupeh and northern Hunan in an extensive exterior line converging on Changsha. The three-pronged attack was further supplemented by a naval column which forced a landing at Yingtien. The northern Kiangsi column was stopped half way and failed to accomplish its mission. The other columns advancing to the outskirts of Changsha found their communication lines cut and themselves surrounded. They beat a hurried retreat after sustaining more than 40,000 casualties.

In the second Battle of Changsha, the invaders threw their entire weight into northern Hunan in a wide frontal attack in three columns. A large number of airplanes were employed to give the campaign a semblance of blitzkrieg, while the main strength was thrown on the central and left columns. Road gangs were employed to construct military highways closely following the advancing columns to keep the supply lines open. These indicated a definite improvement on the first campaign. In their light-hearted advance, however, they soon found themselves dashing into the Chinese pocket again with their rear cut. Therefore, when they began the third attack, they resorted to a large-scale central thrust to be followed by a quick sweep from the wedge. More emphasis was laid on the depth of their advancing columns so that the rear and flanks could be better protected. They depended heavily on the central and right columns since the mining of the Hsiang River made it impossible for them to use warships. Except the vanguard regiment which reached the gates of Changsha on New Year's Eve, Japanese columns took pains to guard against any attack on their rear and flanks. Such precautions, however, still proved insufficient. After converging on the gates of Changsha, the invaders thought they had destroyed the Chinese main force, and slackened their precautionary measures. Damaged roads practically immobilized their mechanized units, while repeated Chinese raids and interceptions

lowered their strength. When they found the Chinese had turned on their flanks and back they had to retreat.

The third Battle of Changsha was particularly significant in that it was the first Allied major victory in the Pacific area, and the first Chinese contribution, in the form of a smashing victory, to her Allies. After Pearl Harbour, Manila and Hongkong, the situation looked bad, and the timely Chinese victory demonstrated to the world that the Japanese are not invincible.

The importance of the China theatre in the entire Allied strategy can be seen from the Battle of Western Chekiang in May-June, 1942. Immediately after Brigadier-General James Doolittle's devastating bombing of Japanese cities on April 18, the Japanese broadcast that the American bombers had headed for China. Large concentrations of troops were gathered at Hangchow. On May 15, more than 100,000 Japanese troops began to attack Kinhwa, a railway town in western Chekiang, and other cities with the avowed purpose of destroying Chinese air bases in Chekiang and Kiangsi, thus removing a direct threat to Japan proper. Japanese militarists know the value of Chinese advanced bases as springboards for the bombing of Japanese cities and sealanes. The loss of the Chekiang and Kiangsi bases might slow down the Allied aerial offensive against Japan.

The enemy attack was launched in three columns, one driving southwestward from Shaoshing, one southward from Siaoshan and one southwestward from Fuyang. The third column joined the Siaoshan force on the 17th. Supported by heavy guns and airplanes, they steam-rollered over Chuki on the 17th. The invaders converged on Kinhwa the evening of the 24th. A bitter struggle for possession of the railway city followed. Aided by an intensive gas attack the invaders broke into Kinhwa on the 28th, after three unsuccessful assaults, losing about 5,000 men. They broke into Lanki on the same day and were engaged in bitter street fighting by the Chinese defenders.

After Kinhwa, the invaders continued to press westward toward the Chekiang-Kiangsi border along the Chekiang-Kiangsi Railway. Meanwhile, Japanese concentrations were reported at Nanchang and Kiangsi, evidently preparing to launch a pincer movement against central and eastern Kiangsi in collaboration with the Chekiang columns.

Up to the end of May, Chinese field troops in Chekiang and Kiangsi were manœuvering for positions and mobile units were active behind Japanese lines, interrupting their transportation and recapturing points along the invasion routes. The Chinese main force in this area remained intact and was, by mid-June, moving for a counter-attack.

Besides holding their own in face of a strong invading force, the Chinese have also proved their strength by attacking Japanese garrisoned positions during the fifth year of war. The most notable case was the Battle of Ichang in October, 1941. The attack provided a side-show to the second Battle of Changsha and its purpose was to hold the Japanese troops in western Hupeh, preventing them from reinforcing the columns in northern Hunan. The order for an attack on Ichang was given in mid-September. Fifteen Japanese outposts were recaptured, one after another. At dawn on October 10, the Chinese troops broke into the city. Fierce street fighting ensued. Hard-pressed, the Japanese resorted to chemical warfare by pouring gas shells into the Chinese-held corner of the city, while airplanes in relays of threes and fives rained more than 300 gas bombs on the defenders. The Chinese finally evacuated the city on the 12th and gradually retired to their orginal positions as the second Changsha Battle had by then been concluded in favour of the Chinese. The Japanese lost about 10,000 men killed and wounded in the battle. Other losses included much equipment destroyed or captured, and 14 planes shot down.

The Ichang attack was more brilliant than the attack on Kunlunkwan mountain pass in southern Kwangsi, at the end of 1939. The Kunlunkwan attack was supported by an active, though small, tank corps of the Chinese Army as well as planes of the Chinese Air Force. The gunpower of the Chinese during the Kwangsi Battle was not much inferior to that of the Japanese. But in the Battle of Ichang, the Chinese had only the support of a few mountain guns and only one night bombing attack against Japanese ammunition depots by the Chinese Air Force. With a light infantry, high valour and skill, they successfully stormed the Japanese positions. The attack was well calculated and executed. The Chinese could have held the recaptured city had they not been gassed too heavily. Given heavy arms and more modern equipment, the Chinese could accomplish far more than they did at Ichang.

From July 1941, to June 1942, the Chinese fought 5,580 engagements causing the enemy more than 177,000 casualties, besides capturing 5,094 men. The Chinese also captured 38 heavy guns, 420 machine guns, 12,577 rifles and a large amount of other war materials.

In retrospect, the fifth war year was still a continuation of the stalemate which began after the fall of Hankow in October, 1938, activities on both sides notwithstanding. Spirit and courage alone do not win wars. It takes the Man plus Arms—heavy guns, tanks, bombers, pursuits—to win the war. Lack of heavy arms and a large air force has made it impossible for the Chinese to launch a general counter-offensive at once. With more and better equipment the Chinese Army will be able to play its full part in the common war against aggression.

SAMUEL CHAO

2. SMALL BUT GREAT: THE CHINESE AIR FORCE

China's young Air Force fought with greater effect in its fifth year (July 1941—June 1942) of war. This was due to three factors: closer co-operation with land forces, formation of the American Volunteer Group and intensive training. In the coming year when Chinese air cadets now undergoing advanced training in American fields return with newer and better aircraft, it can outshine its previous records.

In all major battles fought during the twelve months under review —the Second and Third Battles of Changsha, the Chinese counter-attack on Ichang and the Battle of Burma-Yunnan— Chinese pursuit and bombing squadrons played an important part in destroying Japanese positions and troop concentrations. This helped their comrades on land to retard enemy advances, or paved the way for Chinese attacks.

The C. A. F. made its first bombing attacks in its fifth year of war during the Second Battle of Changsha in September—October, 1941, when six Japanese divisions were pouring southward toward Changsha, using the Tungting Lake as their main line of transportation and supply. Squadrons from two C. A. F. bombing groups—the "East China Sea Group" and "Iron Rain Group" staged a surprise raid on Japanese shipping and depots at Yingtien and Lulintang on September 23, 1941, and destroyed fleets of junks and steam launches. On September 29, squadrons from the same two groups attacked Japanese positions and troop concentrations between the Liuyang and Laotao Rivers. The raid was so devastating that at Fulinpu alone half of the Japanese concentrated force of 5,000 men were wiped out, while broken and capsized boats nearly choked the Milo River. In both raids, the Chinese met no resistance in the air, and the Japanese anti-aircraft batteries were ineffective.

After the two bombings, a lone plane from the "East China Sea Group" made an observation flight over the battlefield outside Changsha. After close reconnaissance and strafing, the plane returned to Chungking and its pilot and observer reported the findings direct to Generalissimo Chiang Kai-shek. On the basis of his reports, an order was telephoned to the Changsha defenders. The Generalissimo's instruction resulted in the second Changsha victory in October.

The feat was repeated during the Third Battle of Changsha two months afterwards. When the Japanese were forging ahead in another attempt to reach the Hunan capital, a squadron from the " East China Sea Group " bombed Japanese concentrations at Changlochieh, and the pontoon bridges across the Milo River on January 8, 1942. After having emptied their bomb racks the squadron was engaged by 11 Japanese " 97 " pursuits. The running battle which ensued lasted more than 20 minutes, during which five Japanese pursuits were shot down. Two of the Chinese planes landed at an advanced field, while the rest safely returned to their base.

A moonlight bombing against Japanese positions at Ichang was carried out by a squadron of the " Iron Rain Group " on October 1, 1941, supporting Chinese troops who were then attacking the city. Flying through a heavy mist, the squadron effectively bombed the enemy airfield outside the city, his transports on the river and wharves, and godowns. A number of fires were noticed by the Chinese pilots.

The most intensive and effective support given to Chinese land troops by the C. A. F. during the year, however, took place in the battle on the Burma-Yunnan border in April—May, 1942. When the Japanese " flying column " was driving up the Burma Road in early May, the " East China Sea Group " and the " Iron Rain Group ", escorted by A. V. G. pursuits, made repeated attacks against enemy motorized units. On May 2, squadrons from the two groups braved thunderstorms over the western Yunnan mountains for a bombing expedition against Lashio. They raided New Lashio and its airfield and set the field and Japanese supply depots in the city on fire. Meanwhile, the " Flying Tigers " dived low and strafed the field.

The following day, Chinese squadrons appeared over Hsenwi between Lashio and Wanting and attacked Japanese tanks and motorized artillery on the Burma Road. Hsenwi was also bombed as a large concentration of Japanese troops were observed in the town.

The squadrons took off again on the third day and attacked Wanting where hidden Japanese columns in forests and groves were successfully bombed and troops on the highway machine-gunned. Anticipating the Chinese attack, 22 Japanese " Zero " pursuits patrolled the Wanting sky half an hour before the arrival of the Chinese. The Japanese, however, left too early for an encounter with the Chinese squadrons.

The fourth bombing mission was carried out on May 6, when Japanese approached the Salween River. The squadrons found the

road on the west bank of the river chokeful of Japanese vehicles and tanks. Diving low, they emptied their bomb racks and machine-guns on the invading column. The attack was repeated near Lungling on May 7. Flying 1,000 meters above the ground, Chinese planes registered repeated direct hits on Japanese motorized units. Meanwhile, the "Flying Tigers" also dived low for machine-gun attacks, leaving Japanese vehicles burning on the road.

Attack was resumed on May 10 and 11 when Chinese squadrons, again supported by the "Flying Tigers," braved torrential rains to bomb Japanese troops and motor lorries at Mangshih. Many direct hits were registered, inflicting heavy losses in men and materials upon the enemy. By the end of May, when the Chinese were counter-attacking Tengchung and Lungling, Chinese bombers also participated in the drive by attacking Kanlanchai near Tengchung on May 25, and Lungling on May 27 and 28. Strafing was carried out daily on the front.

The "Flying Tigers" did more than merely escorting Chinese bombers. On April 24 and 25, they bombed and strafed Japanese columns pressing on to Lashio. The successful attacks delayed the Japanese advance for four days and gave the Chinese a chance to evacuate materials from the city. The A. V. G. action was lauded by Generalissimo Chiang Kai-shek in a special order of the day.

Other A. V. G. planes strafed Japanese units on May 8 on the west bank of the Salween, leaving 20 trucks burning and 60 more damaged. Two strafings were carried out near the Salween and one at Wanting on May 10. The A. V. G. also supported Chinese bombers in attacks against Japanese concentrations towards the end of May. All the attacks achieved telling results.

These, however, were not the first instances of co-operation between the Chinese air and land forces. As early as the beginning of the hostilities, Chinese light bombers and pursuits gave effective support to land forces in August and September, 1937. During the Battle of Taierhchwang in 1938, strafing and bombing were carried out by the Chinese planes, opening the way for her first major victory on land. Most outstanding achievement in 1939 was the support given Chinese divisions attacking Kunlunkwan. On December 25 and 26, Japanese positions at Patang, Chiutang and Kunlunkwan were repeatedly bombed and strafed, paving the way for Chinese troops to recapture the southern Kwangsi mountain pass.

During the second battle on the Honan-Hupeh border in April-May, 1940, the C. A. F. effectively attacked Japanese communication lines on April 29 and bombed and machine-gunned the retreating Japanese army at Suihsien in northern Hupeh on May 19. Chinese bombers attacked enemy positions and troop concentrations during the battle on the Han river the same year. A Japanese motorized unit was bombed near Icheng (different from Ichang) on June 2, and another unit was attacked near Tangyang on June 7. Japanese army units were successively bombed on June 23 and 25 near Ichang in 1940.

Again, when the Japanese launched another of their unsuccessful advances westward from Ichang in March, 1941, Chinese bombers heavily raided Japanese positions south of the Yangtze river, destroying large accumulations of military supplies and killing hundreds of Japanese soldiers. The Chinese squadron was attacked by nine Japanese pursuits on its way home. One of the Chinese planes failed to return.

Employment of Chinese bombing squadrons was not limited to tactical attacks only. Strategically, they were also used to their best advantage. During the Battle of Yunnan-Burma, especially in its earlier stage, A. V. G. "Tomahawks," equipped with bomb racks, bombed and strafed Japanese bases at Bangkok, Tak, Chiengmai, and other Thai cities. When the invaders were driving up the Burma Road, another Japanese concentration was reported along the Yunnan-Indo-China borders. The "Flying Tigers" twice raided Laokai, a railway town on the Yunnan-Indo-China border on May 16 and 17, destroying enemy military establishments and trains. One of the "Flying Tigers" failed to return.

Chinese bombing squadrons bombed Hanoi on January 22 and 23, when the Japanese were using the Indo-China base for their attacks in the southwestern Pacific. Escorted by pursuits, some of which were supplied by the A. V. G., Chinese bombers braved tropical rains and dumped on each occasion more than 20 tons of high explosives in Honan. The raids marked the first successful co-operation between the "Flying Tigers" and their Chinese comrades.

These, however, were not the first raids by Chinese bombers on enemy bases abroad. On February 23, 1938, three Chinese squadrons carried out an expedition to Formosa and effectively bombed the Japanese base at Taihoku, destroying 12 grounded planes, three hangars, and a number of barracks. Another flight of Martin bombers staged a night "pamphlet raid" on western Japan on May 20 the same year, proving

to the world the weakness of Japanese air defence. The proof was corroborated four years later by the devastating attack on Japanese cities by American Army bombers led by Brigadier-General James Doolittle on April 18, 1942.

The most successful strategical use of Chinese bombers was the bombing of the enemy airfield in Hankow on October 3 and 14 in 1939. The two attacks destroyed or damaged over 100 Japanese planes, killed or wounded more than 200 pilots and mechanics, and destroyed large quantities of gasoline, bombs, and accessories. They practically wiped out the 12th and 13th Air squadrons of the Japanese Navy, and removed the threat from the air to Chinese troops then fighting the First Battle of Changsha. No less than ten attacks were launched against the Japanese air base at Yuncheng in southern Shansi. In one of the raids, more than 30 grounded enemy planes were destroyed.

Another outstanding strategical employment of Chinese bombers was the incessant hammering of Japanese warships and transport in the summer of 1938 when the enemy was advancing westward both along and on the Yangtze river. Having no navy, the Chinese command sought to delay the Japanese advance by air force. The raids sank altogether 33 ships and damaged more than 100 others.

Considering the limited number of planes in China's possession, the successes of Chinese bombing squadrons though not so spectacular were indeed hard won. Given more fast, modern and powerful planes, the Chinese Air Force will be able to utilize them more fully against the aggressors.

Due to lack of equipment, Chinese pursuit squadrons were not so active in the fifth war year as in previous years. The defence of Chungking in the summer of 1940 taxed the Chinese pursuit pilots and planes to their utmost. In five months, from May to September, they took to the air nearly every day, fighting Japanese armadas of more than 100 planes at one to ten odds. The invaders lost altogether over 70 planes, all accounted for. Many more were too badly damaged to be able to return to their bases. Successes over Chungking during that summer were even more spectacular than the duels fought over the Nanking-Shanghai-Hanchow area at the beginning of the war when the Kisaratsu and Kanoya Air Corps of the Japanese Navy were wiped out within the first three weeks, and those fought over Hankow in 1938, when a total of 47 Japanese planes were bagged in three bitter battles fought on February 12, April 21, and May 31, not counting numerous minor victories.

The tradition of Chinese pursuits, however, was kept alive in 1941 and 1942 in spite of comparative inactivity. In two engagements fought over Lanchow on May 21 and 22 they brought down one Japanese bomber and damaged three others. Over Chungking, a Chinese pursuit squadron engaged more than 90 invading planes on July 28 and brought down two of them. Another invader was shot down by Chinese pursuits over Chengtu on August 11.

One of the most colourful cases of Allied co-operation in air warfare in China is supplied by the famous "Flying Tigers," the First American Volunteer Group of the Chinese Air Force. Altogether more than 300 American Army, Navy, and Marine pilots and civilian and military ground crews were recruited in America to form the first volunteer group (pursuit) in the Chinese Air Force. They are under the command of Colonel (now Brigadier-General) Claire L. Chennault, for five years chief instructor of the Chinese Air Force Cadet School. An authority on pursuit tactics and a keen student of the Japanese air force, the "Colonel," as he is known among his men and friends, is mainly responsible for the splendid achievements of the A.V.G.

The "Flying Tigers" have Madame Chiang Kai-shek as their Honorary Commandant. Madame Chiang was among the first who suggested an American volunteer group fighting under the Chinese Air Force, and played an important part in the planning and execution of the plan.

Coming out to the Far East in October, 1941, the "Flying Tigers" first landed in Burma and had their "Tomahawks" assembled at the Rangoon and Toungoo fields. Their main force flew into Kunming on December 19, and had their baptism of fire on December 20, when all of the ten Japanese planes that invaded Kunming were brought down or so badly damaged that none of them returned to their base. In Rangoon, the A.V.G. went into action on December 23, and after that took the full brunt of Japanese aerial attacks against the Burma port. Both men and planes were taxed to the utmost. Often pilots had to snatch their meals between patrols. Not infrequently their sleep was disturbed or they were called from dinner or even in the middle of a bath to intercept Japanese raiders. The "Tomahawks" also had to fly occasionally with over-aged motors. But they fought on, one against 30, to victory after victory. In four and a half months, the "Flying Tigers" shot down and destroyed more than 300 confirmed Japanese planes over Burma and Yunnan against their own loss of

15 planes, 12 pilots killed and missing, and four wounded. The " bag " does not include the " probables " that might have been shot down or destroyed by the " Tomahawks ".

The " Flying Tigers " are effectively assisted by members of the Chinese Air Force in the collection of information, the preparation of landing fields, as well as the supply of personal experiences of the Chinese pilots gained in these four and more years of war with the Japanese. These have all proven most valuable to the A.V.G. members.

Another case of close Allied co-operation is seen in the evacuation of several hundred ground crew of the Royal Air Force from Burma to China over the Burma Road. They were safely protected in the air by Chinese aircraft and the " Flying Tigers " during their travelling.

An extremely important case of Allied co-operation, as well as the Chinese eagerness to organize a strong Chinese Air Force can be seen on the Thunderbird and Luke fields in Arizona, U.S.A., where Chinese air cadets are learning how to handle American pursuits and bombers under the instruction of American aces. There, in the dazzling blue Arizona skies, Chinese cadets fly singly or in formation, do stunts, practise target-shooting and bombing, and master military flying and aerial fighting.

First arriving in the United States in November, 1941, the Chinese cadets have found the Arizona fields an ideal place for developing their wings. There are enough training planes and gasoline for them to fly their full quota of hours and no air raids to interrupt their flying. The modern, up-to-date trainers on the fields will make it easier for them to handle Lend-Lease pursuits and bombers in the future. American observers reported that among the fledgling pilots of 11 United Nations training at Thunderbird field, the Chinese are among the smartest and best disciplined and show the most encouraging record in flying.

Already three batches of budding airmen have been sent from China. Boys in the first batch received their wings in the early part of this year from Air Major-General Shen Teh-hsien, commander of Chinese air cadets in America. Those in the second batch, who had more than 150 hours in their flying logs before going to America, will soon conclude their training in Arizona. Others in the third batch, who had their primary training in Kunming, are on their way to the American fields. More students chosen from among more than 2,000 college students who competed in an examination to qualify them to

learn flying in America, are receiving primary training in China, in preparation for the vigorous lessons at the Thunderbird and Luke fields.

Observers found that Chinese cadets in America easily understand their instructors in spite of language difficulties. In fact, the basic phrases and hand signals employed by the American instructors are familiar to Chinese cadets. For back in China, they learned flying from, or at least passed their examinations through, the hands of American instructors. Brigadier-General Claire L. Chennault is still the chief instructor of the Chinese Air Force Cadet School in Yunnan. Under him are a number of American aces, each with hundred of hours of air instruction to his credit, teaching the Chinese boys the American way of combat flying.

Chinese cadets in Arizona do not find the American Army Air Corps training system new to them. When the former Chinese central Aviation School at Chienchiao, near Hangchow, was thoroughly reorganized and put on a modern footing in 1931, it was Colonel John H. Jouett, former U. S. Army Air Corps officer and a West Point graduate, and his air mission of 13 instructors and four mechanics who gave Chinese cadets a scientific training for combat flying. Before the mission left China in 1935, it established the American Army Air Corps way of air instruction. The system has been followed, with necessary modifications, by the succeeding American and Chinese instructors.

The Central Aviation School moved to West China after the war broke out. It had another reorganization in 1938, and was renamed the Chinese Air Force Cadet School, training only flying officers. Its cadets are graduates of the Central Military Academy and its branch schools. After two years of military training in the military academy, they spent 180—200 flying hours on flying lessons, which are divided into three stages. After graduation from the school, these pilots became warrant officers and received field experience in flying squadrons. After six months, they received commissions as second-lieutenants in the Chinese Air Force.

Although the better cadets from this school have been sent to the Thunderbird field for up-to-date training, those remaining in China keep on with their intensive training. Lack of modern ships and interruptions from air raids may prolong their training but do not impede their progress, for the school motto is "Quality First."

For the training of non-commissioned pilots there is the Flight Sergeants' School, opened in 1938. Junior middle school graduates are admitted. After three months of military training, the cadets begin their flying lessons which also last for three years in three stages. They become first-class flight privates upon graduation from the school. Those particularly promising may become commissioned officers after further training.

Then there is an Air Force Staff School where flight or squadron leaders receive further training to be staff officers in the Chinese Air Force. There, problems of air strategy, tactics, command, and co-operation between the air, land, and naval forces, are studied.

Air Force officers are also sent to the War College to learn strategy, tactics, and command together with army officers to broaden their experiences, thus ensuring closer co-operation between the two services Graduates from the War College or the Air Force Staff School are usually given posts as commanders of air districts, wings, or groups, or appointed staff officers in the various headquarters. Some, with a good knowledge of foreign languages, are sent out as air attachés of Chinese embassies or legations in friendly countries.

For the training of qualified mechanics, there is an Air Force Mechanical School opened in 1932, admitting only those who have had practical experience in aeronautical factories. Cadets in this school spend two years learning the construction and repair of planes, motors, and instruments. Upon graduation, they are sent to air bases or factories as mechanics.

The school has also an advanced division for the training of aeronautical engineers. Only college graduates who majored in aeronautical, mechanical, electrical, or civil engineering are qualified to sit for the examinations. Cadets of this division receive advanced training in designing and construction of aircraft and ground equipment during the two years in school, and become aeronautical engineers when they graduate.

Experience in enlisting flying cadets during the last few years points to the desirability of giving youths interested in flying an early start. So the Juvenile School was established in the summer of 1940, taking in boys 12 to 15 years old who are given, apart from the usual school education, special training to develop their physique. The boys are given an early chance to familiarize themselves with model planes,

motor vehicles, and internal combustion engines. Upon graduation, they are admitted to one of the numerous schools maintained by the commission.

Besides these schools, the Chinese Air Force has maintained since 1939 special classes for advanced training in various branches—pursuit, attack, bombardment, observation, radio, gunnery, and navigation. All these classes are at important Chinese air bases and are open to men in active service as well as qualified cadets. The various squadrons also have their own training programmes to familiarize themselves with new planes and instruments.

Since 1941, gliding has been popularized with great vigour. The National Gliding Association was established in May, 1941. Special training classes were first conducted in Chengtu, teaching young boys and girls soaring and gliding on motorless planes. Upon their graduation, they were sent to leading Free China cities to teach other Chinese youths to ride the skies on native manufactured gliders. A 115-foot parachute jumping tower, with three parachutes operating simultaneously, was built in Chungking in April, 1942. The popularization of gliding and parachuting will give a wider foundation for the development of aviation and the building of a stronger air force in China.

Another important step taken by the Chinese for the Allied cause is the construction of new airfields and the improvement of existing ones so that the Allied air forces can have more bases for attacks on Japan proper. Advance fields, with underground fuel and bomb depots, dot all Chinese provinces. Major bases in the rear provinces are strategically placed and are well constructed although devoid of pretentious hangars and above ground structures. Often hundreds of thousands of men are mobilized to level a gigantic field out of hills, valleys, and farms. With picks and spades, the Chinese farmers, whose forefathers built the Great Wall and cut the Grand Canal, to-day build airfields that will one day serve as jumping boards for aerial attacks against Japan. Already the value of Chinese bases as stepping stones for Allied bombers has been recognized by Allied as well as Japanese leaders. Intensive Japanese bombings of Chinese airfields in central and eastern China provinces and the offensive in Chekiang in April—May this year clearly showed the importance of Chinese air bases in that region.

The modern Chinese Air Force is young in age, being created in 1932 after Colonel Jouett reorganized the former Central Aviation School. It is small and had only 200 first line planes at the beginning of the war.

Nevertheless, its achievements and the courage and skill of the Chinese pilots have won the heart of the entire nation. The public is always ready to give for the building of a greater air force. In five war years, the people donated altogether $70,000,000 for the buying of combat planes to replenish China's first line squadrons. Altogether 350 planes were bought with the money at the average cost of $200,000 each. Of the $70,000,000, about half was given by Chinese living abroad, including US $6,700,000 contributed by Chinese in America. In interior China people in all walks of life gave freely to buy planes that bear their names. Many of these gift planes fought well over Chungking, Chengtu, Lanchow, and other centers.

Further to promote the people's air-mindedness, the Chinese Air Force in 1940 made August 14 "Air Force Day". This is to commemorate the first encounters of the Chinese Air Force against Japan. On August 14, 1937, a total of 103 Chinese planes participated in eight raids on Japanese warships and army positions in Shanghai, sinking and damaging about ten ships, destroying Japanese depots and positions, and shooting down two Japanese planes, against the loss of two Chinese craft. On the same day, 18 Chinese pursuits encountered 18 Japanese heavy bombers raiding Hangchow and shot down six of them.

Chinese anti-aircraft units have given a good account of themselves in the present war, especially the 75 millimeter A. A. guns in Nanking which registered one hit in every 300 shots. On September 20, 1937, the Japanese sent 95 planes to bombard Nanking in four waves, and the Chinese ground batteries bagged 12 of them, besides those shot down by Chinese pursuits. On November 27 the same year, a ground battery at Kintang, defending a highway bridge, shot down three planes with one shell—the hit caused the first bomb-laden plane to explode thus destroying the other two. On the night of October 10, 1938, six raiders were brought down by Chinese A. A. guns at Hengyang in Hunan. The anti-aircraft units have also distinguished themselves in the defence of strategical points and communication lines. Although fewer direct hits were registered in 1941 and 1942, the incessant pounding of the Chinese A. A. guns forced the Japanese raiders to fly higher and higher, well over 6,000 meters, thus making it harder for the Japanese bombardiers to hit their objectives.

The National Commission for Aeronautical Affairs has an air defence department handling an air defence administration and also an Air Defence School, founded in 1934, training gunners, searchlight and

sound detector operators, spotters, and intelligence officers. It takes a cadet two years to finish the courses qualifying him to be an air defence officer. The air defence units have their own " Air Defence Day " which falls on November 21 of each year, celebrating the first air defence practice held in Nanking on that day of 1934.

The Chinese Air Force does not encourage the " Ace " system and all personal records are closely guarded as military secrets. It is believed that honour belongs to the entire force and not individuals. Exceptions, however, are made in three cases. They are Second-Lieutenant Yen Hai-wen of the " Meteor Group " who made a forced landing behind Japanese lines in Shanghai in 1937, shot a number of Japanese, and took his own life with the last bullet rather than surrender. First-Lieutenant Shen Tsung-hui of the " East China Sea Group " who sank a Japanese warship by deliberately crashing his bomb-laden plane on its deck; and Second-Lieutenant Chen Hwai-min of the " Hawk Group " who rammed his damaged plane against a Japanese pursuit over Hankow. Such loyalty, skill, courage, and spirit of sacrifice are the main sources of strength for the small but great Chinese Air Force whose motto is " Quality First " and whose training is " Spirit First " as Generalissimo Chiang Kai-shek specially wrote for the air cadets on January 6, 1933, when he visited the former Central Aviation Academy. The Generalissimo also wrote 12 commandments and 18 credos exhorting the importance of responsibility, the will to die for the nation and country, discipline, courage, love for comrades and people, and the will to conquer all hardships and difficulties. Another slogan often seen in Chinese aviation schools is: " Our bodies, planes, and bombs will crash together with enemy positions and warships."

SAMUEL CHAO

3. THE TRAINING OF CHINA'S NEW ARMY

War is fought with Metal, Money and Man. Not infrequently mainly with Man only. Everything else being equal, a nation's trained manpower constitutes the chief factor in determining the final outcome of a struggle. Given modern armaments and adequate material resources, but without men trained to use them with determination, a nation's war machine is like a body without a soul. In this regard, China is in an advantageous position. She has a vast supply of manpower. In five years of war, her most important weapon has been Man, and Man is still her main asset in her struggle against Japan.

The average Chinese is intelligent and follows instructions readily. He is resourceful and commands extraordinary ingenuity. He is traditionally loyal and faithful to the point of death to a leader who treats him with consideration. He is honest and knows no fear. He is inured to privation and physical hardships, and meets death with the same philosophical calm with which he faces life. He makes an excellent soldier, provided he is well-trained and led.

With a common conviction and determination, millions of Chinese have been whipped into fighting trim under the slogan of " Training is more important than Fighting ". In five years of war, more recruits were drafted and drilled, more officers trained and more units inspected than in pre-war days.

A great military genius with a wealth of Chinese cultural background, Generalissimo Chiang Kai-shek always lays special emphasis on spiritual training for his men. To him, spirit is more important than material. In the Nanyo Military Conference held in November, 1938, immediately after the fall of Hankow, the Generalissimo pointed out that one man, with courage and discipline, can accomplish the work of two. China's deficiency in equipment can be, to a certain extent, made up by her fighting spirit. This same philosophy permeated the Whampao Military Academy, where was first laid the foundation of China's new army. This Academy was established near Canton in 1924 with the Generalissimo as its Principal. It provided both military and political training for its cadets who were all indoctrinated in Dr. Sun Yat-sen's teachings, and taught a high sense of responsibility toward the nation. The tradition has been maintained. The policy,

purpose, spirit, and objective of the academy were clearly defined by Generalissimo Chiang Kai-shek in an address delivered on the 18th anniversary of the academy on June 16, 1942. The Generalissimo pointed out that the academy's policy is to teach the cadets self-government, self-initiation, self-strengthening, and self-respect. Its purpose is to make the cadets have a sense of propriety, integrity, responsibility and discipline. Its spirit is one of sacrificing individual comfort, life, and everything else for the success of revolution. Its objective is to teach every cadet as well as every soldier he may command after graduation to be loyal to his country, people, party principles, and Chinese revolution. Faculty and cadets following these principles in the first period of the Chinese revolution, played a major role in eliminating the obstacles to revolution and in the second period are continuing to shoulder the responsibilities of the prosecution of the common war against aggressors.

Technically, a Chinese soldier is taught modern warfare by experts. Spiritually, he is reminded daily of his duty towards the nation and the people. "Spiritual talk," an unheard-of topic in foreign military institutions, is a speciality in Chinese military schools as well as in all fighting units. It was the Generalissimo himself who wrote the outline for the spiritual training of Chinese soldiers. This outline constitutes the Commandments of all Chinese military men. All Chinese public functionaries, Kuomintang members, and students are required to recite and observe them. The outline includes 12 *dicta* for military men, Party members, public functionaries, and students, and ten rules for soldiers. The *dicta* are :—

1. Loyalty and courage are the basis of patriotism.
2. Filial devotion is the basis of an orderly family.
3. Goodwill and charity are the basis of harmonious relationships.
4. Faithfulness and uprightness are the basis of a successful career.
5. Peaceableness is the basis of getting on with the world.
6. Courtesy and self-control are the basis of good administration.
7. Obedience is the basis of bearing responsibility.
8. Diligence and thrift are the basis of service.
9. Orderliness and cleanliness are the basis of physical health.

10. Helpfulness is the basis of happiness.
11. Knowledge is the basis of helping the world.
12. Persistence is the basis of achievement.

Specifically written for military men, the Generalissimo's ten rules for soldiers read :

1. To practise the *San Min Chu I* (Dr. Sun Yat-sen's " Three People's Principles") and defend our country, there should be no opposition or negligence.
2. To support the National Government and obey the authorities, there should be no falsehood or disobedience.
3. To respect and love our comrades and protect the people, there should be no haughtiness or rudeness.
4. To be faithful to our duty and follow orders strictly, there should be no procrastination or cowardice.
5. To be strict in discipline and brave and determined, there should be no laxity or dereliction.
6. To have a comradely spirit and co-operate with others, there should be no disorderliness or evasiveness.
7. To be responsible, to have a sense of shame, and to extol military ethics, there should be no abusiveness or covetousness.
8. To endure hardships and be frugal and plain, there should be no extravagance or dishonesty.
9. To pay attention to manners and keep oneself tidy, there should be no voluptuousness or sensualism.
10. To have sincerity, faith and righteousness, there should be no meanness or deception.

On the technical side, the Board or Military Training of the National Military Council is responsible for the training, re-organization and inspection of the entire Chinese Army ; the planning and inspection of all institutions of military education ; the training of people for military service ; and the editing and compiling of military magazines and books. The Board was established in February, 1938, succeeding the Directorate-General of Military Training. It is headed by General Pai Chung-hsi, Deputy Chief of Staff of the Chinese Army.

Military education in regular military institutions is of two kinds: the training of cadets to become officers and the training of officers for special duties. Before the war, the former was the exclusive function of the Central Military Academy and its branches, while the latter was done through the Infantry School, Artillery School, Engineering School, Transport and Supply School and Communication Technical School. High school graduates were enrolled in the Academy and branches, while commissioned officers were called after rigid examinations to the various schools for further training.

When the war broke out, the demand for trained officers increased beyond the capacity of the existing schools. Obviously, a re-adjustment of the various institutions and further expansion of their scope was necessary. It was then decided that the Central Military Academy and its branches, besides training cadets, should also train officers for special duties, while the various specialised schools should principally train commissioned officers, and train cadets only when necessary. During the 18 years since 1924, the Central Military Academy, including the Whampao days, has graduated more than 72,000 cadets. Many have laid down their lives for their country, others are still fighting at the front, and recent graduates are ready to follow in their footsteps.

Before the war the former Directorate-General of Military Training maintained 12 schools. The number has been increased to 26 since the establishment of the Board of Military Training. The Central Military Academy has seven branches. The War College, after a number of migrations, has finally settled down near Chungking. The former cavalry training class of the Central Military Academy has become an independent Cavalry School, while the Transport and Supply School was re-organized into the School of Military Supplies and the School of Mechanized Units. The Infantry School has two branches, one in the North-West and one in the South-West. The Cavalry School has a branch in the North-West where is also located the Special Arms Associated Branch School. The Board also maintains a Special Arms Cadre Training Class, a Special Cadre Training Class, two Cadre Training Classes in war areas, the South-West Guerilla Cadre Training Class and the North-West Guerilla Cadre Training Class. The capacity of all these schools have been increased to accommodate more trainees. Some have well over 10,000 cadets or officers each in training.

Cadets for the Central Military Academy and its branches are enrolled from Junior and Senior Middle School graduates. Agents are

sent to war areas and even behind Japanese lines to recruit young men in "occupied" areas. These men are then sent to cadet corps maintained in different war areas for primary training. Afterwards they will be admitted to branches of the Central Military Academy for further training. The Central Military Academy and two of its branch schools have special battalions for Frontier tribesmen—Mongols, Tibetans, Moslems, Lolos, Miaos, Yaos and other aboriginals. Another branch has an Overseas Chinese Cadet Battalion. The number of cadets to be graduated each year is approved by the Annual Military Education Conference at which deans and directors of all institutions discuss problems concerning the training of China's new fighting personnel. Several tens of thousands of young officers are turned out by the Central Military Academy and its branches each year to fill and augment the officer corps.

Schools of the different arms and special officers' classes attached to the Central Military Academy and its branches are open to commissioned and non-commissioned officers in active service. Refresher courses and advanced training on modern warfare are given. Those who rose from the ranks are among the first to receive advanced training. Since the outbreak of war tens of thousands of officers have been given additional training.

Experience gained in actual combat has influenced considerably the training in Chinese military schools. Specialization is emphasised in the Central Military Academy and its branches as well as the various specialized schools. Closer relationship between classrooms and battlefields are sought by basing education on actual fighting requirements. Numerous changes have thus been made in teaching materials, methods and procedure. Field manoeuvers are conducted more often than before and as much as possible in a realistic way. Furthermore, the schools are ordered from time to time to send inspecting, training and teaching parties to visit various fronts for first-hand information from Field Generals. Occasionally, the personnel in military organs, schools and armed units are interchanged so that each can be benefited by the other's knowledge and experience.

The Central Military Academy has a special anti-gas training department teaching its cadets as well as officers in active service the intricacies of gas warfare. Anti-gas warfare training started in China only a few years before the outbreak of the war. But even this meagre start showed its value in the battle of Pailingmiao in Northern Suiyuan in the winter of 1936, when the Chinese repulsed a Japanese attack

which was supported by the use of gas. In the war since 1937, the Japanese have launched about 1,000 gas attacks. This more than justifies the conducting of the special class in the Central Military Academy as it gives Chinese officers a better idea of gas warfare and preventive measures.

The re-organization and training of the armed forces themselves is an even more stupendous task. Because of the huge size of the Chinese Army, the work has to be carried out in several stages, each lasting from five to six months. At the beginning of each stage, units to be re-organized and trained are brought up to the standard strength in men and equipment. A comprehensive training programme, based on experience gained in actual combat, is enforced. High-ranking officers are sent by the Board of Military Training from time to time to visit the units to give guidance or lectures to the rank and file. Toward the end of each stage, inspectors are sent to check up and report on actual progress. Since December, 1938, the Board has reorganized and trained units attached to six army group headquarters, 162 army headquarters, 356 divisions, ten brigades and one recruit training centre. Units of a number of army headquarters and many divisions are now being put through the same course. Field experience reveals that units previously re-organized and trained fight better.

The Board of Military Training maintains a number of circuit classes to bring refresher education to the different units. They include the North-West Circuit Education Class which teaches military subjects to troops in the North-West, the Cavalry Circuit Education Class training cavalry units, the Artillery Education Class re-organising and training artillery units, the Dynamite Technique Circuit Training Class teaching sappers the art of dynamiting defence works and buildings, and the War Area Communication Circuit Training Class training signal corps officers and men. Each war area has been ordered to establish its own cadre training corps, infantry-artillery co-ordination training class and war area communication training class. Each army has its own cadre training class and signal corps training class to give refresher courses to its own men and officers. Besides, in each army and independent signal corps, there is a training company for the training of its own radio operators. The Board also maintains a number of educational regiments to train supply corps, motor transport privates and non-commissioned officers. Men from these regiments are later sent out to active service units.

An outstanding feature in the Chinese military educational system is the two guerilla training classes, one in the North-West and another in the South-West. Although guerillas have proven their usefulness in harassing the invaders' rear, experiences have shown that the best guerillas are regular troops with special training in guerilla warfare. These men can co-operate better with other regulars, can fight with better discipline and can afford the people greater protection. In the two institutions there are separate classes for officers and non-commissioned officers, for cadres in assault battalions. Besides, there are guerilla warfare training corps. The training is so useful that since the outbreak of the Pacific War last December a number of Allied officers have been receiving training in these two classes.

National military training, foundation of a nation's standing army, is enforced in China in three stages. The plan provides for the elementary training by turn of all able-bodied male citizens in their native towns and villages, who are later given regular and refresher education. According to a survey, Free China provinces trained more than 6,500,000 militia before the end of 1940, while another 6,000,000 men were trained in 1941.

The training of reserve officers takes place in senior middle schools and colleges. All male students are required to take military drill on their own compasses and an intensive training in barracks in the summer of their graduation. Such training is conducted in close co-operation with local garrison forces and nearby institutions of military training. From time to time, the Board of Military Training sends inspectors to check up on the progress made in each school.

Officers and non-commissioned officers in the militia are given refresher training. Military instructors in middle schools and colleges and deputy commanders of country militia are given two months of training in the Central Training Corps, while assistant military instructors in schools and country militia captains receive two months of training in different army areas and village militia officers four months of training in the provincial or municipal militia cadre training class. Vacancies in the officer's corps of the militia are filled by officers with a regular military education, or by reserve officers and non-commissioned officers.

The Board of Military Training has an editing and compilation department, editing and compiling books, magazines and charts on military subjects. Altogether 627 books and charts, covering nearly

all branches of the Chinese Army have been published. More than 2,000,000 copies of manuals and regulations have been printed and distributed for use in the armed units, military schools, government offices, army and division areas and recruit training centres. The department recently began the editing and compilation of military text-books in simple language for the use of soldiers and recruits in different armed units and the militia.

Numerous items of modern military equipment have been perfected or improved by experts in the Board. They include 15 instruments used by infantrymen, four by artillerymen, one by engineers, two by transport units, five by signallers, two by tank corps and four by anti-gas units. The products were exhibited in Chungking in May, 1942, during the Annual Military Education Conference.

As a result of these intensive training programmes, the Chinese Army has been greatly increased both in size and in fighting power since the war began five years ago. From a total of less than 200 comparatively poorly equipped and ill-trained divisions, the Chinese Army has grown to well over 300 divisions with 5,000,000 men in the field and 15,000,000 men in reserve units or in training camps. Over 800,000 guerillas are harassing Japanese garrisons and lines of communication, while more than 600,000 regular troops are operating behind the Japanese lines. In addition, 50,000,000 able-bodied men of military age are available for service. This against Japan's total of 10,000,000 able-bodied males, including Koreans and Formosans whom they are pressing into service, is a clear indication of Chinese superiority in manpower.

The training has also contributed much toward the present fighting strength of the Chinese Army. Before the fall of Hankow in October, 1938, the Japanese enjoyed initiative in the field and had greater fire power. The Chinese suffered heavy losses under such conditions. In the second stage of the war since the fall of Hankow, the Chinese have gained more and more initiative and the former unfavourable situation as to firing power has also been altered. Therefore, the casualty ratio has dropped from three to one (three Chinese against one Japanese) in the first stage of war to one to one (one Chinese against one Japanese) in the second stage.

SAMUEL CHAO

III. ECONOMIC EFFORTS

1. WARTIME INDUSTRIAL CHANGES

Five years of war have changed the vast interior of China from a mediæval into a modern economic state. Prior to the outbreak of hostilities in 1937, there were only 745 coal mines and 33 iron mines operating with native methods on a small scale in the hinterland. There was no cement factory, alcohol distillery or oil refinery. There were only 33 factories in Szechwan.

To-day, there are 1,350 privately owned industrial plants in the interior, using mechanical power in addition to the 108 units of heavy industries under the direct control of the National Resources Commission of the Ministry of Economic Affairs. Free China is self-sufficient in almost everything necessary for the conduct of war and reconstruction. The chief lack is the supply of steel. Home production of steel is far short of the nation's needs, but efforts are being made to increase the power and heavy machinery for such production. It is estimated that Szechwan alone has an iron deposit of 147,597,700 tons.

Japan's wholesale invasion began in 1937 when China's three-year heavy industry plan was in full swing. The war forced the programme to undergo a thorough change. The reconstruction bases had to be shifted from Kiangsi, Hunan and Hupeh to inland provinces such as Szechwan, Sikang, Yunnan, Kweichow, Kwangsi and Kansu. The re-establishment of industrial centres in the undeveloped West naturally required tremendous efforts on the part of the Ministry of Economic Affairs. Thus wartime industrialization has enabled China to develop her natural resources with unusual speed.

National Defence Industries

Before the war, China had practically no national industries. Factories in the coastal provinces controlled by foreign interests and Chinese merchants under foreign influence could only be called "industries in China," but not Chinese industries. It was only after the war broke out that Chinese industries were developed on a large scale in accordance with the nation's fixed policy of resistance and reconstruction.

The development of industries in the interior has been under the guidance of the Ministry of Economic Affairs. Its hand can be seen in the migration of factories and their re-distribution. China had 3,849 registered private factories before the war. Of these, more than 1,290 or one-third were in Shanghai. Only 279 were located in the interior. With the spread of hostilities along the eastern coast since August, 1937, the Ministry of Economic Affairs began to assist about 600 private factories to move inland. Of the 452 factories joining the migration from the coast to the interior, 250 went to Szechwan, 121 to Hunan, 43 to Shensi, 25 to Kwangsi and 13 to other provinces. One hundred and five Fukien and 86 Chekiang factories moved to inland districts in those provinces. More than 120,000 tons of materials and more than 100,000 skilled workers were brought to the West.

The 1,350 old and new as well as removed factories in Free China are scattered in all parts of the country. Chungking has 443 units, representing one-third of the total. Metallurgical factories have been increased from 4 to 87, machine works from 37 to 376 units, electrical appliance factories from one to 44, chemical works from 78 to 380 and spinning and weaving factories from 102 to 273. There are now three cement plants operating and three more under construction. Alcohol factories now number 133, their total production being three times the pre-war output. Szechwan alone produces 400,000 gallons of alcohol a month. Modern paper mills using machinery for production have been increased from 3 to 17. For oil refinery, the interior provinces, have now 22 factories producing synthetic gasoline, 15 producing Diesel oil and 5 producing lubricating oil. Coal mines have been increased to 1,629 units and iron mines to 122.

The Government has adopted adequate control measures over private industries. Besides encouraging the establishment of new factories to meet rising demands, the authorities stress rationalization as a step toward effecting industrial mobilization in response to the National General Mobilization, which was enforced on May 5. Three points are being emphasised: first, rational distribution of factories is sought to ensure a better supply of raw materials, labour, power and markets; second, the exercise of more control over private factories; and third, production standards to be raised in order to ensure economy in raw materials and labour.

Special attention has been paid to the development of power for industrial uses, particularly the vast water power projects which are

being developed. Total power capacity in the interior has been increased to five times its pre-war figure and is still climbing steadily.

China had very few national defence industries before 1937. Formerly, coal and iron mines in North and Central China as well as in the Northeast were mostly under foreign control or under strong foreign influence. The heavy industry programme was mapped out only one or two years before the war, taking the southwestern provinces as the base for industrial development.

Planned action began in July, 1936, with particular emphasis on machinery, chemical and metallurgical industries. The National Resources Commission has been responsible for this important task. Established in 1933, the commission was first known as the National Defence Planning Commission. The first three and a half years were spent in intensive investigations of mineral reserves, raw materials and the potentiality of industrial development of the country. As a result, a three-year heavy industry plan was mapped out in 1936, and under the name of the National Resources Commission actual work began in the three Yangtze provinces of Kiangsi, Hunan and Hupeh. After five years of hard work under most difficult conditions, the commission has now 41 factories, 43 mines and 24 power stations, totalling 108 units. Among them is China's foremost iron and steel works known as the Hanyehping Company, formerly in Hupeh and later moved to Szechwan. Its machinery and furnaces are being set up. While in Hupeh, the factory was largely dominated by the Japanese. "Anyone who is familiar with the history of the Japanese intervention in the Hanyehping Works," said Dr. Wong Wen-hao, Minister of Economic Affairs, "must realize the significance of this removal in wartime. It marks an important turning point in Sino-Japanese relations."

The first concrete step that the National Resources Commission took shortly before the war was featured by the nationalization of tungsten, iron and antimony, the construction of two big steel plants and the opening of two coal seams, three copper refineries and the establishment of machine shops for the production of mechanical instruments. The development of electrical supply, including water power, and chemical industries was also embodied in the scheme which, with numerous modifications and re-adjustments necessitated by the war, has been carried out in part or in full up to the present. Like private plants those belonging to the commission are scattered in many parts of the country.

Among the 600 private industrial units removed from coastal regions to the interior, 300 are engaged in heavy industries, constituting a great help to the state-owned enterprises.

Plans for the development of national defence industries are nation-wide. Any production projects relating to national defence will be controlled by the Central Government under wholesale planning and operation. The National Resources Commission is co-operating with provincial administrations in developing local heavy industries.

Industry and People's Livelihood

China's textile industry, which is most important in its bearing on people's livelihood, was largely controlled by foreign interests before the 1937 North China invasion. Little opportunity was given for Chinese textiles to compete on equal terms with those produced by foreign factories. Even raw cotton had to be imported. The progress of chemical industries was slow, while imported goods monopolized both urban and rural markets.

Large-scale textile and light chemical industries were not started until after the war broke out. Compared with 1937 or 1938, when only 40,000 spindles were found in the northwest and southwest provinces, the textile industry has been rejuvenated at an accelerating speed. Now there are 230,000 spindles in Free China, producing 100,000 bales (at 400 pounds per bale) of yarn a year, a three-fold increase over 1938. Of these spindles, 150,000 are in Szechwan, 50,000 in Shensi, 10,000 each in Hunan and Yunnan, and 2,000 in Kwangsi.

Progress achieved in various provinces should be credited to the Government-established development companies. Through constant encouragement and assistance of the Central Government, 14 provincial development corporations have thus far been established. They are:

	Capital	*Year of Inauguration*
Kweichow Development Corporation ...	$ 15,000,000	1939
Fukien Development Corporation ...	35,000,000	1940
Shensi Development Corporation ...	20,000,000	1940
Anhwei Development Corporation ...	10,000,000	1941
Kwangsi Development Corporation ...	30,000,000	1941
Kwangtung Development Corporation ...	40,000,000	1941
Kiangsi Development Corporation ...	.....	.....
Yunnan Enterprise Bureau	.....	1941
Szechwan-Sikang Development Corporation	70,000,000	1942
West Yunnan Development Corporation ...	40,000,000	.....
Kansu Development Corporation ...	20,000,000	1942
Hupeh Development Corporation ...	50,000,000	.....
Suiyuan Development Corporation ...	5,000,000	1942
Sikang Development Corporation ...	.....	.....

The organization of provincial development corporations is a wartime economic achievement. Their chief object is to co-ordinate the development of various industrial branches and to arrange them in such a way that the process will not only facilitate the exploitation of provincial resources but fit into the industrial reconstruction plan of the nation as a whole.

A review of industrial conditions of the various provinces shows widespread progress. In Szechwan alone, there are over 700 industrial plants. These include 100 machine works, 34 communication tool and instrument manufacturing factories, 37 power stations, 16 alcohol distilleries, 12 paper mills, 90 cotton spinning and weaving factories and 54 printing plants. The largest is the $120,000,000-China Development Corporation. Fifty-two are capitalized at more than $1,000,000. The Szechwan Provincial Government owns 50 units of these industrial enterprises. Its industrial research bureau has opened 14 model factories, covering hydraulic engineering, machinery manufacturing, alcohol manufacturing and paper making. A large portion of the National Industrial Research Bureau's model plants are also located in Szechwan. The province, therefore, houses the most important war industries (state-owned enterprises and private factories) and is the nation's major base for war and reconstruction.

The sole industry in pre-war Sikang was leather tanning. Now the two-year-old baby province owns 10 factories with a total capital of $3,000,000. They are the Kangting Wool Weaving Factory, the Yaan Wool Factory, the Kangting Wool Washing Factory, the Yaan Leather Tannery, the Yaan Paper Mill, the Yaan Alcohol Plant, the Yaan Wood Oil Factory, the Yaan Chemical Works, the Yaan Measure and Weight Factory and the Yaan Power Station. None of these factories is on a large scale, but they show the tremendous progress gained in one of the most backward regions in the far West of the country. A steel works and a machine shop capitalized at $10,000,000 each, with 40 per cent from the provincial government, are under construction at Yungching, where there is a fine iron reserve. The two factories will serve as the foundation for further industrial development in Sikang. With the establishment of the Szechwan-Sikang Development Corporation early this year, the Ministries of Economic Affairs and Communications are establishing several model factories in Sikang as a step to further industrialization.

Kweichow is not a poor province, though it has been undeveloped. While there were only a few industrial plants before the war, Kweichow

now has nearly 50 modern factories, including three machine works, two power plants, and several cotton weaving factories. The Kweichow Development Corporation was organized by the Provincial Government of Kweichow, the Bank of China, the Bank of Communications, the Farmers' Bank of China and the Industrial and Mining Adjustment Administration of the Ministry of Economic Affairs. Its work covers a wide sphere, including chemical industries, printing, machine works, automobile manufacturing, cement manufacturing, sugar refining and electrical supplies.

Yunnan is a better developed province. New factories and mining companies have been added to its 10-odd plants existing before the war. The same is true of Kwangsi, where there were about 10 modern factories prior to 1937, while now 21 provincial industrial units and 36 private factories are functioning. Kwangtung was more industrial than agricultural in pre-war days. Ten large factories were operating, including cement making, alcohol manufacturing, acid manufacturing and paper-making plants. Following the fall of Canton in 1938, the Kwangtung Provincial Government has been exerting every possible effort to establish small-scale factories in the northern part of the province. An industrial promotion committee has been organized to encourage the opening of private industrial enterprises.

Hunan's industrial factories have been much affected by repeated fighting in the Changsha area. Through encouragement or direct participation, however, the Hunan Provincial Government has achieved satisfactory results in promoting new industries. Thirty-seven private cotton mills are found in the province's cotton-producing districts. In western and southern Hunan there are 25 paper mills. Besides, Hunan has several tea factories, ten weights and measures implement factories, two machine factories, two metallurgical plants and a number of tin, copper, mercury, tungsten and other mines. Hunan's electrical appliance and alcohol factories are on a considerable large scale.

Hupeh's industrial area has fallen into enemy hands. A new Hupeh plan has been mapped out in which industry will absorb 40 per cent of the budget. Besides war area industries, the province now has two weaving factories, a paper mill, a chemical works, a sulphuric acid manufacturing plant, an alcohol plant and a tannery.

Kiangsi has achieved industrial self-sufficiency. Nearly all its factories are named "Min Sen," meaning the people's livelihood. There are at present five power plants, two machine works, thirteen

chemical factories, four weaving and spinning mills, four food companies, five educational supplies and printing shops, two mineral works, two cement plants and four other factories. Their business income every year amounts to more than $80,000,000.

Chekiang has over 100 factories owned by the provincial or *hsien* governments, including about ten power plants. The Fukien Development Corporation is in charge of industries relating to the people's livelihood, having established nearly all kinds of factories.

In the northwest, industrialization is nothing new. Shensi to-day houses more than 100 industrial factories, particularly in the southern part of the province, with a monthly production of 5,000 bales of cotton yarn, 400,000 tons of machinery and 5,000 sheets of leather. The Provincial Government of Shensi has established a machine shop, a cotton mill, a flour mill, an alcohol plant and an acid manufacturing factory. It has also organized a native cotton cloth weaving institute, a hand-made yarn improvement station, a paper making experimental station and many training classes for skilled workers. The Kansu Development Corporation controls 30 industrial units, including cotton mills, cement factories, machine shops, pharmaceutical factories and various chemical plants. Chinghai (or Kokonor) had only one match factory before the war. At present, wool, leather tannery and other chemical industries have been developed in that province.

Guerilla Industries

As Chinese mobile forces still control a large portion of the vast countryside of the occupied areas, in many cases isolated from industrial centres, rural industries have had a chance to grow to meet local needs. In Chinese rural communities where only a few handicrafts existed before the war, are found numerous supplementary occupations for the farmers, such as paper making and the manufacturing of daily necessities. "Portable" workshops are doing wonders in many parts of occupied China. The Chinese Industrial Co-operatives is strengthening small-scale industries in areas close to the front and behind the enemy lines as a means of ensuring self-sufficiency in all districts.

Take Kiangsu for instance. One of the special administrative areas in the province is known for its silkworm-rearing, while another one is interested in making pottery and earthenware. Provincial authorities there are adopting every possible means to promote handicrafts. Industrial guilds have been organized by private interests

while the government is creating new organs to control wartime handicraft development.

Paper making, candles, soap, wheat flour and dyeing have been well developed in Chinese-controlled areas in eastern Hupeh. Handicrafts in the western and northern parts of the province are carrying on even more effectively than in the eastern.

The Anhwei Provincial Government has established three big weaving factories and more than ten "people's factories" engaged in manufacturing daily articles. Improved spinning jennies are made by the Government and distributed among farmers. The Tapieh mountainous regions in particular are turning out increasing quantities of tobacco, leather, electric cells, paper, soap, matches, vegetable oil, tea and measure and weight instruments. Encouragement is given to the production of rural manufactured goods, such as sauce, alcohol and lacquer.

In the guerilla area in western Chekiang, nearly 20 small factories have been established, including one silk reeling factory, two silk weaving mills, one machine shop, three paper factories and one plant making farm tools. Skilled labour evacuated from enemy-occupied points has been utilized to the greatest extent. Chekiang authorities are paying great attention to industrial extension work by creating an industrial improvement bureau and many model factories in various industrial centres in the province.

Shantung has a plan for the development of guerilla industries. The province has been divided into 17 areas, including 56 counties It is expected that in a short time the province will turn out 200 technicians and 250,000 skilled workers to be engaged in various branches of handicrafts. Farmers may work six months in factories. In southern Shantung, wool production has been well organized. The Government has organized advisory committees, technical institutes and training classes for better production. Six months of work can produce 1,000,000 woollen garments, 40,000 bolts of woollen piecegoods, 40,000 woollen blankets and other woollen articles. Paper making, dyeing and other chemical factories are also operating under government direction. The principle of Shantung's guerilla industry is self-sufficiency, not only for the people but for the guerilla units themselves. Guerillas fight at the front but work hard when they retire to their bases.

Honan is a war province. Before the war, there was only one factory making farm tools under the Provincial Government's direction.

Most of the province's important factories, such as the large cotton mills at Chengchow, have been moved further to the interior. Fifty new factories have been organized since the war spread to the province. The same is true in Shansi and Suiyuan provinces.

The significance of the development of guerilla industries, small in scale though they may be, lies in the fact that rural communities have now been taught the importance of industrialization which will enable the farmers to earn more income and to be self-sufficient. The present trend will lead to further advancement in rural industry, not only during the war but in post-war China when the country will be industrialized to the fullest degree.

Other Industrial Trends

Other industrial trends in wartime China include the rapid development of industrial co-operatives, the establishment of more state-managed monopolies, experimentation in relief industries, intensified training of industrial personnel and better industrial research.

There were no industrial co-operatives before the war. The Chinese Industrial Co-operatives, organized in 1938, is now composed of more than 2,000 societies with a membership of 30,000. Besides the special role it plays in industrial production, it has an immense educational value in teaching the people co-operation and skill, and helping to solve difficulties for members and the masses in general. Following the outbreak of the Pacific War in December, 1941, the Chinese Industrial Co-operatives movement has been fast readjusting itself to the changing conditions. It regards itself as the most effective means of achieving local self-sufficiency by promoting small-scale industries and handicrafts. Co-operatives formerly producing goods for export have revised their production programme, while those engaged in war industries and industries urgently needed for the maintenance of the people's livelihood have been strengthened. The rural areas are another field in which the C. I. C. is extending its work, while activities are under way in the war areas and places close to the front.

Government monopoly of salt, sugar, tobacco, matches, tea and wine opened another sphere for the Government to engage itself in industrial enterprises. The Ministry of Finance has set up a number of plants producing monopoly goods.

For the relief of refugees and wounded soldiers, the National Relief Commission has established about 20 factories, including paper mills, weaving and spinning factories and leather tanneries. Relief factories have high educational value.

The training of more and better industrial personnel can be seen in the Government's promotion of engineering and chemical studies. More technical colleges and schools have been opened to teach engineering and other industrial courses. Natural and applied sciences occupy a major portion of the 725 departments in 129 Chinese universities and colleges. There are 38 departments of chemistry and 31 departments of civil engineering.

Rendering invaluable assistance to the industrialization of inland China, is the 11-year-old National Industrial Research Bureau of the Ministry of Economic Affairs, whose function is to modernize and standardize the Chinese industry by research in raw materials, industrial technique and better production methods. The bureau's 17 laboratories, 10 model factories and four extension stations are finding wartime industrial uses for China's rich agricultural products. Experiments will be completed in September, 1942, on the distilling of alcohol from fibrous plants, especially wood and corncobs. Tung oil is no longer an export article following the interruption of China's southwestern trade routes, but to-day it is an important material for the production of gasoline and rubber which were formerly imported. The National Industrial Research Bureau has discovered processes yielding 33 per cent of synthetic gasoline from tung oil. Experiments are continuing with a view to obtaining an even higher percentage. As tung oil begins to crystallize at 280 degrees centigrade, experiments are also being made to get synthetic rubber by this process. The results have been encouraging.

The bureau's chemical laboratory had analysed more than 3,000 minerals, fuels and other raw materials by the end of 1941. Five hundred more are scheduled to be studied this year. It has completed ten standard formulae for chemical analysis and ten more will be ready by the end of this year. Its brewery-laboratory has collected and studied more than 300 fermenting agents used by brewers in China. Some of these methods, used by several alcohol distilleries, are found to produce better alcohol than that formerly imported from Germany and Formosa. Microscopic and analytical studies have been made to determine the properties of 14 fibrous plants and their results have been instrumental in the improvement of paper production in the interior.

Motors of different descriptions are manufactured by the bureau's electrical laboratory, which is the best equipped in China. Its machine shop produces centrifugal machines for sugar refining, spinning machines for cotton and wool, alcohol distilleries, leather tanning machinery, flour mills, salt boilers, machine tools and steam engines. It also turns out oil pipes and cracking machines for oil mines.

The bureau's four extension stations are introducing proven methods and machines to small industrial concerns. In Liangshan, eastern Szechwan, the bureau is rendering technical assistance to paper makers who are now producing writing paper instead of joss paper. More sugar is produced by farmers in Neikiang, central Szechwan, through using machines and methods introduced by the bureau's Neikiang sugar station. Better oil pressing methods are taught to Hochwan oil pressing houses, while fire bricks and clay are introduced by its Nanchwan fire brick station.

Post-War Industrialization

Industrial development in China will have an entirely different aspect after the war is over. Some of the plants will naturally move back to the coastal regions, but most of them will probably stay in the central and western provinces in conformity with the nation's wholesale planning and readjustment measures for post-war economic reconstruction.

Dr. Wong Wen-hao, Minister of Economic Affairs, once said that after the war China should adopt a ten-year reconstruction programme big enough to be of real value to the country but not too ambitious to place it beyond the means of the people. Dr. Wong, who ranks among China's topnotch scientists, laid down the following goals for the reconstruction programme:

	Total Output	*Value (Dollars in Million)*	*The 10th Year*	*Value (Dollars in Million)*
Steel ...	14,000,000 *tons*	19,500	5,000,000 *tons*	7,500
Coal ...	500,000,000 *tons*	12,500	100,000,000 *tons*	2,500
Gold ...	12,000,000 *ounces*	7,500	2,500,000 *ounces*	1,500
Cement ...	85,000,000 *barrels*	4,500	20,000,000 *barrels*	1.000
Machines	.....	10,000	.....	2,500
Steel Plates	5,000,000 *tons*	7,500	1,000,000 *tons*	1,500
Cotton Yarn	29,500,000 *bales*	59,000	5,000,000 *bales*	10,000
Railways ...	48,000 *kms.*	*(new lines)*	.....	.....
Rails ...	3,360,000 *tons*	.....	.....	.....
Locomotives	2,400	.....	.....	.....
Steamships	3,000,000 *tons*	.....	.....	.....

The National Resources Commission, of which Dr. Wong is concurrently chairman, is now studying a post-war five-year plan, which is the first of a series of industrialization plans to enable China to be self-sufficient. The minimum object of this plan is to ensure a solid industrial base for the strengthening of China's national defence and for raising the general living standard of the people by industrialization. China will have enough iron and steel products, according to this plan to meet industrial needs. Her machine industry will be developed to such an extent by then that she will be able to manufacture her own power engines, motor cars, locomotives, airplanes, steamships, spinning and weaving machines and tractors and other farm machinery. Her chemical industry will give her enough coke and oil as well as other chemical products needed in various industries, such as sulphuric and nitric acids. The RCA has been taken as the goal for China's radio and electrical development after the war.

Special attention will be paid to the mining of tungsten, antimony, tin, mercury, coal, oil, aluminum and iron. China's abundant deposits of underground resources, when fully developed, will supply a considerable portion of the world's needs.

This plan calls for at least 30,000 engineers and technicians and 800,000 workers. The commission has now only 9,534 engineers and 170,000 workers. A gigantic training programme has, therefore, been launched to prepare for the future. Experienced engineers and directors have been sent to foreign countries and the interior of China to investigate and study as another preparatory step. Co-operation from the Ministry of Education and institutions of higher learning for the training of more technical personnel has been secured. The commission's own factories and mines are running special training classes to turn out more foremen and skilled workers.

"China will never remain a purely raw material supplier," said Mr. Chien Chang-chao, Vice-Chairman of the National Resources Commission. "Her industrialization after the war will provide an ideal outlet for the surplus machinery and capital in the post-war world."

CHU FU-SUNG

2. CHINA'S UNDERGROUND WEALTH

Since the earliest historical times, China has made some use of her boundless mineral resources, but never to an extent commensurate with their richness and variety. Compared with other countries, scientific mining in China is still in its infancy.

Notwithstanding this, she dominates the world market in tungsten and antimony, and is also one of the world's great producers of tin. Her coal reserves were recently estimated at approximately 250 billion tons—enough to last almost 10,000 years at her rate of consumption in pre-war days. Her iron reserves are estimated at more than one billion tons and she has a substantial reserve of lead, copper, gold and manganese. A certain amount of petroleum and natural gas is found in various parts of the country, especially in the Northwest. Despite the loss of many rich mines in the Northeastern provinces and in the coastal areas, China to-day still possesses nearly all the potentialities necessary for her development into an important industrial nation and is still holding the key to many of the raw materials needed by the United Nations for the successful prosecution of the war. Only assistance and co-operation from friendly nations are necessary for their greater development.

Modern mining was neglected until the establishment of the National Government in Nanking in 1927. The Chinese Geological Survey first made accurate studies of her mineral deposits. The Mining Law was subsequently promulgated in 1930. A few provisions of this law have been revised, but the substance remains unchanged. The law proclaimed the principle of government ownership of all mineral deposits. Its intention was not the establishment of a government monopoly of mining, but was designed rather to encourage the development of mines by the combined efforts of the Government and private concerns. According to the law, the discoverer of any mine has his right to apply for a mining concession, which is granted for 20 years and is renewable indefinitely. But it may be revoked, if the holder does not start working his mine within two years, or if, after starting, he stops working for a consecutive period of more than one full year. The concessionaire has to pay annually a very light concession tax amounting to two cents per *are* (100 square meters) for the first five years and five cents thereafter.

These liberal provisions were responsible for a rapid increase in the number and the area of mining concessions. In 1927, there were 780 concessions with a total area of 9.7 million *ares*. In 1930, the year when the Mining Law went into operation, there were 827 concessions with a total area of 10 million *ares*. Growth thereafter was rapid: In 1931, there were 971 concessions; in 1933, 1,384; in 1936, 1,714 with an aggregate area of over 19 million *ares* plus 14.4 thousand meters of river bed. The progress made in 1937 was even more pronounced. The total number of concessions granted reached 2,019 and their aggregate area reached some 20 million *ares* plus 28.4 thousand meters of river bed.

The present war has affected Chinese mining both adversely and favourably. Many mines were destroyed and others were occupied by the Japanese. On the other hand, many new mines have been opened up and old ones more intensively worked. The machinery of some of the big mines in the war area was dismantled and re-assembled for work in the mines in Free China.

Development of new mines is preceded by geological survey and investigation, which work is largely done by the National Geological Survey of the Ministry of Economic Affairs. The purpose of the survey is to strengthen the wartime economy of China. In many cases, findings by the survey's scientists have been useful in providing a basis for the systematic development of China's natural resources.

The work already completed includes a geological survey of the resources of coal, iron, petroleum and copper in Szechwan province; coal and iron in Hupeh province; tin, iron, coal, lead, zinc, antimony, tungsten and sulphur in Hunan province; coal in Kweichow province; copper, coal and tin in Yunnan province; tin, tungsten and gold in Kwangsi province; tungsten, antimony and coal in Kiangsi province and coal in Anhwei province. Similar work is also going on in the northwestern provinces. Searches have been made for coal in Tungkwan, Shensi and in Minhsien, Kansu, and for gold in Weiyuan and Huangyuan, Chinghai.

In 1941, the National Geological Survey sent out units to make investigations in the provinces of Hunan, Kweichow, Shensi, Kansu, Sikang and Szechwan. Special attention was given to prospecting for oil, iron, copper, lead and nickel. The survey also co-operated with the Geological Institute of the Academia Sinica in making tours in Szechwan, Hunan, Kiangsi, Fukien, Honan and Sikang. Prospecting

work was also done by the southwestern surveying office of the National Resources Commission of the Ministry of Economic Affairs in Yunnan and Kweichow. These surveying units have been instrumental in discovering new oil, coal and iron deposits in Kansu; coal seams in Yunghsien, Ziangyung, Mitu, aluminum deposits in Kunming and Chengkung in Yunnan; iron ore in Shuicheng, coal and aluminum deposits in Siuwen, coal and lead mines in Kweining in Kweichow; iron and sulphur veins in western Hupeh and gypsum in Kiangsi. In March, 1941, the blast furnace designed by the Bureau of Mining and Metallurgical Research started operations, producing high quality native pig iron. Experiments on refining crucible steel and antimony oxide paint have been completed.

Meanwhile, work on the refining of aluminum and the making of magnesite bricks has been started. The production of copper with a high percentage of fineness from mines in the Ning Territory in Sikang is meeting with success. Geological experts have been sent to study the anthracite coal veins in Hunan and the mineral resources in Shensi. Platinum deposits have been found in Hanying district, Shensi.

New Mines Opened

The significant increase in the number of mining concessions operated by the Government and private interests bears evidence to the energy with which the Government has addressed itself in founding a heavy industrial base in the interior. The following tables show that the Ministry of Economic Affairs has granted 131 mining concessions to the Government and 1,432 to private interests between 1938 and 1941:

Government-operated Mining Concessions granted by the Ministry of Economic Affairs between 1938 and 1941.

	Coal	*Iron*	*Copper*	*Tungsten*	*Petroleum*	*Total*
Total	29	30	4	63	5	131
Szechwan	4	13	1	...	1	19
Hunan	7	1	...	1	...	9
Kwangtung	...	...	...	43	...	43
Yunnan	7	7	2	...	...	16
Kweichow	2	2	...	...	...	4
Sikang	1	4	...	...	...	5
Kiangsi	1	1	1	19	...	22
Honan	6	...	...	...	...	6
Fukien	...	2	...	...	...	2
Kansu	1	...	...	...	4	5

(Compiled by the Department of Mining of the Ministry of Economic Affairs)

Private-Operated Mining Concessions Granted by the Ministry of Economic Affairs between 1938 and 1941

PROVINCE	Coal	Tin	Gold	Iron	Tungsten	Antimony	Lead	Manganese	Mercury	Bismuth	Molybdenum	Cobalt	Arsenic	Phosphorous	Flourspar	Sulphur	Graphite	Crystalline Rocks	Talc	Asbestos	Mica	Gypsum	Clay	Limestone	Others	TOTAL
TOTAL	885	155	162	64	39	20	16	13	8	3	1	1	4	1	10	4	6	1	5	1	1	3	22	6	1	1,432
Szechwan	628	...	83	34	...	...	2	...	...	...	...	...	...	...	...	2	...	...	4	...	...	...	2	4	...	759
Kwangsi	3	53	21	...	18	2	...	10	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	110
Hunan	50	17	19	14	3	1	5	2	...	1	...	...	1	...	...	1	3	...	...	...	...	3	2	...	...	122
Kwangtung	21	82	32	...	18	9	5	...	...	2	1	...	1	...	...	1	2	1	...	...	...	...	9	...	...	184
Yunnan	48	3	2	6	...	...	2	...	...	...	...	1	...	1	...	...	...	...	...	...	1	...	11	...	1	76
Kweichow	34	...	1	3	...	8	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	54
Kiangsi	21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
Shensi	43	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	50
Honan	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	15
Sikang	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Anhuei	2	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Kansu	5	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Hupeh	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Fukien	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Chekiang	1	...	...	...	...	...	...	1	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	12
Ningsia	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9

NOTE :—Figures Include Mining Rights of both Large and Small Concessions. Compiled by The Department of Mining of the Ministry of Economic Affairs

Of the total 1,432 mining concessions granted to private interests during the war, 384 were given in 1941. Most of the mining concessions granted last year were for coal, tin and gold and were located in Szechwan, Hunan, Kwangtung, Kwangsi, Yunnan and Kweichow. In addition to these rights, the Ministry has also granted 530 gold mining concessions.

A Distribution by Provinces of Respective Areas of Private and Government-operated Mining Concessions granted by the Ministry of Economic Affairs between 1938 and 1941.

(Unit : 1 *kungmow*=100 square meters)

Provinces	*Private Operated*	*Government Operated*	*Total*
Szechwan ...	1,385,793.42	6,324,825.54	7,710,558.96 (*kungmow*)
Kwangsi ...	670,858.36 3,635 (meters)	....	670,858.36 ,, 3,635 (meters)
Hunan ...	1,109,819.29	2,211,419.50	3,321,238.79 (*kungmow*)
Kwangtung	832,377.56 33,470 (meters)	453.980.81	1,286,358.37 ,, 33,470 (meters)
Yunnan ...	265,765.93	933,639.63	1,199,405.56 (*kungmow*)
Kweichow	286,351.48	140,236.07	426,588.15 ,,
Kiangsi ...	349,239.99	458,530.41	807,770.40 ,,
Shensi ...	573,328.46	.....	573,328.46 ,,
Honan ...	74,888.86	620,009.46	694,398.32 ,,
Sikang ...	8,501.85 18,532 (meters)	65,229.18	73,731.03 ,, 18,532 (meters)
Anhwei ...	11,222.63 3,959 (meters)	....	11,222.63 (*kungmow*) 3,959 (meters)
Kansu ...	14,361.79	510,522.27	524,884.06 (*kungmow*)
Hupeh ...	30,138.87	.....	30,138.87 ,,
Fukien ...	1,172.84	3,487.00	4,659.84 ,,
Chekiang ...	3,801.59	.....	3,801.59 ,,
Ningsia ...	8,075.75	.....	8,075.75 ,,
TOTAL ...	5,625,638.67 59,596 (meters)	11,721,880.47	17,347,519.14 (*kungmow*) 59,596 (meters)

(Compiled by the Department of Mining of the Ministry of Economic Affairs.)

A Distribution of Different Mining Concessions granted by the Ministry of Economic Affairs in Relation to their Areas between 1938 and 1941.

(Unit : 1 *kungmow*=100 square meters)

Mines	*Private Operated*	*Government Operated*	*Total*
Coal ...	3,162,801.77	7,052,194.21	10,214,995.98 (*kungmow*)
Tin ...	983,375.95 837,105 (meters)	....	983,375.95 ,, 837,105 (meters)
Gold ...	752,352.78 22,491 (meters)	....	752,352.78 (*kungmow*) 22,491 (meters)
Iron ...	11,220.08	758,001.64	769,222.32 (*kungmow*)
Copper ...	.....	2,465,585.37	2,465,585.37 ,,
Tungsten ...	199,608.12	844,950.32	1,044,558.44 ,,
Antimony ...	67,735.66	.....	67,735.66 ,,
Aluminum	60,251.60	.....	60,251.60 ,,
Manganese	59,658.35	.....	59,658.35 ,,
Mercury ...	169,764.13	.....	169,764.13 ,,
Bismuth ...	4,579.49	.....	4,579.49 ,,
Molybdenum	207.60	.....	207.60 ,,
Cobalt ...	142.00	.....	142.00 ,,
Arsenic ...	21,096.46	.....	21,096.46 ,,
Phosphorous	22,870.00	.....	22,870.00 ,,
Flourspur ...	2,857.78	.....	2,857.78 ,,
Sulphur ...	12,113.07	.....	12,113.07 ,,
Graphite ...	40,536.96	.....	40,536.96 ,,
Crystalline Rocks ...	311.19	.....	311.19 ,,
Talc ...	3,232.90	.....	3,232.90 ,,
Asbestos ...	2,392.43	.....	2,392.43 ,,
Mica ...	77.28	.....	77.28 ,,
Gypsum ...	11,160.00	.....	11,160.00 ,,
Petroleum ...	.....	574,151.93	574,151.93 ,,
Clay ...	22,952.12	.....	22,952.12 ,,
Limestone ...	8,102.64	.....	8,102.64 ,,
Others ...	99.33	.....	99.33 ,,
TOTAL ...	5,618,530.29 58,596 (meters)	11,701,880.47	17,320,410.76 (*kungmow*) 58,596 (meters)

(Compiled by the Department of Mining of the Ministry of Economic Affairs)

Coal Production Increased

Numerous large coal mines have been developed under the auspices of the Ministry of Economic Affairs in various parts of Kiangsi, Hunan, Yunnan, Kweichow, Kwangsi and Szechwan. They will have a combined productive capacity of roughly 500,000 tons a year when engineering and installation works are completed. Some of these mines have already started production, others will be able to produce in the near future. As the production of coal is of vital concern to industries and the consuming public, plans are being formulated for the establishment of more collieries in Szechwan, Shensi, Kansu, Yunnan and Kwangsi. The Ministry of Economic Affairs intends to operate a few mines; as to the remainder it will co-operate with either the provincial authorities or private concerns to work them.

In Szechwan-Sikang area, the Tienfu coal mine has increased its production to 700 tons a day, while the Nantung coal seams have reached a daily output of 400 tons. The Hweiyuan coal mine has started production and the Kiayang coal seams have a daily production of 300 tons. Due to transportation difficulties, all these seams have not yet attained large-scale development. Work on other coal seams is proceeding smoothly. In 1941, new corporations, both private and semi-official in nature, were organized to exploit the rich coal deposits in this region. Coal production in Yunnan-Kweichow, Hunan-Kiangsi and Shensi-Kansu-Honan areas has also registered substantial increases. The total production of coal in Free China is 6,000,000 tons a year at present, according to the Department of Mining of the Ministry of Economic Affairs.

The production of iron is also increasing. In 1940, 300,000 tons of iron ore were produced by native mines in the interior provinces. The amount of pig iron made from the ore was estimated at 100,200 tons. Of this, 34,000 tons of pig iron were produced in Szechwan, the rest in the provinces of Shensi, Yunnan and Hunan.

Pig iron produced from modern blast furnaces in 1940 was estimated at 15,000 tons, most of which was smelted in Szechwan. The production reached a much higher level in the latter part of 1941 after the completion of many new plants. The plants, mostly government-owned or government-subsidized, are valued at $100,000,000.

On the eve of the war, China had 20 blast furnaces with a total capacity of 4,210 tons. She has lost practically all of these furnaces, but to-day she has in her interior provinces 12 new blast furnaces,

most of them operating at full capacity to meet military and industrial needs. China is expected to be self-sufficient in iron by the summer of 1942 when all of her modern and native furnaces will be in operation.

On January 24, 1940, the Ministry of Economic Affairs announced the nationalization of iron and steel. Despite untiring efforts, the supply of the metals still lagged far behind the demand. The Iron and Steel Control Commission was jointly established by the Ministry of Economic Affairs and the Ministry of War on February 12, 1940, to help China attain self-sufficiency in the two metals.

At the same time, men were stationed in different places to stimulate importation of iron and steel. Customs and transportation facilities were given to incoming shipments. Precautionary measures were also taken against smuggling and trading with the enemy. Shipping permits were issued to help their holders overcome transportation and inspection red tape.

In Chungking, the heart of Free China's iron and steel market, the Control Commission fixed prices for different types of iron and steel according to the rising cost of production and the general price level. The Commission also registered the transactions and movements of the metals, besides banning hoarding and profiteering. All stocks purchased by the Commission were turned over to the Department of Ordnance of the National Military Council for military use.

The production of native iron increased three-fold between 1937 and 1940. Its price, fixed by the Commission, was quoted at $2,200 a ton in January, 1941, as against $1,100 a ton the year before. Because of the importance of native iron in the interior, the Government created a native iron control bureau. Supplying 50 per cent of Free China's total, Szechwan has been divided by the bureau into several control zones. Three-fourths of the iron output from local furnaces are assigned to the military and one-fourth to general industrial use. The bureau collected more than 20,000 tons of native iron in Szechwan between April and December, 1940. The iron mines in Sikiang in southern Szechwan alone produced 22,000 tons of native pig iron in 1941.

Several big furnaces, including one with a capacity of 100 tons and one of 30 tons, started production in and around Chungking in the winter of 1941. Furnaces in other parts of Free China also started production in 1942. Steel production in 1941 was marked by a similar success. Besides carrying on steel production, several corporations have succeeded in completing the installation of Bessomer Converters,

the products of which can meet part of the nation's needs. The production of alloy steel is also increasing, while the furnaces of the National Resources Commission are rapidly being installed.

To encourage iron and steel production by private companies, the Ministry of Economic Affairs has guaranteed loans totalling $5,670,000 extended by the Joint Board of the Four Government Banks. From February, 1940, when iron and steel was first nationalized to the end of October, 1941, the ministry granted licenses enabling the military, government organizations and private interests to buy and ship 14,688,590 tons of steel.

"Liquid Gold" Produced

China produces a very small amount of mineral oil. The most important petroleum field in the country is situated in the northern part of Shensi and the largest production of oil came from the distillation of the Fushun oil shale in Liaoning. The production of oil from the Fushun shale, which is now lost to the enemy, was 650,000 gallons in 1934. Another important petroleum field lies in Szechwan province, where oil seepage has been noted at several places and positive results have been obtained upon boring. There are petroleum fields in the Yumen and Tunghuang districts of western Kansu, and in Sinkiang several oil wells are in existence in the districts of Urumchi, Suilai, Usu, Tacheng. Oil has also been discovered in some places in Kweichow province.

No reliable estimate of China's petroleum reserves is available. According to a report by the Standard Oil Company on the exploration done in Shensi and Szechwan in 1920, the petroleum reserve is placed at 1,375,000,000 barrels. If this figure is used as a basis and to it is added the Fushun oil shale reserve of 5,500,000,000 tons, equivalent to 2,109,000,000 barrels of oil (assuming that the shale contains an average of 5.5 % oil) and the Shensi oil reserve 5,000,000,000 tons, equivalent to 852,000,000 barrels of oil (assuming the shale contains from six to eight gallons of oil per ton of shale), then the total petroleum reserves in China fall into the sixth place among the nations of the world.

Before September, 1940, extensive surveying and prospecting work was carried out in the Yumen oilfields in Kansu as the nation urgently needs a fresh supply of petroleum. Wells were dug according to plans and were later deepened to increase production. In 1941 these wells

were able to produce 3,630,000 gallons of crude oil, a part of which was refined into gasoline. Efforts are being made to replenish the oil-refining machinery and storing equipment. Meanwhile, natural gas pockets in Pahsien, Szechwan, have been experimented with and the gas is being turned into motor fuel.

Copper has been used for coinage in China for centuries. For many years it has also been used for a variety of other purposes. Because of the long history of the copper mining and smelting industry, the deposits in the country have been more or less exhausted except in the southwest. As the country is naturally poor in copper resources, and in view of the increased use of this metal resulting from the development of industries, China has had to depend upon other nations for the supply of copper. Her average consumption each year is about 6,000 tons.

China has now made a big stride in producing copper in the interior. Copper mines in northern Yunnan and Szechwan provinces have been extensively worked on. In November, 1938, the Szechwan-Sikang Mining Administration of the Ministry of Economic Affairs was established to control production and transportation of copper for military and industrial uses in the two provinces. Besides registering existing copper stock and reserves, the Administration buys copper from private sources at regulated prices. The Government establishes smelting plants and assists private interests both financially and technically.

Because of the limited amount of copper reserves, the use of the metal is restricted to the nation's most urgent purposes. Consequently, arsenals, mints and important industries have priority. Between November, 1938 and June, 1941, the Administration collected 1,547 tons of copper and produced 113 tons in its own plants. Of the total, 869 tons were sold to the Department of Ordnance for the use of arsenals, 173 tons to the Central Mint and 112 to factories. In addition, the Administration was also called upon to direct lead and zinc smelting work. The copper smelters in Chungking and Yunnan which employ electrolytic process in smelting can now produce more than 2,000 tons of fine copper every year. The lead and zinc smelting plants in Hunan have also resumed operation after their removal to safer areas.

Metals for World Market

China is the most important producer of antimony in the world and contributes about 70 per cent of the world's total production of this metal. The first centre of production in China is Hsikuangshan in Singhua district. The second centre is Panchi in Anhua district. Both of these districts are in the province of Hunan. There are many other places where antimony is produced. The production of antimony was at its peak during World War I, the export at that time reaching more than 30,000 tons a year.

China is famed as the foremost producer of tungsten in the world. Of the total annual world production of about 15,000 tons of tungsten ore, 80 per cent came from China and Burma—China contributing over 40 per cent. The ore deposits occur in the adjoining districts of Kwangtung, Hunan and Kiangsi, the richest field being in the southern part of Kiangsi province. Last year Free China produced 11,500 tons of tungsten, 7,000 tons of tin, 7,600 tons of antimony regulus and 120 tons of mercury. In order to exercise better control over the antimony and tungsten trade, the Government established special bureaus to take charge of production in Hunan and Kiangsi. The object is to raise the quality of the product and to stabilize supply and demand. The administration of tungsten, antimony, tin, bismuth, mercury, copper and molybdenum, which were all nationalized soon after the war broke out, was entrusted to the National Resources Commission. The production of bismuth and molybdenum, which is usually a by-product of tungsten and tin, is very low. Hence, tungsten, antimony, tin and mercury are the only four out of the seven metals nationalized by the Commission having an export value. The purpose of enforcing Government control over these metals is to maintain China's credit by exporting high quality tin, tungsten and antimony to friendly nations for the payment of her loan obligations.

Gold Output Increased

Although not yet on a large scale, there is plenty of gold digging and panning work going on in the many goldfields in the interior of China. Plans for gold-mining in the Szechwan-Sikang area have been advanced by mining experts. If these plans can be fully carried out, China's production of gold would be increased by some 40,000 ounces annually. In order to increase the production and to centralize the control of gold in the interior, the Ministry of Finance created in 1940

a Gold Mining Administration to explore and develop gold mines in Szechwan and Sikang provinces.

Government-owned and operated gold mining in the provinces of Szechwan and Sikang began in 1938 with the investigation of gold resources in the Sungpan area by the National Resources Commission of the Ministry of Economic Affairs and the Commission's organization of the Sikang Gold Mine Bureau in collaboration with the Provincial Government of Sikang. All the localities investigated by the Commission started producing gold early in 1939. The Ministry of Economic Affairs in July, 1939, added to its subsidiary organs a new Gold Mining Administration which continued to mine and search for gold in the Sungpan area. (The Administration was later transferred to the Ministry of Finance). Besides Sungpan, the Administration also made preparations for gold-mining in Nanchi and Nanpu, making a group of three gold-mining centres in northwest Szechwan. The Sikang Gold Mine Bureau recently started gold-washing in Taining and Taofu, and also despatched mining experts to search for gold in places such as Yienyuan and Mienning.

Privately-owned gold mines in Szechwan number approximately 61, covering an area of 259,922·23 are of gold veins and gold dust, plus 19,684·50 meters of river-gold panning districts. For Sikang province the provincial reconstruction department and the gold mine bureau of Sikang have undertaken the job of readjustment and improvement of the old private-owned goldmining enterprises.

Panning of river-gold sand by the use of Raystone drill and dredges is proposed in Min and Tatu Rivers around Chienwei, Yangtze River around Nanchi, and Chialing River around Nanpu. These regions are suitable for this type of development due to their communication facilities, relatively thick population and the proved existence of gold sand.

A steam-operated drill can reach a depth of 100 feet and, therefore, can get gold sand unobtainable by the hand method. The use of a dredge, which is desirable for largescale production, can be an economical proposition where the gold content is too low to be profitable for the manual method. It is estimated that each drill works on about 4,000 square yards of gold sand.

For mining of gold dust in the mountain ranges, the best method is to make use of hydraulic power on a large scale. Western Szechwan and parts of Sikang are rich in gold dust because the mountain valleys

were river beds in ancient times. At these places big grains of gold dust are often found in two to eight layers.

As to the rich vein gold in Sikang, it is suggested that either steam or water power be used and the stampmill method employed. The old method of gold panning can be used south of the Chialing River, on the Min and Tatu Rivers around Chienwei, and around Nanchi on the Yangtze. In Sikang, some 50 old-type water mills can be used to produce approximately 35 tons of gold sand every twenty-four hours. For these products a force of 10,000 labourers is necessary.

In the first half of 1941, 100,000 ounces of gold were produced by private concerns and 5,408 ounces by Government-owned enterprises. The production figures for private and Government concerns during the second half of 1940 were 188,500 ounces and 6,039 ounces, respectively. In addition to the amount produced by public-owned gold mines, the Government purchased more than 270,000 ounces of gold from private concerns or individuals in 1940 and 84,000 ounces in 1941.

STANWAY CHENG

3. CHINESE INDUSTRIAL CO-OPERATIVES AND CHINA'S RESISTANCE AND RECONSTRUCTION

Behind the initial plans as formulated for the Chinese Industrial Co-operatives or briefly C. I. C. in the spring of 1938 in Shanghai two dominant ideas stood out: (1) The Sino-Japanese war was to be not only a prolonged but also a total war, and to insure China's final victory in this war economic resistance is in the final analysis equally as important as armed resistance, and (2) China's final war aim is not merely to defeat the Japanese but even more important to utilize the opportunities afforded by this war to reconstruct a modern and strong China along the lines of Dr. Sun Yat-sen's Three People's Principles. The mission of the C. I. C., therefore, is to assist, on the one hand, in the economic resistance to aggression by the production of daily necessities for both the troops at the front and the civilians in the rear, and on the other hand to help in national reconstruction by the establishment of a sound co-operative basis for small industries scattered throughout China.

THE PLAN. In broad outlines the blue-print for fulfilling this important mission has been the establishment of three zones of industry. (1) In the rear the heavier industries which cannot be mobile and should be as far as possible from the battle line. (2) A middle zone stretching from Kansu in the northwest in a huge arc round the fighting line to Fukien in south China. Here there is no immediate danger of any region becoming a battle ground, but danger of bombing means that industry should be as decentralized as possible. (3) A zone of "guerilla industry" in the fighting area, and even behind Japanese lines. This industry must be very light and mobile, so as to shift as the tide of battle shifts.

THE INITIAL EFFORTS. In accordance with this plan a "big offensive" was launched and in a period of less than a year (December 1938 to December 1939) more than 1,000 co-operatives were organized. The outstanding characteristic of this stage of development was speed —speed in rescuing machinery and other tools of production from areas threatened with imminent invasion and speed in giving refugees, particularly skilled workers, productive employment, thus not only helping the Government to solve one of the pressing social problems of the war

but also assisting in the production of daily necessities to meet both military and civilian needs.

The following anecdotes are excellently illustrative of the kinds of co-operatives in those early days and the conditions under which they were organized:

"The blacksmith co-operative is the miracle of Paochi," writes George A. Hogg, Oxford "Great", who has contributed his full time for the past three years to the C. I. C. in the northwest. "Whenever one of the intellectuals working on the C. I. C. staff goes off the deep end about the stunning growth of the movement, the vast significance of industrial co-operation for the future of China and the rest of the world, he is sent along to see the blacksmiths—first-conceived industrial co-operative in China. He inevitably comes back laughing. They are the most unconscious forerunners of a movement I ever saw!" he exclaims. They still eye each other rather doubtfully, and every once in a while they divide all their iron, tools, fuel, finished goods into nine individual piles, and go off into separate corners of the workshop. On one such occasion one of the best lion-taming organizers went posthaste to the scene and demanded to know why they couldn't understand that nine iron rods bound together were stronger than nine rods separately. They looked over the intruder with professional scorn and remarked that nine iron rods bound together are harder to bend than nine iron rods bent separately.

"Two of the members resigned and took away their $36 investment, but the rest buried the hammer and tongs, and in spite of their dour native scepticism, and in spite of the fact that they have been outstripped by hundreds of other co-operatives in the northwest, they remain a genuine example and object lesson in workers' co-operation."

The second co-operative was a group of 30 refugee stocking knitters from Honan, who got their machines from Sian. The third, organized soon after the second, was a soap-and-candle making unit with 12 members. Within two months this co-operative paid back $500 of its original $2,000 loan. The members went out into the streets, beating drums to advertise their wares and the dearth of soap and candle in the town created a big demand.

The fourth co-operative was a printing plant of 14 members, which started in this way: An old printer and his seven apprentices had fled from Hsuchow and were at the ragged end of their resources, when the old man happened to spy one of the C. I. C. posters. In some

confusion of mind he walked over to the Director's office to discuss the fantastic new "Co-operative" idea. When the Director told him that he could have a loan of $2,000 to start work again, he put his grizzled old head down on the table and wept tears of joy. Another refugee printer from Chengchow came into the C. I. C. office about the same time and reported that he had men and knew where plenty of machines could be bought in Sian. The Director told him to get busy. Three days later the printer returned empty-handed.

"Why did you not go to Sian and get the machines?" the Director asked.

"How could I? I have no money to travel."

The Director gave him $10 for the short trip. Within a few days he received a letter reporting that machinery, lithographing stones and paper were available, costing two or three thousand dollars. The money was provided and the printer got his equipment to the railway station platform. Just at this inopportune moment, however, an air-raid alarm sounded. The printer sent his two helpers to a dug-out, but himself refused to move away from his precious machinery. When the bombing squadron had left after its mission of destruction, the printer had a piece of shrapnel in his foot but the presses were saved!

C. I. C. Now. Figures for the first six months of 1942 are not yet to hand but on December 31st of last year the statistical tables showed a total of 1,737 co-operative societies with a membership of 23,088. Outstanding loans amounted to $13,893,045 and paid up share capital—money paid in by the workers from their own earnings—$1,972,204, while its total monthly production stood at $14,478,792, a figure slightly higher, it should be noted, than the total of loans outstanding. These figures, however, do not include the experimental and other factories engaged in the making of army blankets, nor those workers, who are engaged as preparatory members and apprentices, many of whom expect to become full-fledged members in time. These workers should serve to treble the number of those engaged in productive efforts with the C. I. C., while the value of the products would be nearly doubled or approximate $30,000,000.

Advance which was somewhat spectacular during the first two and a half years has slowed down recently due to a deliberate policy of consolidation. This has been advisable because of certain unforeseen difficulties with which the administration has been faced, the most serious of which have undoubtedly been the shortage of operating capital and the soaring prices of essential raw materials.

During this stage of consolidation many co-operatives have been reorganized or combined so that they can better meet the standards of a sound and promising co-operative, while in a few cases co-operatives have been dissolved when found too far below par. The one point to be noted is that while the number of co-operatives in a given locality may be reduced, the size and quality of the membership and productive efficiency of these co-operatives are improved by this process of consolidation. This is clearly shown in the increasing sense of responsibility and ownership on the part of the co-operative members as strikingly reflected under the items of subscribed and paid-up capital. The legally permissible ratio between the subscribed capital and loans outstanding is 20 whereas the average ratio for all co-operatives is around 7. This is significant, as the success of a social movement like the C. I. C. can best be measured by the widespread and increasing participation of its membership and a corresponding sense of responsibility on their part.

The second half of 1942 envisages a new advance with " Double the membership and triple production " as the watchword.

Notable is the progress that has been made in the two war-front areas, Tsin-Yu and Che-wan, or the northern and the south Yangtse fronts. When the C. I. C. first started it was intended to develop co-operatives in the regions near the front lines and behind the enemy lines as quickly as possible. Experience, however, showed that a stable base must be established before an advance could be made into places where conditions were unsettled. And as soon as this base was established work was started in the front-line areas without delay and with the best support of the Government which has already appropriated $4,000,000 as capital in addition to $20,000 monthly as current running expenses. Through the 200 odd co-operatives which are necessarily on a mobile or semi-mobile basis, work is provided for the shifting groups of refugees who are " on the run " before the sporadic raids of the Japanese and daily necessities are produced to meet the military and civilian needs of the people at the front. In both the Tsin-Yu and Chewan regions the co-operatives are concentrating on shoes, absorbent cotton and gauze, paper, chemicals, drugs and mechanical tools.

As to the types of industry in which the co-operative societies are engaged these may be broadly classified as follows ; machines and metal working, mining and metallurgical, textile, chemical, pottery, food supplies, transport and miscellaneous. Of these, the textile industry

constitutes by far the larger share, embracing 34% of the total number of societies.

In the stage of the "big offensive" speed was the thing—speed in rescuing machinery and other tools of production from areas threatened with imminent invasion and speed in giving refugees, particularly skilled workers, productive employment. Many industries were started to meet the immediate needs of the respective localities at the time. But it is foreseen that some of these industries can at best be of a temporary nature. However, other industries such as textile, tannery, paper-making and alcohol-making should, with further and continued improvement in the technique of the processes in their production, be able to stand competition not only with similar goods manufactured in China but also goods imported from abroad. Thus every effort is being made and will continue to be made in solidifying the foundation and broadening the bases of these industries so that they will become even after the war the mainstay of the C.I.C., industries around which a number of auxiliary industries will be built. While the C.I.C. is a product of the war it definitely looks beyond the war period, however long it may be. The co-operatives that are already founded and those yet to be started will not terminate with the war but will continue to be an important part of the new economic structure of the New China.

THE ORGANIZATION. The direction of the Chinese Industrial Co-operatives is invested in 86 depots in 18 provinces. These 86 depots are divided among seven regions: namely, northwest: Shensi, Kansu, Ninghsia, Chinghai and Hupeh; Chuan-Kang, Szechwan and Sikong; southwest: Hunan and Kwangsi; southeast; Kiangsi, Kwangtung and Fukien; Tien-Chien: Yunnan and Kweichow; Tsin-Yu; Shansi and Honan; and Che-wan: Chekiang and Anhwei. These depots are responsible to the seven regional headquarters which in turn are responsible to the Central Headquarters at Chungking. The highest governing body is the Board of Directors, of which the president is Dr. H. H. Kung, Vice-President of the Executive Yuan and concurrently Minister of Finance, who from the very beginning has been the chief sponsor of the Chinese Industrial Co-operative Movement. To assist the president there is a Standing Committee of three who give much time in advising the staff in regard to policies and plans. The main divisions of work at the Central Office are (1) Field Work Department looking after organization, engineering, and supply and marketing; (2) Promotion Department in charge of promotion,

co-ordination, education and welfare, and research and statistics; (3) Finance Department in charge of accounting, auditing and loans, and (4) a Service Section looking after general correspondence and files, business and personnel registration, which operates under the Executive Adviser's Office, to which Office field inspectors are also attached. The division of work at the regional offices and local depots is more or less along similar lines as at the Central Office. To advise and assist the depots and regional headquarters in the different localities, promotion committees composed of representative elements of the community who are interested in the work of the C.I.C. are organized. Recently at Chungking a promotion committee consisting of government, party, military and cultural leaders was organized to advise the Central Office in its multifarious relationships and promotional activities.

EDUCATION AND WELFARE. From the above divisions of work it is to be noted that C.I.C. is not only concerned with the business or economic side of the co-operative but also the education and welfare of the members and their families. Indeed it is these educational and welfare features that should distinguish a co-operative from an ordinary factory. Far from being automatons of production the co-operative members are trained to be self-reliant, self-respecting, efficient workers having individually as well as collectively a strength all their own. Thus, every C.I.C. depot sponsors programmes of general and co-operative education. Technical training is also given to applicants, especially refugees, preparatory to setting them up in co-operative workshops. In some regions youngsters between 12 and 16 are recruited and trained especially as technicians who are expected to greatly augment the personnel in the machine co-operatives scattered all over the country. Primary schools are also run for the children of the co-operative members with a view to training them as co-operators. In some comparatively backward places these schools are a boon not only to the families of the co-operators, but also to the community as a whole as they are open to other children of the community as well. C.I.C. definitely stands for culture for the masses.

Welfare is also an important feature in the programme. To carry out this phase nurseries, recreation clubs and consumers' co-operatives among the members are organized. In some places community centers provide all these and other welfare features for the co-operative members and their families to enjoy and participate in. A typical co-operative community center or village includes a recreation hall, which is also used for all sorts of meetings, a library or reading-room,

a nursery, one or two primary schools and a clinic. The workshops of the co-operatives are built around or are within the circumference of this community center or co-operative village. Such community centers are now found in at least three of the seven regions and it is planned that more will be built in the other regions. Medical welfare is particularly urgent and important. Not only are the co-operative members given treatment when they are sick but they are taught and helped in guarding themselves and their families from preventable diseases. There are two full-fledged hospitals within the C.I.C. framework with more to be built if funds permit together with a number of clinics scattered throughout the country. These hospitals and clinics do not confine their services to the co-operative members and their families. They also serve the general populace as far as their facilities allow. In this connection it should be noted that the Bureau of Public Health and the International Red Cross have been exceedingly helpful in providing the C.I.C. with drugs and medicines. But as the scope of this aspect of C.I.C. welfare work expends more funds, more facilities and more medicines are needed.

WOUNDED SOLDIERS' CO-OPERATIVES. A unique type of welfare and co-operative effort is projected in the Wounded Soldiers' Co-operatives. These, which in Chinese are also called "Honorary Soldiers' Co-operatives," are found in five of the seven regions, namely, southeast, southwest, Chuan-kang, Tien-chien, and northwest. But the largest number and most representative are in Hsingkuo, Kiangsi, in the southeast region. These co-operatives usually present a scrupulously clean, neat and orderly appearance and their members are exceptionally well behaved, clearly showing the indelible marks of military discipline. One of the best things which they do for the men is to give them a trade together with a sense of security. These two factors, namely, a trade for each individual and a corresponding sense of security have often made it easier for disabled soldiers to get married and settle down, which in turn becomes an inducement for more wounded soldiers to join up. The C.I.C. sees the tremendous significance for these wounded soldiers' co-operatives not only because they provide employment for a group of people who would otherwise remain idle and useless but also because they definitely point to a way in which the millions of Chinese veterans can be rehabilitated and put into civilian life again after the war.

RECRUITING AND TRAINING. Personnel is an important and one of the most decisive factors in the development of an economic-social

movement such as the C.I.C. Thus, in the matter of both recruiting and training fairly high standards have been set. Those who are fitted for the C.I.C. work have to rate high not only in point of ability and competence but also in social vision and social zeal. It is essentially a crusading kind of work which demands personal sacrifice. The present C.I.C. staff numbering about 1,000 people is derived mostly from the mass education movement, rural co-operative organizations, Y.M.C.A. and other educational and social institutions. The majority of them are college graduates or graduates of engineering or technical schools and not a few of them are returned students from abroad, especially from the U.S.A. Those who are in responsible positions are men and women with considerable business, technical or social experience. The training work of the C.I.C. is done mostly in the field, that is, at regional headquarters with general direction from the Central Headquarters. The trainees include accountants, organizers and in not a few cases candidates for depot masterships. Plans are being formulated for a higher training institute for the training of men and women to fill more responsible positions in C.I.C. organization. For the past two or three years a higher training class was conducted by the C.I.C. in Chengtu with the collaboration of the University of Nanking and West China Union University. Not only is the C.I.C. concerned with proper training for new recruits before they enter the work, but also additional training for staff already in the service. Since it is difficult and expensive to gather together in one place staff members from the different regional headquarters, situated as they are all over the country, the experiment has been tried in the form of peripatetic classes at the various depots and has been found highly satisfactory. These classes are conducted by men with considerable experience in training who are well versed in co-operative theories and practices.

TECHNICAL IMPROVEMENT. Constant improvement in the technique of production is the keynote with the C. I. C. and is an aim toward the achievement of which its efforts are never ceasing. It is well realized that C. I. C. products must stand on their own merits especially after the termination of the war, when certain factors now favourable to small and decentralized industries during wartime, such as difficulty of transportation, the high tariff and the inordinate demands for goods in China's interior, will be removed and when competition will be keen. The Central Headquarters maintains an engineering section whose important function is to study into possible improvements in the technique and methods of production. An experimental laboratory

in the northwest, conducted with the co-operation of the Shensi Provincial Government has achieved notable success along the line of chemical products and more recently in connection with turning coal into coke. The Technical Research Institute, maintained mostly by contributions from abroad, at the southeast regional headquarters at Kanhsien, Kiangsi, has done much to improve the technique of production in paper-making and tanning in that region. At Chengtu experiments have been and are being conducted to improve production methods and technique in textiles. A concrete example of this is the continuous spinner which was first tested and used in Chengtu and has now spread to several other centers in the country. Other examples of C. I. C. technical improvements are the charcoal burning engines in the southeast and the water-wheels of the northwest. These improvements are not in the form of spectacular inventions. Rather they are the introduction and adoption of simple techniques and methods which in not a few cases have done a great deal to accelerate and improve production as well as cut down production cost.

THE CO-OPERATIVE ITSELF. So much for the C. I. C. organization, the organization for the promotion and supervision of the co-operatives. Let us have a look at the co-operative itself. How is it organized? And how does it operate? To form a co-operative at least seven persons of adequate technical training and skill are required. When seven or more wish to organize a society they meet and talk things over. They draw up a plan and a budget which they submit to the C. I. C. Depot in that locality for study and investigation. Upon approval of the general plan the depot is ready to recognize and register it as one of the co-operatives and extend to it all possible assistance, be it financial, technical or otherwise. If the said co-operative in question requires a loan the depot may extend it out of C. I. C. funds, or it may introduce it to a bank in which case the C. I. C. guarantee is usually required. After all these procedures are completed the co-operative is ready to produce and do business. The relationship of the C. I. C. Depot to the co-operative from that point on is one of general supervision, direction and advice, technically, financially, educationally and otherwise.

The organization of a co-operative consists of (1) a General Meeting which has the supreme authority and elects, (2) a Board of Directors, and (3) a Supervisory Committee. The chief responsibility of the Board of Directors is to conduct the business efficiently and co-operatively, subject to the principles laid down by the General Meeting. The Chairman of the Board represents the co-operative in

all its dealings with the outside. The Supervisory Committee is responsible for auditing the accounts and for supervising the work of the directors generally to make sure that they always act for the best interests of the co-operative. For the technical function of audit they may employ an outside auditor. The General Meeting decides on the division of profits at the end of the year, approves the election of new members, expels members when necessary, and fixes the salaries and scale of wages to be paid by the co-operative. The Board of Directors is empowered where necessary to employ a manager to run the plant. In the smaller co-operatives one of the members, usually one of the directors, serves as manager. If he is paid for the work as manager he must be a different person from the Chairman of the Board of Directors. However, the manager does not have to be a member of the co-operative.

The profits of a co-operative are divided at the end of the year according to the C. I. C. constitution, usually as follows:

Reserves	20-30%
Emergency or contribution to the C. I. C. ...	10%
Bonus to staff	10%
Common Good Fund	10%
Dividend to members and workers ...	40-50%

In most of the co-operatives or workshops there are seasonal hired workers and apprentices. The C. I. C., however, sees to it that these are not exploited.

THE FEDERATION. After a time the co-operatives in each locality are encouraged to organize themselves into a federation which handles the supply and marketing for member-co-operatives with the help of the C. I. C. as well as the educational and welfare work. Local federations, when there are enough of them in each region, are expected to organize themselves into a Regional Federation, and from the regional the National Federation will finally emerge. The National Federation will then take over the functions now performed by the C. I. C. thus bringing to full fruition the highest hope of the C. I. C. leaders, namely, that the co-operatives will fully and completely govern themselves through their own National Federation.

TOTAL CAPITALIZATION. The total capitalization of the co-operatives to date is estimated to be $25,000,000. Of this amount, 35% has been supplied by the Government, about 10% from paid up

share capital, and the rest mainly supplied by the Chinese banks. Additional credit loans are being negotiated with the Central Bank, the Bank of China, the Bank of Communications, the Farmers' Bank, Kwangtung Provincial Bank and other leadings banks. A significant step was recently taken in Chungking with the formation of the Finance Committee composed of leading bankers, which committee is expected to do much to help the C.I.C. secure the necessary capital, both long and short term, for the expansion of its work which is increasingly demanded by objective needs and conditions. As the business of the Chinese Industrial Co-operatives expands its finances will to an ever-increasing degree be handled, as they should be handled, through its own financial machinery, the beginnings of which are already seen in the Kung Ho Treasuries that are being organized in different localities. Investments from within the country and abroad will always be welcome.

INTERNATIONAL INTEREST. One of the distinguishing features of the C.I.C. movement is the widespread international interest it has aroused from the very beginning. This interest crystallized in the formation of promotion committees, first in Hongkong, then in Manila and later in the United States and Great Britain. In the United States the C.I.C. is an important participating organization in the United China Relief, while in Great Britain plans are now being formulated for a campaign to raise capital as well as funds for equipment. Funds which have come in through the efforts of these organizations and which have totalled approximately $5,000,000 Chinese currency, to date, have enabled C.I.C. to undertake many important forms of service which would otherwise have been impossible. In fact, the success which the movement has made thus far is in no small measure due to the very generous support which has come from friends abroad. Education, both membership and staff, research, training and support of refugee groups, assistance in the evacuation of co-operatives and offices from threatened areas on the war front, salvaging of useful machinery and materials, experimentation, loan capital for special projects such as co-operative treasuries, publication of important texts, opening work in new fields—these and other forms of service have all been largely helped and supported through the special funds that have come in a steadily increasing stream from overseas. In the earlier days the Chinese of Hongkong, the Philippines, Malaya, and Java were the chief contributors though a very substantial share also came from British, American and other friends in these and other areas. To-day, with the occupation of all these places, C.I.C. is fortunate in

having the support of a strong committee in New York which has already remitted US $267,000 through its representatives in China.

Of equal importance with this financial help is the technical advice and assistance rendered to the movement by advisers and experts of different nationalities, such as Rewi Alley, a New Zealander, whose contributions to China through the C.I.C. are too well-known to need further comment here; Dr. J. B. Tayler, English, co-operative expert of Yenching University, now head of the C.I.C. Central Training Institute in Chengtu; Professors Lewis Smythe and Charles H. Riggs, Americans, of Nanking University, who have given invaluable help in training, experimentation work, etc.; Professor E. R. Lapwood, English, statistical expert and inspector; George Hogg of Oxford, head of the Paoki Bailie (technical) school, also inspector; three men of the Firends' Ambulance Unit, British, who are helping in transportation, technical training, supplies, etc.; and in addition a number of others who have given largely of their time and effort in various forms of service. While essentially a Chinese movement with its base in China, C.I.C. transcends any narrow nationalistic limits. Its effects and influences are bound to be far-reaching, especially in pointing out a way for the construction of a new world order after the present disastrous war.

Two Dominant Keynotes. With the encircling and ever-tightening blockade by the enemy China must as far as humanly possible produce all she needs for both military and civilian use within her own boundaries, from raw materials to finished products. Thus, the national keynote of Increased Production. Thus the national keynote of Economic Self-sufficiency. These two have been and are to-day more than ever the keynotes of the C.I.C. Every plan is being formulated and every effort is being exerted to increase its production so that it can play an increasingly important and adequate part in helping to meet the challenging and pressing need for goods all over the country. As for Self-sufficiency, this has been the policy of the C.I.C. since its very inception. Through local federations, then regional federations and finally a National Federation, the co-operative industries throughout the country, complementary to each other, will all be linked up together to make a continuous and integral whole—from developing raw materials to manufacturing finished products. Through increased production, through its centralized and co-ordinated system of supply and marketing, through its own transport system and its financial organizations, it is hoped that C.I.C. will move ever nearer to its goal of Self-sufficiency

as time advances. For only as it becomes self-sufficient can the C.I.C. be regarded as a genuinely independent and popular movement.

CONCLUSIONS. Whatever else may be said about the C.I.C. movement the following conclusions can be drawn from the past three and a half years of experience: (1) A good preliminary foundation has been laid for co-operative industries in China. (2) Objective conditions in China to-day are favourable, more than ever, for the development of these co-operative industries. In terms of production the result already achieved may not be as large as had been expected, but the potentialities as shown are at once challenging and tremendous. For a large number of co-operative members C.I.C. has meant a new life, a new outlook and a new reliance in themselves, and it can mean the same to a vastly larger number of people; and for some communities in which industrial co-operatives are organized C.I.C. has meant a new vitality and the basis of a new economic and social order, and it can mean the same to many more communities. Difficulties and problems there have been and are plenty, problems of trained personnel, of organization and of fighting against misunderstandings and prejudices and against old and unscientific ways of doing things; but these are problems and difficulties not alone facing the C.I.C. but any and all constructive and progressive enterprises. The remarkable fact is that it has achieved as much as it has despite these difficulties and problems. What it needs is proper encouragement and support both within the country and abroad. With the proper encouragement and support, C.I.C. is bound to succeed and to become—as someone has well said, "one of the most significant movements the world has ever seen"—a movement that will greatly help not only China but the Allied Nations as well to win the war, and what is more important to win the peace after the war.

HUBERT S. LIANG AND GEORGE A. FITCH

4. RURAL ECONOMY

Chinese farmers are far better off to-day than they were before the outbreak of the war in 1937, for their purchasing power has been increasing steadily. They are now able to pay off the high-interest debts that have been the greatest handicap to better farming ever since 1921, when the prices of agricultural products began to slump. After the legal tender was institutionalized in 1935, the situation improved slightly. The war has brought China's industrial enterprises to the interior where, as a consequence, the rural economy has been revitalized with an increasing demand of farm products for both industrial and consumption purposes.

The farmers now have more money. They are wearing better clothes, eating better food and enjoying better living conditions. Take farmers near Chungking, for instance. They can exchange one picul of rice for 100 feet of blue shirting, almost ten ploughs, over 100 catties (1·1023 lbs. = a catty) of salt or one-third of a buffalo. Farm prices in Pahsien, bordering on the municipality of Chungking, began to soar as early as March, 1939. Though the prices paid by the Pahsien farmers are also rising, the farmers' living has been much improved. (See Table I.)

Farm Prices and Purchasing Power

Before 1937, farm prices in interior China were on an upward trend. Following the outbreak of hostilities, prices obtained by the farmers fluctuated in accordance with crop conditions. Violent changes took place in 1939, when farm prices registered a 50 per cent increase throughout the country, particularly in the provinces of Szechwan and Sikang. Yaan, eastern Sikang, saw an increase of 80 per cent. Prices paid by the farmers presented no obvious changes before 1937. The effect of the war was felt, however, as early as January, 1938, when most of the government and public organizations moved westward. In 1939, index numbers of prices paid by the farmers increased by 60 to 80 per cent. At Uehsi, Sikang, prices doubled. In such circumstances, the purchasing power of the farmers naturally decreased as the prices received by the farmers rose slower than those paid by them. The year 1939 clearly demonstrated this. To give but a few examples: At Liangshan, eastern Szechwan, the farmers' purchasing power in 1939 was reduced by 50 per cent when compared with 1937. In Jungchang and Chuhsien the reduction was 45 per cent.

The farmers' purchasing power began to rise in 1940, when food prices started to mount with accelerating speed. In 1941 the farmers had more money than in pre-war days. The first three months of 1942 saw a still greater increase, as prices received by the farmers were higher than those paid by them. (See Tables II, III, IV.)

Figures concerning farm prices and purchasing power are compiled and condensed from reports made by the National Agricultural Research Bureau of the Ministry of Agriculture and Forestry, which has observers in 88 *hsien* in 14 provinces, covering winter wheat, wheat-rice and rice regions throughout the country.

There are three kinds of index numbers in the following tables: prices received by the farmers, prices paid by the farmers and the purchasing power of the farmers. In compiling the index numbers of the first two kinds, the logarithms of all price relatives were multiplied by an assigned weight, added together and divided by the total weights. Then, from the anti-logarithms the index numbers were produced. Index numbers of the purchasing power of the farmers are the ratio of price indices received to price indices paid. The reason why the year 1937 was chosen as the base index was that all localities selected were behind the war zone where the North China attack by the Japanese in 1937 was little felt. Furthermore, farm prices are characterized by strong seasonal variations, unlike manufactured products in the urban districts. For instance, the 1937 winter crops were planted in September or October, 1936, and harvested in April or May, 1937. Any price fluctuations before the harvest were, therefore, partly affected by the conditions of the last crop in 1936. The same is true with summer harvests.

Forty-six kinds of commodities are chosen to represent those sold by the farmers (crops and livestock products) and those bought by them (farm-using and home-using commodities).

Table I shows the farm price quotations of 11 important commodities in eight localities in five provinces in December, 1941. It should be borne in mind that the commodities sold by the farmers include crops which can be reaped once or twice a year while the commodities bought by them can be used for one or more years. Many commodities, such as kerosene, which has become highly expensive due to shortage, can be substituted by farm products.

Table I. Farm Price Quotations of 11 Important Commodities in Eight Localities in December, 1941

(Unit: Chinese dollars)

	Pahsien, Szechwan.	Jungchang, Szechwan.	Loshan, Szechwan.	Pishan, Szechwan.	Tsingning, Kansu.	Wuchwan, Kweichow.	Lingling, Hunan.	Yingtak, Kwangtung.
COMMODITIES SOLD BY FARMERS—								
Wheat (each picul)	365.40	394.60	279.20	370.00	80.00	142.00	140.00	39.50
Rice (,, ,,)	351.80	307.90	279.20	370.00	.....	198.80	114.00	98.80
Cotton (,, ,,)	1,005.60	1,340.80	.....	.....	610.00	712.30	460.00	.....
Hog (each head)	300.00	450.00	.....	780.00	180.00	400.00	150.00	300.00
COMMODITIES BOUGHT BY FARMERS—								
Kerosene (each catty) ...	41.90	.....	20.95	24.00	.....	.....	.....	12.98
Blueshirting (each foot) ...	2.25	1.40	.....	1.40	1.10	1.00	0.96	3.22
Salt (each catty)	2.26	2.50	1.68	2.80	3.00	3.35	5.70	3.11
Matches (10 boxes)	2.00	3.50	3.00	1.50	11.00	2.00	5.00	5.00
Tea (each catty)	.....	7.00	4.19	5.50	18.00	3.35	1.44	0.87
Buffalo (each head)	1,100.00	1,450.00	1,200.00	1,000.00	.....	500.00	440.00	320.00
Plough	45.00	10.00	.....	45.00	3.00	10.00	5.00	3.50

Table II. Index Numbers of Farm Prices Received by Farmers in 14 Provinces

(Weighted Geometric Average; 1937=100)

	Loshan, Szechwan	Jungchang, Szechwan.	Hweili, Sikang.	Wuchwan, Kweichow.	Mengtsz, Yunnan.	Kucheng, Hupeh.	Lingling, Hunan.	Kanhsien, Kiangsi.	Nanping, Fukien.	Yingtak, Kwangtung	Hochih, Kwangsi.	Ningsia, Ningsia.	Sining, Chinghai.	Tsingning, Kansu.	Hengshan, Shensi.
1937	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1938	104	105	135	82	127	153	116	88	100	113	128	90	111	109	91
1939	107	99	201	108	305	250	181	116	130	107	173	77	117	151	147
1940	462	385	607	292	853	441	283	334	410	258	401	108	205	202	311
1941	2,275	2,012	1,161	1,287	1,219	1,012	874	1,043	1,142	778	1,043	437	631	698	812
January, 1942 ...	3,314	3,310	2,991	3,235	1,758	2,313	1,992	1,404	1,817	1,260	2,640	736	690	1,255	1,264
February, 1942 ...	3,501	3,814	3,035	3,413	2,164	2,409	2,139	1,407	1,908	1,299	3,052	776	714	1,449	1,370
March, 1942 ...	4,194	4,439	3,100	3,809	3,636	2,972	...	1,555	1,935	1,566	3,376	714	756	1,423	1,567

Table III. Index Numbers of Farm Prices Paid by Farmers in 14 Provinces
(*Weighted Geometric Average ; 1937=100*)

	Loshan, Szechwan.	Jungchang, Szechwan.	Hweili, Sikang.	Wuchwan, Kweichow.	Mengtsz, Yunnan.	Kucheng, Hupeh.	Lingling, Hunan.	Kanhsien, Kiangsi.	Nanping, Fukien.	Yingtak, Kwangtung	Hochih, Kwangsi.	Ningsia. Ningsia.	Sining, Chinghai.	Tsingning, Kansu.	Hengshan, Shensi.
1937	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1938	122	116	131	107	141	132	114	111	114	109	133	118	117	144	129
1939	191	180	183	149	289	224	194	140	144	159	169	132	141	151	142
1940	723	590	494	396	730	471	369	310	350	363	358	192	292	227	297
1941	2,057	1,752	1,141	887	1,389	899	765	662	947	910	718	600	745	586	669
January, 1942 ...	3,053	2,865	1,829	1,838	2,425	768	1,710	1,027	1,624	1,347	1,649	778	999	949	1,016
February, 1942 ...	3,159	3,210	1,961	1,986	2,523	727	1,735	1,137	1,778	1,271	1,862	904	1,028	999	1,109
March, 1942 ...	4,012	3,057	2,118	2,291	3,528	868	...	1,224	1,865	1,942	2,088	1,081	1,101	1,098	1,454

Table IV. Index Numbers Showing Farmers' Purchasing Powers in 14 Provinces (*1937=100*)

	Loshan, Szechwan.	Jungchang, Szechwan.	Hweili, Sikang.	Wuchwan, Kweichow.	Mengtsz, Yunnan.	Kucheng, Hupeh.	Lingling, Hunan.	Kanhsien, Kiangsi.	Nanping, Fukien.	Yingtak, Kwangtung	Hochih, Kwangsi.	Ningsia, Ningsia.	Sining Chinghai.	Tsingning, Kansu.	Hengshan, Shensi.
1937	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1938	85	91	103	77	90	116	102	79	88	104	96	76	95	76	71
1939	56	55	110	72	106	112	93	83	90	67	102	58	83	100	104
1940	64	65	123	78	117	94	77	108	117	71	112	55	71	89	105
1941	111	115	141	145	88	113	114	158	124	85	145	73	85	119	121
January, 1942 ...	109	116	164	172	72	301	97	137	112	94	160	95	69	132	124
February, 1942 ...	111	119	155	172	86	331	123	124	107	102	164	86	69	145	124
March, 1942 ...	105	121	146	166	103	342	...	127	104	81	162	66	69	130	106

According to a study made by the Department of Agricultural Economics of the University of Nanking (now in Chengtu), rural depression in China ceased in 1940, when the total index of agricultural products reached 347, farm and home-using commodities 396 and agricultural labour cost 305. The price of rice was five times that in 1938 and wheat four times.

The same department has made an investigation concerning the production cost of rice, wheat and other important cereals in seven *hsien* in the Chengtu plain.

The following table shows the production cost of rice in 1941.

Table V. Production cost of one picul of rice in 1941

(*Unit; Chinise dollars*)

	Cash	*Other Costs*	*Total*	*Per-centage*
Seeds	...	2.19	2.19	1.3
Fertilizers	9.50	7.15	16.65	9.5
Farm tools	0.93	6 68	7.61	4.4
Labour	37.84	6.75	44.59	25.6
Animals	00.22	7.15	7.37	4.2
Farm houses	2.19	1.14	3.33	1.9
Field work	...	0.15	0.15	0.1
Soil	77.32	11.97	89.29	51.2
Hulling	3.20	...	3.2	1.8
TOTAL ...	131.20	43.18	174.38	100.0

As by-products of every picul of rice were valued at $22.07, the actual production cost was only $152.31. It would be less when a bumper crop is harvested because the more production there is the less will be its cost. The production cost of rice in 1941 was 19 times that before the war, but compared with the market price of rice per picul in 1941, averaging $210.6 in the seven *hsien* investigated, a profit of $58.29 could be made. Taking into consideration the transportation and other expenses, which amounted to $15.07 per picul, the profit was still over $40.

The item "soil" took the lion's share of the total production cost because 75 per cent of the farmers are tenants. The tenant-farmers, however, still can get 48.9 per cent of the total farm production with the rest being turned over to the landlords. They can sell at least 4.5 per cent of the production.

AGRICULTURAL LOANS

The Government has adopted adequate measures to help the farmers. Among them are the granting of agricultural loans, financial and

technical assistance for increasing food production and direct help to tenant-farmers.

The administration of farm loans is placed in the hands of the Joint Board of the Four Government Banks. A rural finance department was created by the Board in the spring of 1940 to co-ordinate the work of the four financial agencies handling rural credits, namely, the Farmers' Bank of China, the Bank of China, the Bank of Communications and the Central Trust. The Farmers' Bank of China extended the largest amount of agricultural loans since January, 1941, when the rual credits department was transferred to the bank from the Agricultural Credit Administration of the Ministry of Economic Affairs. Rural rehabilitation through increasing food production, developing irrigation projects, promoting land reclamation and strengthening rural handicrafts and industries received the major Government credits in the past few years.

Farms loans in 1941 extended by the Farmers' Bank of China, the Bank of China, the Bank of Communications and the Central Trust, amounted to $498,561,000, according to a report made by the Joint Board of the Four Government Banks. Total loans outstanding at the end of last year reached $465,306,000, a 50 per cent increase over 1940. Loans extended last year exceeded the originally fixed amount of $447,215,000 by $51,346,000. The credits spread over 948 *hsien* in 19 provinces, benefiting approximately 6,000,000 farmers who are members in 100,000 rural co-operatives. Szechwan got $157,526,000, the largest amount and 31.6 per cent of the total loans issued. Hunan ranked second with Kwangsi, Kansu and Shensi following. The Farmers' Bank gave the biggest amount, $259,260,000, or 52 per cent of the total.

The following two tables summarize the distribution of the agricultural loans in 1941.

Table VI. Distribution of Rural Loans in 1941

Organization	*Loans Granted (in 1,000 dollars)*	*Percentage*	*Total Loans Outstanding (in 1,000 dollars)*	*Percentage*
Central Trust ...	15,896	3.2	26,856	5.8
Bank of China ...	195,153	39.1	181,830	39.1
Bank of Communications	28,252	5.7	36,240	7.8
Farmers' Bank ...	259,260	52.0	220,380	47.3
TOTAL ...	498,561	100.0	465,306	100.0

Table VII. Distribution of Rural Loans by Provinces in 1941

Province	*Loans Extended* (*in* 1,000 *dollars*)	*Per-centage*	*Total Loans Outstanding* (*in* 1,000 *dollars*)	*Per-centage*
Szechwan	157,526	31.6	147,777	31.8
Sikang	11,091	2.2	7,782	1.7
Kweichow	18,148	3.6	20,751	4.5
Yunnan	33,658	6.8	29,145	6.3
Kwangsi	50,791	10.2	47,867	10.3
Kwangtung ...	12,994	2.6	9,068	1.9
Hunan	56,300	11.3	45,989	9.9
Hupeh	4,657	0.9	9,826	2.1
Kiangsi	19,895	4.0	20,175	4.3
Anhwei	8,300	1.7	14,404	3.1
Kiangsu	396	0.1	2,079	0.4
Chekiang	28,061	5.6	21,379	4.6
Fukien	3,737	0.7	3,492	0.7
Honan	8,770	1.8	7,456	1.6
Hopei	...	...	1,414	0.3
Shantung	...	...	3,226	0.7
Shensi	36,489	7.3	24,139	5.2
Kansu	44,281	8.9	45,843	9.9
Ningsia	1,514	0.3	1,048	0.2
Suiyuan	1,103	0.2	780	0.2
Shansi	850	0.2	1,002	0.2
Others	...	...	664	0.1
TOTAL ...	498,561	100.0	465,306	100.0

Loans for the increase of agricultural production took the major part of the credits. This category covered, however, a wide sphere, including loans for the increase of agricultural by-products, for the tenant-farmers to purchase land and for agricultural supply and transportation. In fact, irrigation loans alone amounted to $30,368,698, while the amount set aside for irrigation loans last year totalled $62,200,000. Details of the various loans may be seen in Table VIII.

Table VIII. Classification of Rural Loans extended in 1941

	Loans Extended (*in* 1,000 *dollars*)	*Percentage*
Agricultural production	463,030	92·9
Irrigation	30,369	6.1
Agricultural extension	4,162	0.8
Land reclamation	1,000	0.2
TOTAL ...	498,561	100.0

In addition to loans extended by the Joint Board of the Four Government Banks, the provincial administrations granted an aggregate irrigation loan of $3,623,217, bringing the total of irrigation loans to $33,991,915.

The Joint Board of the Four Government Banks has decided to give more irrigation loans this year as a direct method of increasing food production. Big and small irrigation projects completed with the loans granted last year numbered 1,801. Two hundred and fifty-eight more will be completed this year. (See Tables IX and X.)

Table IX. Irrigation Projects completed in 1941

Province	*Number of Projects*	*Construction Cost*	*Farms Benefited (in mow or ⅙ acre)*
Szechwan	1,646	$ 7,854,107	232,046
Kweichow	4	122,949	11,900
Kwangsi	27	739,158	49,700
Kiangsi	123	816,300	88,864
Honan	1	45,842	8,580
TOTAL ...	1,801	$ 9,578,356	391,000

Table X. Irrigation Projects to be completed in 1942

Province	*Number of Projects*	*Construction Cost*	*Loans Extended*	*Farms Benefited (in mow or ⅙ acre)*
Szechwan ...	7	$ 21,029,000	$ 9,812,326	206,000
Kweichow ...	6	5,477,227	387,667	102,880
Yunnan ...	5	11,910,000	5,049,880	92,760
Kwangsi ...	5	7,595,000	1,887,375	135,800
Kwangtung ...	1	855,360	.....	15,000
Hupeh ...	3	6,900,000	.....	50,000
Kiangsi ...	1	1,200,000	.....	44,000
Anhwei ...	212*	525,733	.....	68,927
Honan ...	3	5,800,000	.....	269,000
Shensi ...	5	29,924,486	7,239,876	570,376
Kansu ...	10	46,030,000	4,946,914	382,000
TOTAL ...	258	$ 137,246,806	$ 29,324,038	1,936,743

*Small Projects

Irrigation loans thus far approved for 1942 amount to $97,376,302, of which $77,876,302 will be granted by the Joint Board of the Four Government Banks. The loans will be given to 14 provinces, including Sikang and Fukien. The biggest amounts will go to Kansu and Shensi, where many canals are being built. Kansu will get $25,676,302 and Shensi $15,000,000.

Table XI. Irrigation Loans to be extended in 1942

	Loans Extended by Joint Board	*Appropriations by Provincial Governments*	*Total*
For New Projects ...	$ 47,120,000	$ 11,080,000	$ 58,200,000
For Projects not completed in 1941 ...	17,080,000	2,020,000	19,100,000
Loans outstanding at the end of 1941 ...	13,676,302	6,400,000	20,076,302
TOTAL ...	$ 77,876,302	$ 19,500,000	$ 97,376,302

Handling irrigation projects financed by government loans is either the provincial irrigation loan commissions organized jointly by the Joint Board of the Four Government Banks and the provincial governments, or the provincial water conservancy bureaus under the supervision of the Joint Board. Projects concerning two or several provinces will be undertaken by the National Water Conservancy Commission.

The Joint Board of the Four Government Banks is giving agricultural loans to 317 co-operative banks in 13 provinces. The total capital of these co-operative banks amounts to $59,304,493, of which $44,648,970 came from the Farmers' Bank of China, the Bank of China, the Bank of Communications and the Central Trust. In addition to the subscribed capital, the four organs have approved the granting of a loan of $157,324,000 to these co-operative banks, $95,387,320 of which has already been appropriated. (See Table XII.)

Of the 317 co-operative banks there are one municipal co-operative bank (Chungking) and four provincial co-operative banks (Szechwan, Kiangsi, Chekiang and Fukien). All others are *hsien* co-operative banks. About 100,000 rural co-operatives have dealings with these co-operative banks, through which farm loans are made.

Table XII. Distribution of Co-operative Banks and their Capital

January-November, 1941.

Province	*Number of Co-op. Banks*	*Total Capital*	*Capital Allotted or Collected by the Four Financial Agencies.*
Szechwan... ...	117	$ 30,326,901	$ 24,345,250
Kweichow ...	52	5,236,612	4,360,815
Kwangsi	43	4,323,270	4,155,644
Hunan	36	2,599,060	2,410,580
Kansu	19	2,050,000	1,663,518
Shensi	16	1,600,000	1,456,340
Sikang	10	1,000,000	690,850
Chekiang ...	15	4,278,650	1,775,393
Fukien	2	1,600,000	491,850
Kiangsi	2	5,000,000	1,850,000
Hupeh	6	600,000	556,760
Honan	2	.....	.....
Yunnan	7	700,000	391,970
TOTAL ...	317	$ 59,304,493	$ 44,648,970

There are nearly 400 co-operative banks throughout the country. Over 100 of them are in Szechwan. Besides the Joint Board of the Four Government Banks, organizations rendering financial help to the co-operative banks include the provincial banks, provincial co-operative banks and administrative organs for the co-operative movement. China's rural financial system is, therefore, to be established on a co-operative basis.

The Joint Board of the Four Government Banks extends loans to rural co-operatives with a monthly interest rate of one per cent. The co-operatives in turn charge the farmers 1.2 per cent monthly interest, by far the lowest rate prevailing in rural districts. The loans may be repaid in instalments from one to ten years.

Co-operating with agricultural administrative and technical organizations, the Joint Board of the Four Government Banks is adopting what is comparatively a retrenchment policy in granting rural credits this year. Credits will be given only to soundly organized co-operatives or farmers' associations. First attention will be directed toward projects which directly increase the agricultural production. Small farmers will receive the maximum help. Loans may also be made in kind, that is, in improved seeds, domestic animals, farm tools and instruments.

The amount of agricultural loans will not be fixed this year, and they will be granted only after careful examination of the conditions which may or may not necessitate the granting of loans. Credits will be confined chiefly to direct methods of increasing food production, namely, loans for the increase of agricultural products and by-products, irrigation, agricultural extension and agricultural transportation and supply. The Farmers' Bank of China will be responsible for the granting of 45 per cent of the loans, the Bank of China 25 per cent, the Bank of Communications and the Central Trust 15 per cent each.

Provincial and local banks are also helping in extending loans to farmers. The Szechwan Provincial Bank, for example, gave out a total of more than $22,600,000 in rural loans in 1941. Provincial banks of Hunan, Kiangsi, Chekiang, Fukien, Kwangtung and Yunnan each loaned over $10,000,000 to farmers last year.

Increase of Food Production

The Ministry of Agriculture and Forestry is exerting every effort to realize its gigantic programme for increasing the food production in 1942 by 45,063,500 piculs of cereals in 19 provinces, with Szechwan as the leading producer. Under the guidance of the ministry, food production in 15 provinces in Free China last year increased by 89,704,305 piculs, almost three times the expected amount of increased food production of 31,690,500 piculs and more than sufficient to meet the nation's demand of 60,000,000 piculs of rice and wheat for army rations and civilian consumption.

Taking the *hsien* as the basic unit in the process, the chief aim is to achieve self-sufficiency in food in every district. Special attention is given to areas producing insufficient foodstuffs for their own consumption. Districts near communications and transportation centres will produce more to meet the demand of the large urban populations. Places close to the front will not be included in the programme to avoid any possibility of the harvest falling into enemy hands.

Food increase measures are more positive than preventive. They include the increase of acreage, the increase of rice production by reducing the acreage of glutinous rice which mostly goes to wine-making, the increase of wheat and miscellaneous grains by winter ploughing, the use of improved seeds, reclamation of wasteland, disease and insect control, use of better fertilizers, further development of the irrigation system and the protection of domestic animals.

The machinery handling the matter is the Food Production Increase Commission of the Ministry of Agriculture and Forestry, with the assistance of the Central Agricultural Research Bureau and the Central Animal Husbandry Research Bureau. Provincial reconstruction commissioners are appointed superintendents for the execution of food production increase measures with two deputies. One of the deputies is head of the provincial agricultural improvement organization and the other is appointed by the Ministry of Agriculture and Forestry to take charge of the technical side of the matter and to represent the ministry in his province. *Hsien* magistrates are responsible for the work in their respective districts, with reconstruction department chiefs and agricultural promotion institute directors as assistants. Students of agricultural and animal husbandry schools are requested to participate in the movement by rendering technical help.

Food production increase measures this year cover 48,543,490 *mow* of land. Among them are the 24 districts surrounding Chungking which have been designated as a special area to produce maximum foodstuffs for people in the wartime capital. The increase of wheat and miscellaneous cereals will take the leading part of the programme. (See Tables XIII and XIV.)

Table XIII. Expected Amount of Cereals to be increased in 1942

Szechwan	4,702,000	*piculs*
Chungking area	2,137,000	,,
Kweichow	2,897,900	,,
Yunnan	1,593,400	,,
Kwangsi	4,174,900	,,
Hunan	5,982,500	,,
Kwangtung	3,399,200	,,
Kiangsi	3,057,000	,,
Fukien	3,524,100	,,
Chekiang	3,861,000	,,
Anhwei	564,000	,,
Shensi	4,985,000	,,
Hupeh	1,059,000	,,
Kansu	437,000	,,
Sikang	615,000	,,
Honan	926,000	,,
Ningsia	473,500	,,
Shansi	225,000	,,
Suiyuan	225,000	,,
Chinghai	225,000	,,
TOTAL ...	45,063,500	*piculs*

Table XIV. Classification of Methods of increasing Food Production in 1942: their acreage and production.

	Acreage (mow)	*Production (piculs)*
Increase of unhusked rice ...	9,271,500	4,448,600
Increase of wheat and miscellaneous cereals	29,227,000	33,387,000
Disease and insect control ...	5,545,000	2,748,000
Use of fertilizers	4,499,000	3,079,900
Development of irrigation systems ...	990,000	990,000
Production through improved animal husbandry	.....	410,000
TOTAL ...	49,532,500	45,063,500

Plans for the increase of food production in 1941 were successfully carried out. The acreage of cultivated land was increased last year by 45,952,046 *mow*, producing 89,704,305 piculs of grain, 58,013,805 piculs more than the expected amount. (See Table XV.) The area to be cultivated as required in the original plan covered only 30,845,500 *mow*. Ten methods were used last year for increasing the food production. Most successful was the winter cultivation of wheat, beans and other crops. (See Table XVI.)

Table XV. Results of Food Increase Measures in 1941

Province	*Expected Amount (piculs)*	*Increased Acreage (mow)*	*Amount Produced (piculs)*
Szechwan	8,344,000	5,972,557	14,079,590
Kwangtung ...	9,460,000	3,784,137	21,919,974
Hunan	3,968,000	5,384,756	6,114,594
Kiangsi	479 500	4,953,811	19,517,988
Kwangsi	2,241,000	7,070,263	9,086,287
Chekiang	736,500	4,569,506	5,346,507
Shensi	1,278,200	1,718,366	1,479,287
Kweichow	1,468,800	3,828,103	5,299,265
Yunnan	508,000	366,459	956,074
Kansu	239,000	2,978,405	236,686
Hupeh	330,500	282,610	104,680
Honan	995,000	1,110,370	1,139,137
Anhwei	93,000	1,850,159	2,348,618
Ningsia	.....	277,909	277,576
Fukien	1,134,000	1,804,635	1,798,042
Sikang	415,000	.....	.....
TOTAL ...	31,690,500	45,952,046	89,704,305

Table XVI. Classification of Food Increase Measures in 1941.

Method	*Acreage* (*mow*)	*Production* (*piculs*)	*Percentage*
Winter ploughing of wheat, beans, etc. ...	18,028,127	38,585,427	43.00
Reclamation of waste-land for the production of miscellaneous grains	10,835,427	31,481,523	35.09
Turning glutinous rice-fields into ordinary rice planting	4,776,510	13,924,608	15.52
Promotion of improved rice seeds ...	2,791,551	1,507,239	1.68
Promotion of rice crops planted twice a year...	193,117	186,234	0.21
Promotion of rice crops giving two harvests from one planting ...	161,678	78,343	0.08
Promotion of improved wheat seeds ...		(under calculation)	
Use of fertilizers ...	653,282	326,640	0.36
Disease and insect control	6,543,013	1,505,490	1.68
Improving irrigation ...	2,069,341	2,108,801	2.38
TOTAL ...	45,952,046	89,704,305	100.00

Kwangsi led the country in increasing the acreage of cultivated land in 1941 by applying the above-mentioned methods to 7,070,372 *mow* of farms. Szechwan came second, Hunan third and Kiangsi fourth. Kwangtung produced 21,919,974 more piculs of cereals, the largest amount in any province. Kiangsi ranked second and Szechwan third.

The amount of increased food production in 1941 is approximately 6 per cent of the total food production in 15 interior provinces, where no less than 1,500,000,000 piculs of cereals are produced every year on 580,000,000 *mow* of land.

HELP TO TENANT-FARMERS

The establishment of the National Land Administration by the National Government in June, 1942, is a concrete measure to help tenant-farmers as a step toward realizing Dr. Sun Yat-sen's policy of the equalization of land-ownership. The first task of this new organ is to complete land survey and registration throughout the country and to protect the tenant-farmers and those who till their own land.

Dr. Sun's highest principle for the solution of China's land problems is for farmers to be owners of the land they till. The Government is now deliberating on measures of giving farmers or farmers' co-operatives uncultivated land. The Land Law provides that the tenants have priority in buying land if it is for sale. Measures protecting the tenants include compulsory reduction of ground rent and limitation of the landowners' right to change or dismiss tenant farmers. The reduction of land rent has been put into practice in several provinces with an encouraging result.

Another organization recently created to help tenant-farmers is the land finance department of the Farmers' Bank of China, which has practically undertaken the work of a full-fledged land credit bank. One of its major tasks is to give the small farmers loans to buy land. The loans may be given either to the Government for it to enable more farmers to till their own land, or directly to the farmers themselves to buy land or redeem mortgages on their land. The loans may be in land bonds.

With the promulgation of the Farmers' Bank of China Land Bonds Act by the National Government in March, 1942, the land finance department of the bank is planning to issue from $50,000,000 to $100,000,000 worth of land bonds in the fiscal year 1942 with the $10,000,000-capital of the department and mortgages credited to the department as security. The bonds will be used chiefly to help the government to buy back the land from the landowners if the latter's land value assessments are deemed too low, and to enable tenant-farmers to purchase the land they till. These measures will be first enforced in the provinces of Szechwan, Kwangsi and Hunan, where in some cases tenant-farmers need urgent relief from high rents.

Aside from the ordinary functions of a land credit bank, the land finance department of the Farmers' Bank of China has one mission that cannot be found in other countries, that is, to issue loans for the Government to purchase the land of those whose value assessments are too low. This measure constitutes one of the striking features of Dr. Sun's Principle of the People's Livelihood. The Government may re-distribute the land to tenant-farmers, who may repay the purchase price of the land to the Government in instalments.

China's rural problem lies in the concentration of landownership in the hands of a small number of people. Dr. Sun advocated (1) equalization of landownership to enable those who till the land to own it; (2) promotion of the use of machinery, better fertilizers, improved seeds, famine prevention measures and organized transportation to raise productivity; and (3) colonization and reclamation of wasteland. The idea is to realize the ideal of land nationalization, beginning with Government assistance to tenant-farmers. The present trend indicates that his principles are being closely followed as the life of small farmers is definitely getting better and better.

CHU FU-SUNG

5. CHINA'S WARTIME FOREIGN TRADE

Since the outbreak of the Pacific War in December, 1941, China's foreign trade has received a great setback. In the previous four and a half years she was able to continue trading with the outside world despite the blockade instituted by the enemy, the extension of military operations and meagre transportation facilities. The loss of Hongkong and the fall of Rangoon have deprived her of the last international outlets. China in the summer of 1942 urgently needs new communication routes and more planes to carry vital goods.

Pending the completion of a new overland route to India, China is improving the quality and perfecting the manufacturing processes of exportable goods. Her trade machinery is being lubricated and her domestic commerce encouraged. Small quantities of Chinese products like tea, silk, wood oil, hides and minerals are still finding their way to Allied military and industrial establishments in every conceivable form of vehicle from transport planes to the elephant backs.

Foreign Trade Commission

A study of China's wartime foreign trade is largely a review of the work of the Foreign Trade Commission which controls the nation's imports and exports. The Foreign Trade Commission developed from the Trade Re-adjustment Commission which was set up in October, 1937, to render financial aid to and provide transport facilities for Chinese exporters who found it increasingly difficult to carry on their business on account of military operations in the vicinity of Shanghai and the blockade of the Yangtze River by the enemy. The Trade Re-adjustment Commission was re-organized into the Foreign Trade Commission and placed under the Ministry of Finance.

The tasks originally assigned to the commission were to help Chinese exporters carry on their business, to encourage the production of exportable products and to promote foreign trade assisted by Government financial resources and public transport facilities thereby making up losses in export trade. As the fighting grew more extensive,

China's needs of war and other essential materials and financial aid from abroad became more urgent. Loans were secured from the U.S.S.R. and the U.S.A., and later from Great Britain. The commission was entrusted with the delivery of agricultural products to the credit nations in accordance with the terms of the loans, and was instructed to conserve foreign exchange and to control or restrict imports as demanded by wartime economy. The scope of the commission's functions was continuously enlarged until now it has an exclusive control of the export of such staple products as wood oil, tea and bristles; it also exercises control over foreign exchange proceeds derived from thirteen categories of specified exports and supervises the execution of the regulations regarding the control of imports.

The gradual enlargement of the scope of the commission's functions necessitated its re-organization. Up to the autumn of 1940 the commission was in charge of both administration and business operations. However, business operations have now been delegated to its affiliated trading corporations.

The Foo Hsing Trading Corporation was established in April, 1939, to purchase and export wood oil to America in payment of the principal and interest due on the loan under the Export-Import Bank-Universal Agreement of February 8, 1939, in accordance with the Foo Hsing-Universal Contract of December 30, 1938. With its head office in Chungking and branch offices in every wood oil producing district and in Rangoon and Hongkong (before the outbreak of war in the Pacific), the Foo Hsing Trading Corporation is the exclusive purchaser and exporter of wood oil from China. Despite immense difficulties in transportation, sufficient wood oil has been shipped to America to discharge China's obligations fully.

The Fu Hua Trading Company was set up in June, 1940, with its head office in Chungking and branch offices in every city of commercial importance. It is given the exclusive right of purchasing and exporting bristles, but its scope of operations covers also wool, raw silk, skins and hides, and some Northwestern China products such as furs and *fochia* (black brick tea) for barter trade with the U.S.S.R. It was merged with the Foo Hsing Trading Corporation on February 26, 1942.

The China National Tea Corporation was created in January, 1940. The head office is in Chungking and branch offices and tea-processing factories are found in every tea producing area. It acts as the sole

purchaser of tea for export. Transactions in tea for home consumption are less restricted, as the varieties offered in the domestic markets are usually not suitable for export. Over one-half of the tea available for export goes to meet the barter agreement with the U.S.S.R.

The Southeast Transportation Office and the Northwest Transportation Office situated at Hengyang and Lanchow, respectively, act as transport agents for the trading organizations. They have in service all varieties of vehicles, ranging from wooden carts and junks to modern trucks. Movements of goods, especially in the Southwestern sections, have been subject to enormous risks and uncertainty. It has been the commission's policy to make the best use of every means of transportation and of every possible outlet in order to keep up the flow of exports. For the attainment of this objective, a co-ordinate system of transportation is of paramount importance. The usefulness of these transport organizations has been fully demonstrated.

A Record of Four Years' Work

The main work of the commission in the past four years may be grouped as follows:—(1) to collect and purchase exportable agricultural products; (2) to implement, barter and credit agreements concluded with friendly nations; (3) to handle the purchase of war and other essential supplies; (4) to enforce the regulations governing prohibition and restriction of imports; (5) to manage the overland transportation in the Southeast and the Northwest; (6) to control the foreign exchange realized from exports; and (7) to promote the increase of production of exportable agricultural products.

(1) Collection and Purchase of Exportable Agricultural Products.—In 1938 the commission began to engage in the purchase and storing of a certain quantity of exportable commodities, the outflow of which had been halted by wartime exigencies. Later, a number of specified agricultural products to be purchased was announced. Purchases were first made by the branch offices of the commission in various producing and marketing centres, but the work was later transferred to the three affiliated companies. The following shows the value and quantity of the purchases made by the commission from January, 1938 to September, 1941.

Export Commodities purchased from October, 1938 to September, 1941 ($ = Chinese National Dollar), follow :—

Commodities	*Unit*	*Quantity*	*Value*(1)
Total ...	.....	.....	$ 426,515,289.68
Wood Oil ...	Quintals ...	1,298,429.32	$ 129,982,537.81(2)
Tea	Quintals ...	645,086.79	$ 114,744,565.52
	Pieces ...	187,600	
Bristles ...	Quintals ...	30,787.78	$ 66,004,433.06
Raw Silk and Silk Cocoons	Packages ...	1,425	
	Quintals ...	48,052.57	$ 54,904,881.50
Wool and Hair ...	Quintals ...	213,196.97	$ 32,129,674.58
Hides, Furs and Skins	Packages ...	62	
	Quintals ...	18,278.36	
	Square Feet ...	133,606.45	$ 18,225,956.73
	Pieces ...	6,530,771	
Ramie ...	Quintals ...	14,352.37	$ 1,681,089.89
Sundries ...	.....	.....	$ 8,842,160.31

NOTE :—(1) Value of commodities represents purchasing price only.

(2) Figures on wood oil from January to September, 1941 excluded.

(2) Implementation of Barter and Credit Agreements concluded with Friendly Nations.

One of the outstanding tasks of the commission is to deliver agricultural products to the U.S.A., the U.S.S.R. and the United Kingdom in payment of the principal and interest due according to the repayment schedules of the different agreements. The following tables show the deliveries made to (a) the U.S.A., (b) the U.S.S.R. and (c) the United Kingdom.

Wood Oil Delivered to the U.S.A. for the Repayment of Wood Oil Loan of 1939, from 1939 to 1941 :—

Year	*Quantity Delivered*	*Value (U.S. $)*
1939	14,225.91 *short tons*	5,753,408.84
1940	24,200.00 ,, ,,	11,957,860.57
1941	14,428.24 ,, ,,	9,519,451.90
TOTAL ...	52,854.15 *short tons.*	27,230,721.31

Agricultural products delivered to the U.S.S.R. for the payment of the Sino-Russian Loan from May 1st, 1938, to September 30, 1941, were valued at a total of U.S. $24,441,382.50.

The agricultural product sold to Great Britain for the repayment of the First British Export Credit Loan from 1939 to September, 1941, consisted of 2,000 standard piculs of bristles valued at £78,400.

(3) The Purchase of War and Other Essential Supplies.

The commission also acts as an agent for the government to purchase different kinds of materials and equipment with the credits extended by friendly nations. The purchases are of a wide variety, including military equipment, gasoline, motor vehicles, equipment and materials for industrial establishments and others.

(4) The Enforcement of the Regulations governing the Prohibition and Restriction of Imports.

Since the incorporation into the commission of the Natural Resources Department of the Ministry of Finance in June, 1940, the commission has also been participating in the work of import control. According to the regulations governing the prohibition and restriction of imports promulgated by the Ministry of Finance, the import of luxuries and non-essentials is either prohibited or strictly restricted. For certain special materials for which no Chinese substitutes are at present available, the regulations provide for their importation after application to designated government organs, including the commission, for special permits. Between July, 1939, and October, 1941, the total value of specially permitted imports amounted to N.C. $178,678,519.90, of which gasoline and kerosene were the leading commodities.

(5) The Management of the Southeastern and Northwestern Overland Transportation.

In view of the important bearing of freight transportation on export trade, the commission established the Southeastern and the Northwestern Transportation Offices in order to expedite required deliveries. Owing to the spread of the war and the tightened enemy blockade, the transportation offices encountered all sorts of difficulties. The Southeastern Transportation Office, for instance, was compelled to resort to all modes of transportation, modern as well as primitive, such as motor trucks, junks, carts and human carriers. In times of emergency the office staff had to evacuate the stocks of commodities to places of safety. The Northwestern Transportation Office was

established late in 1941. It has more than 1,000 rubber-tyred carts at its disposal and expects to enlarge its transportation capacity before long.

The following table shows the total quantities of commodities exported by the commission from January, 1938 to September, 1941 :

Commodities	*Units*	*Total*
Wood Oil ...	... Metric Tons	... 67,099.391
Tea ...	... Half Chests ...	... 1,423,931
	... Metric Tons	... 18,700.000
Bristles ...	... Metric Tons	... 1,799.097
Wool and Hair	... Metric Tons	... 11,672.220
Raw Silk and Silk Cocoon ...	Packages ...	... 1,008
	Metric Tons	... 661.275
Ramie ...	... Bundles ...	... 2,679
	... Metric Tons	... 341.566
Hides, Furs and Skins	... Pieces ...	... 1,460,651
	... Metric Tons	... 475.006
Fochia (black brick tea)	... Pieces ...	... 280,408
	... Metric Tons	... 2,697.551
Pig Intestines ...	... Groups ...	... 143
	... Casks ...	... 4
	... Sets ...	... 896,275
	... Metric Tons	... 11.349
Sundries ...	... Metric Tons	... 3,462.177

(6) The Control of Foreign Exchange.

Originally there were 13 categories of export commodities (apart from wood oil, tea and bristles) which were subject to exchange control, whereby exporters were required to surrender a certain percentage of the exchange proceeds from their sales to the Government at the official rate of exchange, and the commission was entrusted with the control of such exchange until October 1, 1941, when it was turned over to the newly instituted Exchange Control Commission under the Executive Yuan. In the past three years, the commission acquired from various marketing and exporting centres a considerable amount of foreign exchange.

(7) The Promotion of the Increase of the Production of Agricultural Products.

The commission was entrusted with the task of promoting the increase of the production of agricultural products in August, 1940. During the present year, it has mapped out comprehensive plans for

the effective carrying out of this task under four main projects: wood oil, wool, silk and tea. Subsidies have been granted to a number of agricultural and scientific organizations for work on certain technical problems, the solution of which would contribute to the increase of the production of these products, and to engage in the actual work of breeding and cultivation. Besides, the commission has recently established an institute for research in wood oil, one for silk and another for tea.

Under the wood oil project, 59,300 acres of new *tung* forests have been planted and another 45,400 acres of neglected forest have been rejuvenated in Szechwan, Kweichow, Hunan, Hupeh and Kwangsi provinces. With reference to the silk project, 60,000 sheets of improved silkworm eggs have been distributed among farmers in Szechwan.

War Upsets Future Plans

Before the outbreak of the Pacific War, the commission had formulated a five-year plan for reforms under the following headings: 1. Improve facilities for the purchase of export products; 2. Increase the purchase of commodities for export; 3. Improve the means of transportation; 4. Implement barter agreements; and 5. Increase production.

In regard to the improvement of facilities for the purchase of export products, it was proposed to strengthen the purchasing organizations whereby the growers of *tung* trees may be encouraged to plant more trees and its dealers may be induced to sell *tung* oil direct to them. In this connection such difficulties as the lack of testing apparatus and the shortage of skilled personnel had to be overcome first. And the procedure in the collection of *tung* oil should be simplified.

So far as tea is concerned, it was proposed to purchase all available stock at the officially fixed prices from tea growers and dealers between July and October, and to fix the quota for 1942 at 260,000 half-chests, 600,000 half-chests for 1943, and 1,000,000 half-chests for 1944. About three-fourths of the tea thus collected were to meet the barter agreements, and the remainder for general marketing, both domestic and abroad. As to the bristles, it was decided that the standard of their quality should be raised by strict inspection prior to their export, and that the number of centres in Hunan, which produces valuable white bristles, and in Kweichow and Yunan, where wild boar bristles are obtainable, should be increased.

The necessity for the increase of the purchase of commodities for export, for the strengthening of the means of transportation is too obvious to require any explanation. As to the implementing of the barter agreements, since the commencement of Chinese armed resistance, China has obtained three loans from the U.S.S.R., totalling U.S. $250,000,000, four credit loans (the Wood oil, the Tin, the Wolfram and the Metals Loans) from the U.S.A., totalling U.S. $120,000,000 exclusive of the supply of materials under the Lend-Lease Act and from Great Britain, two credit loans amounting to £8,000,000, being equal to U.S. $32,000,000.

The manner of repayment varies with the different countries. The U.S.S.R. is repaid with equal portions of agricultural and mineral products in kind. Great Britain is re-imbursed by the proceeds of sales of certain specified agricultural and mineral products exported to her. The U.S. loans are refunded by the proceeds from the sale of different specified commodities, in annual instalments.

For the last British Credit Loan, the sums of £189,973; £166,461 and £238,250 were to be paid back in 1942—1944, by the sale of the designated agricultural and mineral products exported to Great Britain. The amount of interest due on the 2nd Credit Loan in each of the three years, 1942 to 1944, was to be £175,000, the manner of repayment being the same as above. To sum up, to meet the loan obligation to Great Britain, the U.S.A. and the U.S.S.R., Chinese products totalling the value of U.S. $72,557,000 would be required in 1942; U.S. $81,688,000 in 1943 and U.S. $54,200,000 in 1944.

In regard to the increase of production, China is richly endowed by nature with a very extensive territory and bountiful resources. The wood oil producing districts are all intact and the regions producing animal products are safe and secure. Although the producing centres of silk have largely fallen into enemy hands or are under Japanese control, Szechwan can accommodate an extensive development in respect to sericulture.

1. Wood oil

(*a*) Objectives:

Districts under direction	...	105
Wood oil co-operatives to be founded	...	1,100
Acreage of new *tung* forests	...	3,000,000
Acreage of old *tung* forests to be rejuvenated		1,535,000

(*b*) Estimate of acreage :

Present acreage of *tung* forests		...	3,190,000
Acreage to be increased	...	...	3,000,000
Percentage of increase	...	...	94

(*c*) Budget : N.C. $3,600,000.

(*d*) Work to be undertaken by :

1. The Wood Oil Research Institute of the Foreign Trade Commission.
2. Provincial Agricultural Improvement Institutes.

2. Sheep wool

(*a*) Objectives :

1. 12,000 head of choice native breeds of sheep.
2. 1,400 head of pure-breds from imported strains.
3. The present number of all kinds of sheep is estimated at 15,000,000 head, which is to be increased by 20%, *viz.*, 3,000,000 head.
4. The present productivity of wool is estimated at 300,000 standard piculs, which is to be increased by 87%, *viz.*, 260,000 piculs.

(*b*) Budget : Total N.S. $6,560,000 and U.S. $70,000.

(*c*) Field work to be undertaken by :

1. The Northwestern Wool Improvement Institute, the Shensi Wool Improvement Ranch and the Honan Wool Improvement Ranch—all of the Ministry of Agriculture and Forestry.
2. The Sungpan Sheep Improvement Ranch of the Agricultural Improvement Institute of the Szechwan Provincial Government.

3. Sericulture in Szechwan

(*a*) Objectives :

1. Extension Districts to be established each year : 5.
2. Extension Directing Offices to be established each year : 56.

3. Acreage of Mulberry tree nurseries to be put under cultivation each year : 4,500 acres.
4. Number of Saplings to be distributed in 3 years : 172,500,000.
5. Number of seedlings to be distributed in 3 years : 56,000,000.
6. Eggs of original breeds of silkworm (each year) : 25,000 sheets.
7. Eggs of improved breeds of silkworms distributed (3rd year) : 2,200,000 sheets.
8. Cocoons to be produced (standard piculs) : 432,000.
9. Silk to be produced (standard piculs) : 30,000.

(*b*) Present Figures :

1. Estimated number of Mulberry trees grown at present in Szechwan : 100,000,000.
2. Estimated present production of silk in Szechwan : 100,000,000.

(*c*) Percentage of Increase :

1. Estimated increase of number of Mulberry trees in Szechwan : 56%.
2. Estimated increase of production of silk in Szechwan : 100%.

(*d*) Budget : For extension, N.C. $4,500,000.

(*e*) Field Work to be undertaken by :

1. Sericulture Research Institute of the Foriegn Trade Commission.
2. Loshan Experimental District. Women's Advisory Council of the New Life Movement.
3. Section of Sericulture, Central Agricultural Experiment Institute.

4. Tea (cured by native methods)

(*a*) Objectives:

1. Improved "Export" Tea—

Chekiang ...	...	140,000 half-chests
Anhwei ...	...	130,000 ,,
Kiangsi ...	...	60,000 ,,
Fukien ...	...	90,000 ,,
Hunan ...	...	30,000 ,,
TOTAL	...	450,000 half-chests

(*b*) Present Figures:

Chekiang ...	...	600,000 half-chests
Anhwei ...	...	480,000 ,,
Kiangsi ...	...	300,000 ,,
Fukien ...	...	300,000 ,,
Hunan ...	...	120,000 ,,
TOTAL	...	1,800,000 half-chests

(*c*) Budget: Total $3,620,000.

(*d*) Field Work to be undertaken by:

1. General Directing Organ: The Research Institute of the Foreign Trade Commission.
2. Provincial Directing Organs: Tea Improvement Stations in Chekiang, Fukien, Anhwei, Kiangsi and Hunan.
3. Tea Field Stations in all tea producing regions.

PACIFIC WAR AND NEW TRADE POLICY

The outbreak of the Pacific War on December 8, 1941, necessitated a change in the Chinese Government trade policy.

The first effect of the Pacific War on China's Foreign Trade was the repeal of control measures concerning the collecting, purchasing, storing and transportation of wood oil. In March, 1942, when news of the fall of Rangoon reached Chungking, the Ministry of Finance announced that henceforth merchants could purchase, store and ship wood oil without any restriction. Prior to this, merchants had to apply to the Foo Hsing Trading Corporation for permission to export wood oil. This was done to prevent wood oil reaching the enemy.

Restrictions on the amount and period of time that were allowed the merchants to keep the stocks of bristles were likewise removed. Special duties on regional tea transactions were simultaneously abolished, while the rule requiring permits for the sale of tea to occupied areas was cancelled.

The Government has made a plan to get 4,000,000 gallons of gasoline from 70,000 tons of wood oil every year. The cracking of wood oil and the distribution of the resultant gasoline are entrusted to the Board of Transport Control of the National Military Council. The duty of the Foreign Trade Commission is to supply the required quantity of wood oil.

Until foreign trade is resumed, Chinese tea is to be produced on a restricted scale. The China National Tea Corporation has renewed orders only to buy 200,000 half-chests of tea this year, or one-third of the allotment originally set for 1942 (112 lbs. per half-chest). They are to be collected from: Chekiang, 65,000 half-chests; Anhwei, 60,000 half-chests; Kiangsi and Fukien, 30,000 half-chests each and Hunan, 15,000 half-chests. The corporation is given N.C. $10,000,000 this year by the Joint Board of the Four Government Banks to finance tea growers, dealers and manufacturers. Behind this restricted tea-purchasing programme is a three-year Government programme to improve the quality of Chinese tea. The programme calls for the removing of old trees and the cultivation of young plants.

Wool is to be used more extensively for making army uniforms and blankets. The Foo Hsing Trading Corporation will purchase 30,000 piculs of wool this year.

Government purchase of bristles, raw silk and hides is to continue, though on a restricted scale. The primary objective of the Foreign Trade Commission is to ship out as much as transportation means

would allow. The transportation of the bricks, raw silk and hides to the U.S.S.R. under the barter agreement through China's Northwest highway will continue. Bristles, raw silk and metallic ores, such as tungsten and antimony, will be shipped by air to meet Allied demands.

For conserving manpower, increasing efficiency and retrenchment, the Foo Hua Trading Corporation, formerly in charge of the export of bristles and other export articles, was merged into the Foo Hsing Trading Corporation on February 26. Readjustment of the activities of the Foreign Trade Commission, the Foo Hsing Trading Corporation and the Chinese National Tea Corporation has also been made in conformity with China's new trade policy.

New Export and Import Regulations

At the same time the National Government, in a mandate issued on May 11, 1942, promulgated a set of fifteen regulations governing the management of imports and exports during wartime, accompanied by a table listing the articles which come under them.

According to Article 5, the imports and exports as defined in the regulations are applied to those passing through Chinese national boundaries or blockade lines.

Applications for special import permits may be made to the Ministry of Finance for the importation of goods for the following purposes: scientific, industrial, medical, sanitary, philanthropic, educational, cultural, religious or other purposes; the adjustment of demand and supply and the stabilization of commodity prices or for other legitimate purposes.

Likewise, special export permits may be obtained from the Ministry of Finance for the articles whose export will not interfere with the Government's trade policy; local produce that registers a surplus output and whose export will have a beneficial effect on rural economy.

All import and export articles not listed in the table accompanying the regulations may be freely transported and marketed by merchants; on the other hand controlled imports and exports are subject to the Customs Preventive Regulations.

Among the imports for which permits are required are war materials, military supplies, wireless equipment, narcotic drugs, newly-printed bank-notes either signed or unsigned.

The following may be exported when accompanied by proper permits: hog bristles, wood oil, mineral products (antimony, tungsten, tin, mercury, bismuth, molybdenum) and tea.

The following may be exported provided the resultant foreign exchange obtained is sold to the Government: dried and frozen egg albumen and egg yolk, fresh eggs, hair and feathers, linseed, wax, oils, groundnuts and timber.

From the past five years of work it is readily seen that the Chinese Government has endeavoured to do its best in promoting foreign trade in wartime. Despite the growing difficulties and in the face of a depressed immediate future, China is still confident that there will be a bright future in her trade relations with the friendly nations. Her main roads with the outside world may be temporarily closed, but she is sure that new land communications will be established before long with the assistance of her Allies. Her natural resources will constitute a powerful factor in bringing about the final victory for the democracies.

STANWAY CHENG

IV. ADMINISTRATION

1. CHINA'S COMMUNICATIONS—AFTER FIVE YEARS

With Japan's invasion of Manchuria in 1931 war clouds were gathering fast in the Far East. China made her grim determination to resist and fight her aggressor to a bitter end. In the realm of communication a state of unpreparedness was felt. Though all possible measures were taken against an emergency, new communication projects invariably required more time for their completion. Japan, for fear of China's attaining a stabilized growth, was quick to seize the opportunity to launch her attack. At a time when national reconstruction depended to a large extent on imported materials and equipment and when our heavy industries were still on a small scale, Japan could not have found a better moment to strike.

At the first stage of the war, the ports of Tientsin and Shanghai were closed. The loss of Canton followed a year later. At once the question of maintaining international communication had to be solved. With great difficulty we have striven to establish and maintain new routes of communication in the face of a stringent national economy, rising costs both in material and labour, and in the absence of imported materials. To surmount all difficulties with whatever meagre means were at their command was the determination of the authorities. It was, therefore, a cause for congratulation considering so much was being done by the communication authorities with so little at their disposal.

The following account is an attempt to present in concise form the various wartime activities of the Ministry of Communications, *viz.*, railways, highways, civil aviation, river navigation, stage transportation, telephone and telegraph and the postal administration. It was impossible to delve into all the circumstances under which various projects were undertaken. To the writer, in this account and recollection of the past, he himself has been amazed and overwhelmed by the staggering burden of war transportation and the expedition with which it was despatched. But the story put simply is just a cycle of construction, destruction and reconstruction.

RAILWAYS. Chinese railway history was relatively a short one of seventy years. Since the first railway was built, China had been hampered in her railway development by many national and international factors. Up to the invasion of Manchuria by Japan in September, 1931, China had, including Manchuria, a total of over 14,000 kilometres of railroads. They were mostly located in North China and along the coast. There was no system to speak of, and equipment was inferior and inadequate. The war became an effective stimulant for an unprecedented railway expansion. In accordance with the railway construction programme of Generalissimo Chiang Kai-shek, providing for the building of 8,500 kilometres of railways in a period of five years, attention was directed to building trunk lines to the south of the Yangtze River, the Northwest and the Southwest. It was the beginning of a system geared to the imminent requirements of national defence.

Mr. Chang Kia-ngau was then Minister of Railways, fresh from a banking career of twenty-three years. He foresaw that large funds would be necessary to rehabilitate the old roads and to build new ones. In order to attract investment, railway credit and national credit would have to be restored. To this end, he devoted his first two years to a thorough re-organization of the railway administrations in order to increase their operating efficiency and traffic revenues. At the same time he regulated the various railway bond issues which had been in default, and succeeded in resuming their loan service. His labour was well-awarded in that he was able to obtain funds and to make new loans with which to start his construction programme. Work was rushed feverishly throughout the troubled years in many localities. Thus commences the monotonous yet courageous story, told and retold, of how railway construction was followed by destruction and demolition only to be reconstructed and extended.

Among the railways under construction and being completed during these War years, we may mention the Canton-Hankow Railway of 456 kilometres. Its completion was first scheduled for the year of 1937, but was advanced almost by one year to April of 1936. This railway immediately proved its worth by bringing in through shipments of munition and materials from Hongkong and Canton. The timely conjunction of this railway with the Canton-Kowloon Railway enabled all shipments to be moved from the piers of Kowloon directly to Central and North China. The Lunghai Railway was extended to Paochi from Sian, a distance of 174 kilometres. It was envisaged that with the possible occupation of Tungkwan by the enemy, the Sian sector would

become vulnerable. It was, therefore, of strategic value to have the railway extended in the Western direction which was accomplished in 1936. Special mention must be made of the completion of the Chekiang-Kiangsi Railway, a total of 554 kilometres. Through traffic was opened in September of 1937 from Hangchow to Pinghsiang on the Canton-Hankow Railway.

It thus can be seen that by these connections, troop movements were mobilized with the greatest ease. For the battle of Hsuchow, troops were despatched from the south; the same troops fought at Hankow and defended Nanchang. It was the completion of the Chekiang-Kiangsi Railway that brought about this mobility. The construction of a loop line from Soochow to Kashing on the Shanghai-Nanking Railway helped to link the said railway together with the Shanghai-Hangchow Railway. A strategic stroke indeed as it made possible for the troops on both railways to be moved back and forth, circumventing the Shanghai area, where fierce battles were raging. The effective completion of the 75-kilometre loop in July, 1936, was, therefore, an important factor behind the three months of the gallant war of reistance in Shanghai.

In the same category we must add the completion of the Nanking Ferry connecting the Shanghai-Nanking Railway to the Tientsin-Pukow Railway and the completion of the Chientang River Bridge in November, 1937, after three years of construction, inaugurating a fast through traffic in the east and west of the Chekiang province. The vicissitudes of war did not permit the bridge to demonstrate its usefulness more than a month. It was dynamited after a short and eventful life. The completion of the Shanghai-Hangchow-Ningpo Railway in November, 1937, was also of military value.

The construction of new railways during all these years of war presents an inspiring story. Take the Hengyang-Kweilin section of the Hunan-Kwangsi Railway for instance, the total distance of 360 kilometres was completed in a short span of 360 days from October, 1937, to September, 1938. The construction averaged 1 kilometre a day, a record unsurpassed in China's railroad building. Owing to the necessity of maintaining connections with international routes, of facilitating troop movements to the front and for the economic stabilization in the vast hinterland, railways were built with full cognizance of the element of mobility in order to suit the changing conditions of war. Instances are not lacking of building projects which had to be destroyed or suspended almost on the wake of their completion, such as the Nanning-Chennankwan, the Nanking-Kiangsi, the Yellow River Bridge at

Tungkwan, the Chuchow-Kweiyang, the Chengtu-Chungking and the Yunnan-Burma Railways. However, against all odds, we were able to construct and operate over 1,065 kilometres of railroads with rails and materials salvaged from the old.

Immediately upon the outbreak of the Lukouchiao Incident on July 7th, 1937, the railways had to assume the imminent burden of transporting troops and materials. The happy co-operation between the Ministry authorities and the military command was responsible for the effective transportation of large tonnages. Many Ministry employees were mobilized and served in various capacities side by side with their military colleagues. To this day, we speak with high degree of satisfaction of the exemplary courage and bravery as shown by railway workers.

An account of war transportation may be presented in six stages. The first stage was from the Lukouchiao Incident to the fall of Nanking. During this period North China was in flames. War was spreading to the Peiping-Mukden, the Peiping-Suiyuan and to the northern section of the Tientsin-Pukow Railway. Before long the Chenting-Taiyuan Railway and the Tungpu Railway were also affected. These railways in the North had to undertake military transport besides looking after their own requirements and the evacuation from active war areas of important materials and equipment. The Shanghai War started on August 13, stretching to a maximum the carrying capacities of the railways in that region. It must be remembered that all operations were conducted under great peril and uncertainty as enemy air-raids were a daily occurrence. During the period of July to December, 1937, all the railways moved a total of 4,467,376 men and 1,236,629 tons of materials.

The second period may be designated as from the evacuation of Nanking through the great battle in Hsuchow and up to the loss of Kaifeng. The direction of the war was gradually moving from the Eastern Front to the West. On the one hand, fighting in the south of the Yangtze River and in Chekiang, Kiangsi, Kiangsu and Anhwei provinces assumed a stalemate. On the other hand, the enemy troops advanced northward along the Tientsin-Pukow Railway and southward from Tientsin and across the Yellow River, pressing a pincer movement on Hsuchow. The tension thus created on the whole of Tientsin-Pukow Railway and sections of Peiping-Hankow and Lunghai as well as the Chekiang-Kiangsi Railways was tremendous. The evacuation on a large scale of materials and properties into the interior during this stage of the war was perhaps most significant. When Hsuchow

was threatened, the Peiping-Hankow Railway kept running thirty trains a day, a record unsurpassed in China's war transportation. The great victory at Taierchwang was attributed in part to the high degree of efficiency of the railway workers and their devotion to duty. During the period from January to June, 1938, the railways concerned moved a total of 4,337,777 men and 1,146,998 tons of materials.

The third period started with the evacuation of Kaifeng up to the preparatory stage by the enemy for the siege of Hankow. War was then raging in the northwest, that is, the western section of the Lunghai Railway. Enemy batteries on the north bank of Tungkwan kept up their barrage at the railroad on the opposite bank. It was a proud chapter of that railway to be able to keep open its traffic in spite of the bombardment. Simultaneously, enemy troop movements were gradually converging on the Wuchang-Hankow area. The burden of transport now fell on the Peiping-Hankow Railway, while the through traffic from Canton was never for a day relaxed. The enemy, fully aware of the immense economic value to China should the traffic from Canton and Hongkong remain unmolested, kept raiding the railway by air unceasingly. Air raids average once every ten hours. Again we have the railway workers to rely upon for their dauntless courage in keeping the traffic open at all costs. And what was more gratifying was that under such abnormal conditions, no traffic accidents of major character ever happened to stain the magnificent record of the railway personnel. During the period from July to December of 1938 the railways concerned moved 2,647,583 men and 486,163 tons of materials.

The fourth period followed with the occupation by the enemy of Canton and Hankow up to the loss of Nanking. Following the evacuation of Canton and Hankow areas, war was on the path toward the west of Hupeh and north of Honan and the northwest of Canton and south of Kwangsi province. With both ends of the Canton-Hankow Railway in enemy hands, the direction of rail traffic took an inevitable turn westward, making Hengyang a new transportation centre. For a while, the Chekiang-Kiangsi Railway had to assume the functions of a trunk line up to the time when Nanchang was occupied. For several months through traffic was enjoyed from Kinghua all the way up to Hengyang, constituting a supply line equivalent to that from Hongkong to Hankow. The happy completion in time of the Hengyang-Kweilin Railway formed a much needed outlet and siding for the large accumulation of materials and rolling stock of all railways on the Canton-Hankow line. During the period of January to December,

1939, the railways concerned moved a total of 2,823,872 men and 359,863 tons of materials.

The year of 1940 may be described as the fifth period in the history of war transportation. Characteristic of this period was that enemy movements have been greatly hampered. Various enemy units have suffered counter-attacks and counter-offensives from our troops. On our part, the sections of railways under our control enjoyed a breathing space to get consolidated and stabilized. Needless to say, the increasing difficulties consequent upon the lack of materials and equipment, the inadequacy of maintenance, and the constant threat under enemy air raids or bombardment had to be met with a spirit of sacrifice and resolve. During this period of one year, the railways moved a total of 11,213,299 men, of which 2,915,725 were military personnel. The amount of materials moved, reached a total of 1,671,577 tons.

The last and most recent period dated from the beginning of 1941 up to the present. The new railway from Liuchow northward had reached a distance of 167 kilometres ; the Kunming-Suifu Railway had been extended to a distance of 162 kilometres ; and several smaller branch lines were also in operation. A number of sections of old railways were dismantled, such as sections of the Chekiang-Kiangsi, the Canton-Hankow and the Lunghai Railways. It may be said that during this period construction of new railways and steps toward their stabilization and improvement had an ample opportunity of realization. Fighting in different war zones became sporadic. Statistics compiled up to September of last year showed that a total of 9,492,963 men and 1,168,010 tons of materials were moved by all the railways.

Summarizing the activities of the railways during the last five years, we can see for ourselves how our railways being built mostly in the northwest, the southeast and along the coastal provinces became seriously vulnerable in the event of a war against Japanese aggression. Consequently, a major portion of railroads had gone to the enemy. But the indomitable courage shown by hundreds and thousands of railway employees has given us new confidence and a new spirit of enterprise to regain our temporary loss. It may be recalled that at the very outset of the war the Ministry of Communications promulgated two significant instructions. They were (1) to repair and keep on repairing any damaged portion of the railway or railway property under all conditions and at all costs ; and, (2) never evacuate unless told to do so by the military authorities concerned. These two simple and yet fundamental commandments have now become a

tradition ; and in their faithfulness to this tradition, many colleagues have made their supreme sacrifice. An account of railway transportation during the war cannot be complete without a commemoration of their fighting morale and their devotion to study.

HIGHWAYS. Highways in China had not reached a stage of nation-wide planning until the present war broke out. They came to assume a more important role as more railways fell under enemy occupation. The existing highways may be conveniently grouped under three systems: the Northwest; the Southwest and the Intermediary System. The Northwest runs from Hankow through the province of Honan, Shensi, Kansu into Sinkiang. The Southwest runs from Honan through Szechwan, Yunnan, Burma, Kwangsi and Kwangtung while the Intermediary system, connecting the two, runs from Szechwan to Shensi and Kansu. Construction of new roads and the maintenance of the old were carried on simultaneously. To date, over 10,000 kilometres of highways have been added. Among the important constructions may be mentioned the Yunnan-Burma Highway, commonly known as the Burma Road, with a distance of 960 kilometers. This road was noted for its engineering skill. Its contribution to international communication formed one of the most colourful episodes of wartime transportation. It was able to carry on the average of 10,000 tons monthly. We shall not disclose here several other equally important undertakings lest we would be divulging information to the advantage of the enemy. Suffice to say, that no other factor has done more to spur and promote highway construction in China than the very act of Japanese aggression.

In a country like China where automotive industries are not yet developed and where petroleum deposits are not available in abundance, highway transportation would necessarily be handicapped by the problems of fuel supply, repair and maintenance of vehicles. It was deemed expedient in 1939 to inaugurate a Stage Transport Administration as an auxiliary means of transportation, utilizing human labour as well as pack animals. In this way, large quantities of wood-oil were moved from production areas to refining centres. Great success so attracted the attention of the authorities that a network was worked out in the following year to cover practically every province in the war zone and in the interior, with Szechwan as the centre. At present, there are over forty lines in operation with a total distance of over 28,800 kilometres and an annual carrying capacity of over 218,000 tons.

River Transportation. That water transportation represents the cheapest form of transport recommends itself to the requirements of war. The Yangtze River, traversing five provinces, played a significant part. In the early stages, river boats helped to evacuate large tonnages of materials besides machinery and parts from coastal cities into the interior, the railways being reserved for military traffic. Shipping between Nanking and Chungking was kept at its peak. The Ministry of Communications through the newly inaugurated United Yangtze Shipping Service was able to direct the traffic with conspicuous success. Imagine the huge quantities of stores and the unprecedented number of evacuees that had to be moved and dispersed. They were first gathered in Hankow and gradually retired to Changsha, Ichang and Chungking. The defence of Hankow lasted sufficiently long as to permit a general programme of realignment, and shipments were despatched most methodically and expeditiously. During the year of 1938, river transportation contributed more than 180,000 tons of materials and 150,000 passengers.

Ministry regulation and control were extended to all crafts afloat on the main rivers as well as tributaries. Through traffic was arranged wherever possible with highways and railways. The maze of inland waterways, organized for the first time for concerted effort, played a most useful part in orientating the economy and well-being of the rural districts. To augment the carrying capacities of steamships, some of which were not designed to negotiate in shallow waters, special ships were constructed and heaving equipment was installed all along the rapids, making up-river shipping safer and faster. An interesting subsidiary undertaking was the construction of thousands of wooden junks, suitable for independent sailings or for tug-boats. Many private steamship companies rallied to the country's call, and in particular the excellent services rendered by the Mingseng Steamship Company were applauded. Their ships have sailed the Yangtze River for fifteen years. The Government depended on the company for a substantial amount of shipping during its evacuation from Hankow and Ichang. To this day, the company maintains regular sailings on the upper reaches of the Yangtze River.

Civil Aviation. Civil aviation in China vied for war service distinction. Prior to the war, there were 11,593 kilometres of domestic air lines operated by the China National Aviation Corporation and the Eurasia Aviation Corporation. With the outbreak of the European War in September, 1939, the German interests were entirely withdrawn

from the latter Corporation, making it a Chinese-owned and operated unit while the former remained a joint enterprise of Chinese and American interests. In December, 1939, a new line was inaugurated by the Sino-Soviet Aviation Company, from Lanchow to Alma-Ata *via* Hami, the total distance being 2,750 kilometres. Besides serving all the important cities in Free China, flight schedules were extended at one time or another to Hanoi in Indo-China ; Alma-Ata in Soviet Russia ; Hongkong ; Lashio and Rangoon in Burma and Calcutta in India. In co-operation with the international lines, through flights were scheduled with the British Overseas Airways, K.L.M., Pan-American Airways and the Soviet Airways. If the distances served by the international routes are included in our calculation, the total distance of airlines since the war has increased almost 50%.

Reviewing the activities of the several aviation companies, we cannot overlook the innumerable handicaps overcome by the management. There was a lack of equipment as compared with the vast regions they had to serve. Weather conditions did not appear to be the major concern of the pilots. They flew whenever possible with full knowledge of attendant risks. The will to fulfil a mission prompted the flying personnel to carry on. The classic story was told of how a damaged DC3 plane was ferried to its hangar across 1,200 miles with one DC2 wing, a wonder feat, the accomplishment of which was nothing short of miraculous. Planes have been strafed and shot down by enemy pursuits. Planes have been damaged on perilous missions over enemy occupied territories. Remarkable demonstration of efficiency was many times proven in the several evacuation flights from Hankow, Hongkong and other cities.

To speak of profitable operation at wartime would be absurd. As a whole, the lines operated at a loss. In individual cases, certain lines might claim favourable revenues for a given period. But the increasing cost of fuel and replacements more than absorbed the profits made. However, we are gratified to note a substantial increase in the volume of traffic since the war. In 1939, all planes carried a monthly average of 889 passengers, 8,119 kilograms of mails and 25,957 kilograms of cargo, representing a fifty per cent increase in all classes.

Postal Administration. Postal service in wartime China forms another chapter of brilliant achievement. Instead of being hampered as a result of blockades and enemy interferences, the mail carriers forged on through Free China, through war fronts, through guerilla zones, through occupied territories to every nook and corner of this land of

resistance. Indeed, they deliver and they had every reason to be proud of their assignment. The postal service developed to a degree unprecedented in our postal history. Especially benefited was the service by numerous air lines, highways and waterways which were being opened for traffic. At one time, more than nine routes kept up their weekly air mail schedules. Local postal offices followed the westward migration of men and their industries. The postal boxes are put up all the way to the frontier! The postal administration was also credited with the excellent organization of the Military Post, which advanced with the troop movements. It is no simple task to serve a dozen war zones with equal efficiency. News from home has always been a source of comfort to the soldiers at the front. These "men in green" have never faltered in their duty.

China, before the war, had 73,690 post offices of all sizes. While 9,835 offices had been closed down, 14,200 new offices have been established. Postal workers increased from the pre-war figure of 28,008 to 39,399. Postal routes increased from 436,986 kilometres to 486,685 kilometres.

TELEPHONE AND TELEGRAPH. The T. and T. service of China centres on the telegraph. Radio communication is considered supplementary. They are both placed under one government administration, which at present discharges its duties through 31 branch administrations. Since the war, besides maintaining the erstwhile division of 21 T. and T. districts, they were further grouped into three zones each under the supervision of a special commissioner who was vested with special discretionary powers. Agents directly responsible to respective commissioners are also appointed for guerilla war districts. In 1938, there were 1,164 offices of all sizes serving the public. The number has now increased to 1,186. The number of workers reached 29,000, being 12,000 more than the pre-war figure. Repair work was carried out by special organized gangs, comprising over 2,000 skilled workmen, mostly assigned and stationed with the troops. There are now 21 telegraph maintenance corps, 3 radio maintenance corps, 31 linesmen units and 21 units of emergency repair crews. With experience gained during the years of first line duty, these dare-devils would brave air raids and bombardment, night and day, to effect repairs and to carry on their routine inspection for the sake of keeping communications open. A review of T. and T. routes will show a remarkable expansion. New telegraph lines under operation have reached 47,600 kilometres, more than making up for the lines lost in enemy occupied territories, figured at 46,000 kilometres. Telephone lines total 31,900 kilometres

as compared with 24,000 kilometres lost. Radio communications are being served by 11 major circuits besides 248 smaller stations. The stations also enjoy perfect co-operation with all principal cities of the United Nations.

It may be interesting to note, in passing, the ingenious methods employed by the service for air raid precautions. Wherever possible alternative sets are arranged to stand by; bomb shelters are being built for telephone operators to carry on their work; bomb-proof enclosures were provided for special machineries. The unique service rendered to the air raid alarm system has been well known. It has been acclaimed by visiting authorities that China has one of the best air raid alarm systems in operation. Its contribution to personal safety and working efficiency cannot be overlooked.

In conclusion, wartime communications in China have succeeded to maintain their scope and competence against innumerable odds and handicaps. What was lost and denied by the reverses of war have been more than made up by human industry, resourcefulness and devotion. Greater self-reliance and self-respect have developed in the minds of all communication workers. They have played a vital part in these years of efficient resistance. And their deprivations and sacrifices shall forever stand out as prominently as the soldiers at the front. May their exemplary devotion inspire a great spirit of service in their colleagues, so that they may achieve an equally if not more glorious record in the years of struggle that still lie ahead.

FRANCIS K. PAN

2. THE PROBLEM OF FOOD SUPPLY IN CHINA

The food problem of China consists in producing sufficient food to meet the normal needs of the people and in providing transportation facilities within the country for its even distribution. Before the present war China was a heavy importer of food from foreign countries. But since the war the Government has made great progress toward food self-sufficiency and has clearly demonstrated how science can help agriculture even in a comparatively short period of time.

CULTIVATION AND PRODUCTION. The land area of China is fortunately large. She possesses in her 27 provinces 12,274,362,240 *mow*(1) of land, of which 5,494,174,770 *mow* belong to the 18 provinces of China Proper and 6,780,187,470 *mow* to the nine frontier provinces. But the area of her cultivated land is much smaller. According to Professor Chi-ming Chiao of the University of Nanking, only 1,505,790,791 *mow* are under cultivation, including 1,213,350,015 *mow* in China Proper and 292,440,776 *mow* in the Frontier provinces. This estimate gives the reader some idea of the extent of the uncultivated land in China.

Of the cultivated land, it is estimated that more than 68.5% is planted with cereals. The average annual production for the four years before the war was:

Cereals	*Production Amounts*	
Rice, unhusked	937,705,010	piculs(2)
Wheat	542,024,252	,,
Barley	200,885,377	,,
Kaoliang	239,230,520	,,
Corn	184,215,085	,,
Millet	199,695,879	,,
Oats	17,932,000	,,
Sweet potatoes	447,524,496	,,

(1) 1 *mow* =0.1644 acre

(2) 1 picul =$\frac{1}{2}$ quintal

ESTIMATED CONSUMPTION. The cereals are largely and principally used as foodstuffs. However, a certain amount of the cereals is consumed as feeds for animals, reserved as seeds for the next planting, or used for distilling in the making of wine, etc. In the case of rice for instance, 83% of its total production is consumed as foodstuffs, 3% as feeds for animals, 8% reserved as seeds and 6% for other purposes.

With regard to wheat, about 74% is consumed as foodstuffs, 6% as feeds for animals, 11% reserved as seeds and 9% for other purposes.

With regard to kaoliang, 42% is used as foodstuffs, 23% as seeds for animals, 8% as seeds and 27% for other purposes.

In order to make an estimate of the total consumption of the entire population, it is necessary to take cognizance of the fact that infants and adult females generally consume less than adult males. Professor Chi-ming Chiao has converted China's total population (424,522,936) into 322,036,783 adult male units. Assuming that each adult male requires 3,295 calorie of heat every day, Professor Chiao further finds that there is enough food for 289,152,382 adult male units representing approximately the equivalent of nine-tenths of the total population. In other words, assuming that the food requirement of nine people out of ten were fully met, the tenth would starve. This situation had led to heavy importation of foodstuffs before the war. According to Customs Reports, however, the amount imported covered, on the average, only one-fourth of the deficiency. Thus, in spite of continuous imports from abroad before the war there was only enough food adequately to cover the needs of 92.5% of the population. Actually, of course, what happened was not that 7.5% of the population had no food at all but that a large percentage did not have enough to eat.

Since the outbreak of the present hostilities, certain coastal regions were occupied by the enemy. Accordingly the population in Free China increases. Thus in the absence of the appropriate counter-measures by the Government the food problem in Free China as a result of migration from enemy occupied territory would have been still more acute. But, although the price indices of foodstuffs continue to rise largely as a result of the inflation of the currency, the yields of various crops are definitely increasing, partly owing to the favourable climatic condition of the past few years and partly to the efforts of the Government to promote the production of food crops.

About two months after the outbreak of the Marco Polo Bridge Incident on July 7, 1937, the Government ordered the National Agricultural Research Bureau to co-operate with the agricultural institutes of different provinces to redouble their efforts to expand the production of foodstuffs. Upon the institution of the Ministry of Agriculture and Forestry in 1940, a special Commission was created for this purpose. In the same year, the sum of $9,500,000 was allotted as a special fund for carrying out this programme. In 1942, the amount was increased to $14,784,000 as the scope of the programme was subsequently enlarged. The people in charge of this difficult task are all technically well trained in the work assigned to them. Their contributions cannot be overestimated. Their achievements in the promotion of crop production, a summary of which is given below, under adverse conditions augur well for the ultimate solution of the problem of China's food supply.

1. The Extension of Crop Area. Excluding the Northwest and several frontier provinces, the climate and soil of Free China are well adapted to the system of double cropping, *i.e.*, to the planting of rice or other summer cereals in summer and to the planting of wheat or beans in winter on the same piece of land. But according to the *Crop Report* published by the National Agricultural Research Bureau, the total winter crop area in the fifteen provinces of Free China before 1938 was only three-fourths of the total summer crop area. This means that about one-fourth of the arable land, most of which is used for the cultivation of rice, had been fallowed in the winter. In 1938, 62% of the total rice area, or 180,000,000 *mow*, were uncultivated in the winter season. Although on 43% of the land there were obstacles with respect to irrigation and drainage, the remaining 19% were definitely suitable for winter cultivation. Certain dry land which had been laid waste was in a similar condition and should by all means be utilized.

In view of this situation, the Government initiated a movement for winter cultivation. The outcome of this movement can be readily seen from the following table:

Area under Winter Cultivation in Free China (1), 1931-1941 (2)

(Unit: 1,000 *mow*)

Cereals	1931-37 *average*	1938	1939	1940	1941
Wheat	110,023	111,029	114,742	118,870	125,069
Rape seeds	42,494	43,740	46,401	54,469	58,489
Others(3)	117,007	115,370	115,534	115,330	116,741
TOTAL ...	169,524	270,140	276,677	288,669	298,299

Cereals	1931-37 *average*	1938	1939	1940	1941
Increase in area as compared with 1931-7 average	.....	616	7,153	19,145	28,775
Percentage	.....	0.2%	2.7%	7.1%	10.7%
Increase in area as compared with previous year ...	.....	616	6,537	11,992	9,630
Percentage	.....	0.2%	2.4%	4.3%	3.4%

NOTE :—(1) Including Szechwan, Yunnan, Kweichow, Hunan, Kiangsi, Fukien, Kwangtung, Kwangsi, Ninsia, Tsinghai, Shensi, Kansu provinces and a part of the Honan, Hupeh and Chekiang provinces.

(2) Source: *Crop Report* published by the National Agricultural Research Bureau.

(3) Barley, Oats, Peas and Broad Beans.

2. *Other Projects for the Increase of Crop Production.* The extension of crop area is only one of the ways and means of increasing the production of food. In order to increase the crop yield per *mow*, the Government has resorted to such measures as the prevention of insect damage, the application of fertilizers, and the improvement of irrigation. The following are the outstanding achievements of these various projects summarized from the monthly report for 1941 of the Ministry of Agriculture and Forestry:

(*a*) *The Promotion of Rice Production.*—In order to promote rice production, the Ministry has adopted the following measures: First, the extension of improved varieties of rice. There are altogether 135 improved varieties of rice in the country. Best varieties produce 196 catties more per *mow* than the farmer's varieties. On the average, improved varieties produced 52 catties more per *mow* than the normal variety of rice. In 1941, cultivation of improved varieties was extended to 2,320,917 *mow*, yielding an increase of 1,141,715 piculs. Second, the substitution of the cultivation of ordinary rice for that of glutinous rice. An additional 4,254,539 *mow* of ordinary rice was planted in 1941 in ten provinces. The total rice crop secured amounted to 1,148,725 piculs. Third, the promotion of a second growth of rice, *i.e.*, the practice of using the original rice stalk to produce a second crop, the yield of which is 50—70 catties per *mow*. In the five provinces this process was extended to 264,236 *mow* in 1941, yielding an additional harvest of 136,005 piculs. Fourth, the interplanting of late maturing rice

with early rice. Most of the rice regions in Free China are adapted to the growth of two crops of rice in one season, *i.e.*, to interplant late maturing rice with early rice. The gain is about 150—200 catties more than ordinary single cropping per *mow*. After it was suggested to the farmers, the acreage under the system of intercropping was extended to 918,662 *mow*, yielding an increase of 1,379,244 piculs.

(*b*) *The Promotion of the Production of Wheat and Miscellaneous Cereals.*—Cereals here discussed include wheat, peas and beans of the winter crop, and kaoliang, potatoes, corn and miscellaneous cereals of the summer crop. The measures adopted were: First, the promotion of improved wheat varieties. There are to-day more than fifty improved varieties and some of them had been widely planted a few years ago. It is reported that improved seeds were planted in 500,000 *mow* even before the war. Unfortunately, a part of this area is now occupied by the enemy. Best varieties produce 100 catties per *mow* more than those in general use. On the average, improved seeds produce about 50 *catties* more. In recent years, propagation of selected varieties in Free China has been accelerated. In 1941, improved seed was sown on an additional 431,027 *mow* in nine provinces, yielding 225,415 piculs. Second, utilization of the land in fallow both in summer and in winter to plant wheat, peas and beans. The yield per *mow* of the fallow land ranges from 100 to 200 catties. In 1941, the area of fallow under cultivation amounted to 22,985,910 *mow*, contributing a yield of 42,620,745 piculs. Third, the utilization of the waste land for planting potatoes and other cereals. The harvest per *mow* is estimated to be from 500 to 1,000 catties of potatoes and 100 to 150 catties of miscellaneous cereals. In 1941, the area of land utilized in such way amounted to 12,536,794 *mow*, producing 40,092,025 piculs of potatoes and miscellaneous cereals. Fourth, the reduction and limitation of the acreage of land devoted to non-food products for planting cereals. Limitation was, for instance, imposed upon the area of tobacco fields in Honan. Similar measures were adopted in

Kwangtung, Shensi, Kiangsi and Yunnan provinces. Under this measure, the land saved and utilized for planting wheat and other cereals amounted to 377,197 *mow* with a total yield of 317,986 piculs. Fifth, the extension of improved potato varieties. On the average, improved potato varieties produce 100—250 catties per *mow* more than the farmer's varieties. The acreage planted with improved seeds in 1941 amounted to 18,648 *mow*, resulting in an estimated increase of 42,766 piculs. The amount of crop production increases through the above measures totalled 83,298,937 piculs.

(*c*) *Control of Insects and Diseases.*—In 1941, measures for insect and disease control were employed on 6,454,638 *mow* of grain crops. It helped to reduce the loss by about 20%. This is to say that 1,972,212 piculs of crop were saved from damage.

(*d*) *The Application of Fertilizers and the Improvement of the System of Irrigation.*—In 1941, green manure, bone meal, stable manure and oil cakes were applied to 2,768,841 *mow* of crop field in eleven provinces, which increased production by 1,361,077 piculs. Efforts were also made to improve irrigation and drainage in ten provinces. The area affected totalled about 3,768,814 *mow*, securing an additional yield of more than 2,987,972 piculs.

The Chinese Government in the past few years has made considerable progress in stimulating China's food production. In the absence of war its accomplishments in this sphere would have been still greater. Much, no doubt, remains to be done. But given China's vast land area, soil and climate, the advance already registered by a Government which tenaciously approaches agrarian problems in a scientific spirit, cannot but inspire optimism as to China's ability to attain self-sufficiency in its food supply in the post-war period.

P. W. Tsou

3. OVERSEAS CHINESE ARE HELPED

A " homecoming " can be sad. This is true of more than a million South Seas Chinese who have come and are returning to their fatherland. They come not out of any spontaneous desire to meet their folks here, but as refugees, driven from the places to which they had emigrated by Japan's war of aggression in the South-West Pacific.

China already had her hands full with the refugee problem within the country. Yet she instantly went to the rescue of the incoming South Seas Chinese. For their relief, the Central Government has set aside $100,000,000, a staggering sum in view of the multitudinous calls on the national treasury.

The Chinese government has good reasons not to let the South Seas Chinese down in their hour of distress. Dr. Sun Yat-sen, late founder of the Chinese Republic, used to call them " Mother of the Chinese Revolution," and rightly so, as they contributed generously toward the revolutionary cause. Then for twenty to thirty years prior to the outbreak of the Sino-Japanese hostilities, their annual remittances to China averaged $300,000,000. This more than made up China's unfavourable trade balance which averaged $200,000,000 annually. Then the South Seas Chinese subscribed to one-fifth of the $500,000,000 National Salvation Bonds floated in 1937.

Of the $100,000,000 decided upon, $34,483,000 has already been appropriated and used. The fund was handled mainly by the National Relief Commission aided by a string of other government organizations including the Overseas Affairs Commission, the Kuomintang Overseas Affairs Board and the Ministry of Education.

The provinces, organizations and relief centres in China and abroad through which the fund was distributed are shown in the following tables :—

Provinces	*Amounts*
Kwangtung	$10,000,000
Yunnan	9,500,000
Fukien	5,100,000
Kwangsi	4,000,000
Kweichow	500,000
Chekiang	50,000
Hunan	50,000
Kiangsi	50,000

Relief Centres in China	*Amounts*
Chungking	$150,000
Kinhwa	20,000
Relief Centres Abroad	
Calcutta	$500,000
Lashio	500,000
Batavia	400,000
Organizations	
Ministry of Education	$2,000,000
Central Secretariat	1,200,000
Ministry of Information	200,000
Wartime Personnel Re-adjustment Committee ...	100,000
Overseas Affairs Commission	50,000
Central Organization Board	50,000
Reconstruction-Education Co-ordination Committee	50,000
Central Overseas Affairs Board	13,000
TOTAL ...	$34,483,000

No up-to-date figures are yet available as to the total number of South Seas Chinese and Chinese residents from Hongkong and Shanghai who have been given relief. Reports received up to the end of June, 1942, by the National Relief Commission list only 1,193,170 persons as having been benefited. In Kwangtung, for instance, 650,780 were helped up to April 26, in Kwangsi, 533,563 up to April 5; in Fukien, 2,626 up to April 12; in Kiangsi, 808 up to the end of April; in Hunan, 1,479 up to April 10; in Yunnan, 3,620 up to March 20; and in Kweichow, 312 up to March 31.

No sooner did the Japanese fire their first guns in the South-West Pacific than were the National Relief Commission and its subsidiary organization lashed into feverish activity in anticipation of an unprecedented catastrophe on Chinese Overseas and their influx to China. The Commission took its first action on December 8, 1941, by telegraphically advising its representative in Kowloon to draw $240,000 from the Commission's deposit there for emergency relief to be administered to Chinese residents in Kowloon and Hongkong with the co-operation of the local Catholic Church.

The Commission's branch office at Shaokwan, the seat of the Kwangtung Provincial Government, was instructed to take care of evacuees from Hongkong and Kowloon. A sum of $50,000 was

appropriated to set up a receiving station at Nanhsiung in Northern Kwangtung near the Kiangsi border. As time went on, however, the number of refugees increased so rapidly that the Shaokwan office found the resources at its disposal insufficient to cope with the situation. An additional sum of $100,000 hitherto set aside for establishing refugee factories in Kwangtung was made available. Besides, the Kwangtung Provincial Government was asked to advance $200,000 to meet relief needs.

In various schools in Northern Kwangtung are 1,392 Overseas Chinese students. Their financial support from the South Seas having been cut off, they were in need of immediate relief. It was decided that each of these students be given $100 to tide over the immediate difficult period. Pending the approval of a fund by the Central Government, the Commission asked General Li Han-huen, Chairman of Kwangtung, to advance $139,200 for this purpose.

On December 21, 1941, the first of a series of meetings was held in Chungking to devise relief measures by the government organizations concerned. The Ministry of Foreign Affairs, at the request of this meeting, immediately advised the Chinese consulates in the South Sea Islands to set up organizations for the relief of Overseas Chinese in those localities. Those in San Diego, Medan, Honolulu and Manila were the first to comply with this request.

As a result of the meetings in Chungking, relief plans and machinery soon became shipshape. A joint committee to direct relief matters was formed with the National Relief Commission playing the leading role, assisted by representatives of the Secretariat of the Central Kuomintang Headquarters, the Ministry of Foreign Affairs, the Ministry of Education, the Overseas Affairs Commission and the Kuomintang Overseas Affairs Board. In the name of this committee, a proposal was made that $100,000,000 be set aside for the relief of Overseas Chinese, which was later approved by the Executive Yuan.

The amount of $10,000,000 allotted to Kwangtung province was remitted in several instalments. The funds, aside from reimbursements to the Kwangtung Provincial Government, were handled either by the Shaokwan office of the National Relief Commission or the emergency relief committee organized by the provincial authorities of Kwangtung. The former organized four "rescue corps" which were sent to Kwangchowwan and other points on the Kwangtung coast to look after and give protection to refugees from Overseas.

The Kwangtung Provincial Emergency Relief Committee consisting of representatives from the Kwangtung military headquarters, government and public organizations, was established on January 1, 1942. The committee has its head offices at Shaokwan and six regional offices at Waiyang, Fengshun, Hingning, Kaoyao, Kaiping and Moiming, in addition to 73 relief stations located within 20 miles of one another in the area between Southern Kwangtung and Shaokwan and other parts of the province.

The influx of refugees assumed massive proportions by February 15, when over 500,000 Overseas Chinese had arrived in Kwangtung via Macao, Toishan, Waiyeung, Paoan, Swatow and Kwangchowwan. From Hongkong, 570,000 people were announced by the Japanese to have been evacuated by the end of February. Of that number, however, only some 300,000 Chinese refugees registered with various relief stations set up by the Kwangtung Provincial Emergency Relief Committee.

All registered refugees were given cotton-padded coats, medical attention and board and lodging as far as Shaokwan plus $2 a day each for incidental expenses. As many of the refugees as possible were repatriated to their ancestral villages or towns. The homeless and destitute were given work in government factories and mines, while many were absorbed in a land cultivation project. Special attention was given to students, technicians and cultural workers. Every middle school student was given $100 and every collegian $200 when he reached Kwangtung. More than 7,000 college and middle school students registered with the educational department of the Kwangtung Provincial Government by the end of June. It is planned to establish new schools for these students and to start other refugees in productive enterprises.

The provincial government has established a temporary middle school in Shaokwan for 500 students. This school can be expanded to accommodate 1,000 students. Poorer students are exempted from all expenses.

The amount of $9,500,000 spent in Yunnan was sent in five instalments. The first instalment of $1,500,000 was remitted as soon as the battle of Burma broke out when multitudes of Chinese in Burma arrived in Kunming via Lashio. The fund was placed at the disposal of the Yunnan Provincial Emergency Relief Committee under the leadership of General Lung Yun, Chairman of Yunnan, which works in close co-operation with the Kunming office of the National Relief Commission.

With the extension of hostilities from Burma to the Yunnan border, following the Chinese withdrawal from Lashio and Japanese occupation of Wanting, the number of refugees who fled from Burma and other parts of South Asia to Kunming, was increased to nearly 10,000. Thereupon the National Relief Commission remitted $2,000,000. Part of this sum was used for hiring ten trucks for the transportation of refugees from the Yunnan-Burma border to Kunming.

The safety of these refugees in Kunming in case of air raids presented a serious problem. Another $1,500,000 was given to purchase 40 trucks for the evacuation of refugees in the Yunnan capital to places of greater safety.

During his trip to Yunnan in May, Mr. Hsu Shih-ying, Acting Chairman of the National Relief Commission, discussed detailed relief plans with Governor Lung Yun. At the meeting the latter proposed the construction of a model village in the neighbourhood of Kunming for the accommodation of Overseas refugees. This project which was later put in charge of two Overseas Chinese leaders from South Asia, Messrs. Ho Pao-jen and Pai Yang-feng, called for a fourth remittance of $1,000,000 from the Commission.

When Mr. Chen Shu-jen, Chairman of the Overseas Affairs Commission and Mr. Liu Wei-chih, Minister of Kuomintang Overseas Affairs Board, left Chungking on June 2 by airplane for Kunming, they carried with them $3,500,000 more for refugee relief purposes in the Yunnan capital.

Long before these funds were actually appropriated the National Relief Commission had made arrangements for the evacuation of Chinese in Burma. These arrangements were entrusted to Mr. Tseng Yang-fu, Director-General of the Yunnan-Burma Railway, and Mr. Yung Pao-li, Chinese Consul-General at Rangoon, who were to secure necessary transportation facilities. The sum of $500,000 which had been remitted to the Chinese Consulate-General at Calcutta was forwarded to Mr. Yung for the purpose. Later a special relief station was set up at Lashio by the Commission with another $500,000 at its disposal. This station functioned until the last hour of the Chinese retreat from Lashio on April 29. It should be noted here that the appropriation of $400,000 for Batavia was also handled by the Chinese Consulate-General there.

Next to Kwangtung and Yunnan, Fukien province is an important relief centre as a large number of the South Seas Chinese have their ancestral homes in Changchow, Chuanchow and other Fukien cities.

Of the sum of $5,100,000, $5,000,000 was handled by the Fukien Provincial Emergency Relief Committee headed by General Liu Chien-hsu, Chairman of Fukien, for emergency and occupational relief of Overseas Chinese refugees. The remaining $100,000 was specifically designated for the relief of South Seas Chinese and their families at Putien.

The $4,000,000 given to Kwangsi's Emergency Relief Committee by the National Relief Commission will be used for the following purposes :—

Establishment of a Middle School for Overseas Students	$684,272
Relief and Education of Overseas Children ...	542,600
Emergency Relief	500,000
Receiving Stations	700,000
Land Reclamation	500,000
Credit Loans	300,000
Cash Guarantees for Employment Bureau ...	30,000
Other Expenses	743,128
TOTAL ...	$4,000,000

The committee has twenty receiving stations at Tsangwu, Kweiping, Tenghyun, Kweihsien, Watlam, Hingyeh, Luchwan, Liuchow, Kweilin, Kincheng-kiang, Tsingsi, Chenpien, Leiping, Shangkin, Lungtsin, Pingsiang, Ningming, Mingkiang, Szelo and Nanning. It has five refugee factories at Kweilin, Liukiang, Kweiping, Tsangwu and Nanning. Land reclamation projects are promoted at Kweilin, Lungtsin, Liukiang and Liucheng while Overseas villages have been established at Kweilin, Liukiang, Tsangwu, Kweiping and Kweilin.

Many of the Overseas refugees repatriated via Kunming have passed through Kweichow province. Caring for these refugees is in charge of an emergency relief committee which has $500,000 at its disposal.

Relief work in other provinces is conducted by the provincial branch offices of the National Relief Commission in consultation with the provincial authorities. Refugees passing through Chekiang, for instance, have been cared for by the Commission's General Station at Yungkang while those in transit through Hunan province have been helped by the General Station at Hengyang. The amount of $50,000 designated for Kiangsi, however, was sent to Mr. Chiang Ching-kuo, Commissioner for Southern Kiangsi, for the reception of Overseas Chinese and refugees from Shanghai who have passed through Kiangsi.

In Kinhwa, before its fall into Japanese hands on May 28, 1942, thousands of Chinese students and other refugees from the Shanghai area had gathered. For their relief, the National Relief Commission sent $20,000 to its General Relief Station at Kinhwa which acted in close co-ordination with the local government and civic organizations.

The joint committee in Chungking has disposed of $150,000 locally for the relief of refugees from the South Seas who have arrived here via Yunnan and other parts. The Ministry of Education, with $2,000,000 at its disposal, has been looking after students from North, East and South China as well as the South Seas whose financial resources have been affected by the outbreak of the Pacific War. Middle school students have been admitted to a special training class at Chingmukuan outside Chungking, free of tuition. After six months of supplementary training, they will be assigned to various government middle schools in Szechwan province. Collegians are being sent to various governmental institutions of higher learning.

The Secretariat of the Central Kuomintang Headquarters is using $1,200,000 to construct a big hostel for Overseas Chinese coming to Chungking. Before this hostel is ready, many of the South Seas Chinese are staying at temporary quarters maintained by the Overseas Affairs Commission out of a $50,000 fund. The Cultural Affairs Committee of the Ministry of Information gives relief to incoming cultural workers and newspapermen out of $200,000 designated for the purpose. The Wartime Personnel Readjustment and Reconstruction-Education Co-ordination Committees help the refugees by securing jobs for them. The Central Organization Board was instrumental in the evacuation of Kuomintang workers from Shanghai while the Kuomintang Overseas Affairs Commission helped Chinese Overseas in Thailand and French Indo-China in their flight to China.

Co-operating with the Chinese government are many Christian organizations. In Kinhwa, for instance, the Y. M. C. A. had provided a special hostel for student evacuees in transit, while the Kinhwa Christian Council, organized by various Christian organizations there, had done general refugee relief work. The Shaokwan office of the Canton Y. M. C. A. has inaugurated a refugee service with funds allotted by the American Advisory Committee. Services offered to actually needy people include vocational advice, recommendations for positions, educational and travelling guidance, medical attention and help in securing lodging accommodations. Financial assistance is also given to those without means of support.

The present need of the South Seas Chinese and their future position in post-war reconstruction of the South Sea Islands are the two leading motives that led to the inauguration in Chungking on May 10 of the South Seas Chinese Association. With headquarters in Chungking and branches to be established in the South Seas in the future, the association is to conduct investigation and research on all problems concerning the South Seas, to promote mutual help between the Chinese people at home and in the South Seas, to help and advise in capital investment in China by South Seas Chinese and to promote goodwill between Overseas Chinese and the South Seas natives.

The Association has Generalissimo Chiang Kai-shek as its Honorary Chairman and Dr. H. H. Kung as Honorary Vice-Chairman. Those on its Board of Directors include General Wu Te-chen, Secretary-General of the Central Kuomintang Headquarters; Mr. Hsu Shih-ying, Acting Chairman of the National Relief Commission; Mr. Chen Shu-jen, Chairman of the Overseas Affairs Commission; Mr. Liu Wei-chih, Minister of the Kuomintang Overseas Affairs Board; Mr. Chen Li-fu, Minister of Education and Dr. Chu Chia-hua, Minister of the Central Organization Board.

The million-odd South Seas Chinese who have come and are coming to China constitute a very small percentage of the total Chinese population in Southern Asia. Prior to the Pacific War there were 2,400,000 Chinese in Malaya, 2,000,000 in the Netherlands East Indies and well over 300,000 in Burma. In all, Overseas Chinese in the South Sea Islands totalled upwards of 10,000,000.

The growth of the Chinese population and industries in the South Seas has a history of more than 2,000 years, as Chinese contact with Southern Asia dates as far back as the *Chin* and *Han* Dynasties. Then 536 years ago China's first Mohammedan Admiral, Cheng Ho or San Pao, led a fleet of 63 ships (wooden junks) carrying 22,550 men on a goodwill tour to the South Sea Islands. A great number of his entourage remained and their descendants can still be found there. San Pao City and San Pao Wall of Malacca and the city of Samarang in Java were built in memory of him. Many mosques were named after him. In Borneo archeologists found ancient Chinese coins dated 600 B.C. Filipinos speak a language similar in sound to that of the Fukienese with reference to food, kitchen utensils and addresses of relatives.

It is correct to say that Japan's attacks on the South Seas were intended as much against China as against the Western powers. The losses suffered by Malayan-Chinese as a result of the war, according to

Mr. Li Pu-sheng, a Director of the Kuomintang Overseas Affairs Board, are estimated at $160,000,000. In Burma, he said many Chinese were massacred by the natives at the instigation of the Japanese Fifth Columnists who had been active throughout Burma long before the Japanese military invasion of that country. The Nipponese troops looted Chinese property and possessions. They kept a lion's share and distributed the balance as gifts among the natives. Then the latter were encouraged to kill the Chinese and help themselves to whatever they could lay their hands on.

The large-scale exodus of refugees has been full of elements of pathos. The poignant story of a Chinese Kuomintang officer in Lashio was cited. Together with his assistant, he fled from Lashio immediately prior to its fall on April 29. When they reached the Salween River Bridge between Paoshan and Lungling, they found the bridge destroyed. The bank of the river was already strewn with corpses. As the Japanese soldiers were fast approaching, they lay down amid the bodies, feigning death. Japanese soldiers came and bayoneted each of the corpses to satisfy their lust for blood. The party officer got a gash in his head while his assistant was killed.

The Herculean task of relief and rehabilitation has only begun. Land reclamation projects and industrial enterprises to absorb the South Seas Chinese will require more funds and it will take a long time before they can be put on their own feet again.

HAWTHORNE CHENG

4. CHINA'S WAR ON ECONOMIC FRONT

A Study of Chinese Government Efforts at Commodity and Price Control in Wartime

China after five years of war is facing a serious economic problem. In early June, 1942, the general price index had increased ten times in rural districts and more in large cities. This has been caused by numerous factors, including the increase in note-issue, hoarding, speculation, shortage of supplies, lack of production tools and transportation difficulties.

For off-setting the rising prices, the Chinese Government is endeavouring to regulate the demand and supply of a number of articles. The production and distribution of iron, steel, cement, cotton yarn, cotton piece-goods, oil, fuel and paper have been placed under control. Meanwhile, the Government has placed the sale of six commodities—salt, sugar, tobacco, liquor, tea and matches—on the monopoly list. For the benefit of public servicemen and their families who are among the hardest hit by the rising prices, such daily necessities as rice, coal, vegetable oil, salt and cloth are sold to them at low prices.

The Government has allocated $450,000,000 for price stabilization purposes. Part of the sum is being used for purchase and re-distribution of commodities. In addition, the Government is buying surplus rice from farmers and collecting land taxes in grain instead of in cash. Measures have also been taken to absorb surplus capital from the people and to urge thrift in their daily habits as a means to help remedy the situation.

While efforts at price control were made from time to time, no machinery of co-ordination was created until February, 1941, when an Economic Council was formed in the Executive Yuan with a secretariat and eleven sections in charge of political affairs, food, commodity, trade co-operatives, wage, transportation, finance investigation, inspection and military affairs.

It was the duty of the Council to plan and to administer price stabilization activities on a nation-wide scale, while all Government organs concerned were to be responsible in their own sphere of work.

Although functions of the Council have been absorbed by the National Mobilization Council since May 1942, this arrangement is still in force. For instance, the Ministry of Food is to control prices of food supplies; the Ministry of Economic Affairs the prices of industrial and mining products and daily necessities; the Ministry of Social Affairs labour wages; the Ministry of Communications the railway, water and animal transportation charges; and the Foreign Exchange Control Commission of the Ministry of Finance the prices of imported goods and their relations with foreign exchange. Last of all, the Joint Board of the Four Government Banks is to handle matters dealing with the price stabilization fund. Until last May, the Economic Council was the highest organization in price control, being responsible for planning, co-ordinating, directing and supervising the activities of all subordinate organs in the country. It maintained an economic police to investigate cases of hoarding and profiteering.

The Economic Council made an exhaustive study of the demand and supply of commodities, their sources of production, their price relations and other economic factors. Effective steps were taken against hoarders in principal cities. As soon as the Council learned of a rise in the prices of certain goods, in wage or freight charges, it immediately informed the Government organs concerned to take effective counter-measures. Based on reports from its field workers, the Council revised price levels as a basis for stabilization by local authorities.

As an encouragement to factories in interior China to increase their output, the Government allowed the importation of manufactured goods from coastal China and foreign countries. Before the fall of Rangoon, a certain tonnage on the Yunnan-Burma Highway was allotted for shipping in cotton cloth, metals, medicinal and educational supplies, instruments and tools. The Ministry of Economic Affairs sent representatives to key cities to expedite the inflow of essential goods to Free China. Recently the Joint Board of the Four Government Banks appropriated large sums of money to the National Co-operative Enterprises Administration of the Ministry of Social Affairs to promote consumers' co-operatives among Government employees. The Executive Yuan decreed that as from June, 1942, employees in the Central government and party organizations in Chungking are to receive low-price daily necessities. The maximum a government employee may get is for three persons, including himself. Each person may buy 60 catties (1.1023 pounds a catty) of coke or

100 catties of coal, 12 ounces of vegetable oil and a catty of salt each month in addition to two *shih chang* (10.9361 feet a *shih chang*) of cloth a year. The work of securing and distributing these articles is placed in the hands of three organizations, namely, the Commodity Administration of the Ministry of Economic Affairs, the Salt Administration of the Ministry of Finance and the National Co-operative Enterprises Administration of the Ministry of Social Affairs. The commodities will be distributed through consumers' co-operatives.

Neither the Commodity Administration nor the Salt Administration can make any profit from selling these necessities to government employees. Any loss incurred is underwritten by the Ministry of Finance. In addition, government employees are given monthly cash subsidies and rice for themselves and for their immediate dependants.

Since the inauguration of the Commodity Administration of the Ministry of Economic Affairs in May, 1942, a stricter control of commodities has been enforced. Divided into the departments of general affairs, supervision, control and finance, the administration is financed with a capital of $450,000,000 from the price stabilization fund, of which the first appropriation of $100,000,000 has been made. The organization of the new administration was motivated by two objects. They are to effect a rational supply of daily necessities and to lower commodity prices by eliminating hoarding and profiteering. Although the scope of the administration's work is nation-wide, attention at present will be centered in and around Chungking. A great part of its work is to investigate and register all daily necessities with regard to their production, distribution and consumption. This is necessary because China is poorly supplied with economic statistics.

Daily necessities thus placed under control, are not Government monopolies as in the case of iron and steel, fuel, salt, sugar and matches. The Commodity Administration, however, expects to achieve the same end. Control was to start with fuel for household purposes and clothing materials and other items.

Working directly under the Minister of Economic Affairs, the Commodity Administration represents the coalition of the Agricultural Credit Administration, the Fuel Control Administration and the Price Stabilization Bureau, all of the Ministry of Economic Affairs.

An important task of the administration is to establish storage houses in different places to keep agricultural and industrial products. This has been a good way to safeguard against any possible shortage

of commodities and to keep a constant flow of articles from the producers to the consumers.

The administration has started the control of cotton yarn and cotton cloth, which are considered by many economists as leading factors in the regulation of commodity prices. Inasmuch as hundreds of millions of dollars are involved in their hoarding and speculation, a rigid control of these two items will force down the price level.

In tackling the problem, the Commodity Administration proposes to do it in a thorough way. The production and supply of cotton are to be regulated first, to be followed by the control of cotton yarn and cotton piecegoods. Cotton production in interior China for 1942 is estimated by the administration at 2,600,000 piculs, of which 1,200,000 piculs are produced in Shensi and Honan, 300,000 piculs in the Hsiangyang-Fancheng area in northern Hupeh, 400,000 piculs in Hunan, 400,000 piculs in Szechwan, Yunnan and Kweichow and 300,000 piculs in other places. Most of these regions produce barely enough to meet local demands. Shensi and Honan alone have any surplus. In Szechwan, Kweichow and Yunnan, there is usually a deficit. The administration has instructed its affiliated organ, the Agricultural Credit Administration, to purchase and ship 300,000 piculs of cotton from Shensi and Honan to make up the deficit in Szechwan, Yunnan and Kweichow. The A.C.A. is given $25,000,000 as first instalment by the administration to purchase 100,000 piculs.

The administration will buy the entire output of cotton mills in Chungking. The latter are not allowed to sell privately their products, which must go to the Government at fixed prices: 20-count cotton yarn $6,900 a bale (400 lbs.); 16-count cotton yarn $6,400 a bale and 10-count cotton yarn $5,600 a bale. In February, March and April, 1942, the administration purchased 8,814 bales of cotton yarn, the bulk of which was handed over to the Commissariat Administration of the Ministry of War and various offices for distribution among Government employees. In the last few months the administration has sold 14,000 bolts of cheap cloth to Government employees. The remainder was sold to people in ten Szechwan cities at lower-than-market prices. Some was given to the A.C.A. to be woven into clothes in its own mills or to exchange for piecegoods.

All cotton mills in Szechwan must get their allotted quota of yarn from the A.C.A. The administration has set standards for the quality, prices and production of cotton cloth. The standards are being observed by all cotton mills in Szechwan.

Before the war, Szechwan had to import 120,000 bales of cotton yarn every year. The annual production of Szechwan cotton mills mostly removed from the sea coast is 50,000 bales at present. Due to transportation difficulties, the administration is encouraging the production of native cotton yarn in Szechwan. The latter's monthly production is 60,000 bales. More can be produced in the future through large-scale promotion work.

Another effective step to lower the price level is to intensify the investigation of industrial and business concerns as formerly done by the Ministry of Finance and Ministry of Economic Affairs and the Chungking Municipal Government. All concerns having contracted loans of over $50,000 are required to state their uses in accordance with the new regulations. The administration will make unheralded investigations to make sure that the money is not being used for hoarding and speculation. The extension of credit by Government financial institutions has been placed on a more restricted basis, partly to prevent inflation and partly to clamp down on profiteering.

In addition to the control of cotton yarn and cotton piecegoods, the Commodity Administration during last February, March and April attained encouraging results in the control of other commodities. Particular efforts were made in these three months to regulate the supply of household fuel and other articles of daily use. Meanwhile, plans have been made to control the production and consumption of vegetable oil and paper.

The Commodity Administration has assisted the coal producer in Szechwan to increase their capital and equipment. Certain standards of coal have been set. Experts were sent to the coal-producing districts to give technical aid. Coal merchants along the Chialing River and in the Nanchwan region southeast of Chungking have received $11,650,000 in loans in the three months, of which $3,777,297 has been paid back. Loans outstanding at the end of April, 1942, (including those contracted by the Fuel Control Administration before February, 1942) were $9,798,402. These loans were instrumental in increasing the monthly coal output in these two regions from 22,000 to 23,000 tons.

Formerly because of transportation difficulties much of the coal produced in these regions could not be shipped to Chungking and Chengtu, resulting in financial losses to the producers. The Commodity Administration has, therefore, extended loans on such coal stocks awaiting shipment, so as to enable production to go on as

usual. From October, 1941, to April, 1942, loans under this heading totalled $5,568,840 for the producers in the Chialing River valley and $3,069,983 for those along the Min River. Part of this was granted by the Fuel Control Administration before the inauguration of the Commodity Administration last February. Of the loans to the Chialing River coal producers, $2,835,295 was returned by the end of April.

As factories in interior China are producing most of the daily necessities used, the Administration has instructed the Price Stabilization Bureau to give them financial aid in return for the right to purchase their stocks. Contracts have been signed between the bureau and producers of cotton piecegoods, candles, shirts, towels, soap and others for the delivery of their goods for sale at regulated prices. Meanwhile, the Administration is co-operating with the anti-smuggling units of the Ministry of Finance to save cotton yarn and cloth from the war areas.

Technical and financial assistance is also being given to vegetable oil and paper producers for increasing their production and stabilizing the prices of their goods.

Government control of foodstuffs has gone a step further with the promulgation on August 4, 1941, of regulations governing food treasury notes, the issuance of which was decided upon by the Third Financial Conference held in June, 1941. The Ministry of Finance and the Ministry of Food are authorized by the National Government to use these notes to purchase foodstuffs from the landowners.

In Szechwan, in addition to the 6,000,000 piculs (660,000,000 lbs.) of rice to be collected in 1941 as land tax in lieu of cash, the Government was to buy another 6,000,000 piculs with food treasury notes. The purchase of surplus grain by the Government has proved to be an effective way to check profiteering and hoarding. The 1942 quota for land tax in kind and Government purchase of rice is set at 16,000,000 piculs.

According to the regulations, for every picul (110 lbs.) of grain purchased by the Government, the seller gets 30% in legal tender and the balance in food treasury notes. A premium is paid on wheat and corn as only 7/10 and 8/10 of a picul are required, respectively, from the producers as equivalent of one picul of rice. Payment of wheat or corn purchased by the Government is also based on the 30%-cash-70%-notes ratio.

Another important step to clamp down on profiteering is the institution of Government monopolies on articles of daily use. The salt monopoly, the first of its kind enforced in China, was started on New Year's Day, 1942. It will increase the Government salt revenue from $100,000,000 to $1,000,000,000.

Closely following upon salt, the sale of sugar became a Government monopoly in January, 1942. This started with Szechwan and Sikang, the two biggest sugar-producing regions in interior China. The total production of sugar in Szechwan last year was 60,000,000 kilograms, which, calculated at the market price of $7 a kilogram at that time, was worth $420,000,000. Thirty per cent was coarse sugar, mostly shipped to Hupeh and Shensi provinces, another thirty per cent refined sugar for local consumption, another thirty per cent for making alcohol and synthetic gasoline and the remaining ten per cent was lost in the process of sugar-making. Another important reason for making sugar a monopoly is to control its production and distribution, because the Government may find it necessary to reduce the household consumption of sugar so that more molasses can be made into liquid fuel.

Early in April, 1942, tobacco and matches were added to the monopoly list. At the end of June, 1942, only tea and liquor left to be monopolized, although their production and distribution have been more or less controlled for sometime.

Besides bringing about a rational supply and demand of these important articles, thereby preventing a steady increase in prices, the six monopolies will bring $1,530,000,000 in revenue to the Government in the first year and more in subsequent years. The authorities expect no overwhelming obstacles since these commodities, with the exception of salt, came under the sphere of the internal revenue taxation system before the war started.

The tobacco monopoly, according to the regulations promulgated by the Ministry of Finance on April 3, includes cigars, rolled tobacco and native tobacco leaves. Under the new ruling, those engaged in tobacco production, other than the Government itself, must organize themselves into guilds or co-operatives and register with the authorities. The Government agencies may extend them financial and technical aid. Certain standards of quality must be maintained, failing which the production permits may be recalled. Private producers are required to sell their stocks to the Government bureaus at wholesale prices fixed by the Ministry of Finance. The local tobacco and cigar guilds may

decide on the retail prices, with the approval of the Government monopolies bureaus.

The match monopoly has been entrusted to Mr. O. S. Lieu, a former Shanghai industrialist now running several plants in Free China, including a match factory. The Match Monopoly Company, inaugurated on May 1, started its work in Szechwan and Sikang provinces, to be extended to Kwangtung-Kwangsi and Fukien-Chekiang regions. The Match Monopoly Company expects to be self-sufficient in raw materials, which were formerly largely imported. Certain standards of quality and quota of production are fixed by the company which also decides on the wholesale and retail prices of all matches produced. According to these regulations, the producers may get a maximum of 20 per cent profit, wholesale merchants 5 per cent and retail businessmen 12 per cent.

At the top of these monopoly agencies a Monopoly Administration will be established in the Ministry of Finance for the uniform enforcement of government policies and regulations concerning the nationalization of daily necessities.

STANWAY CHENG

V. EDUCATION AND SOCIETY

1. CHINESE TEACHERS AND STUDENTS PARTICIPATING IN WAR

Japan's war of aggression has let loose a multitude of evil forces from which no phase of Chinese life can escape, least of all, China's educational institutions together with their teachers and students. School buildings and other sanctuaries of learning have been destroyed by Japanese bombs and gunfire. Chinese teachers and students have suffered hardships and privations like the rest of the people. The part they have played in armed resistance is worth recording. Even long before the Lukouchiao outrage which caused the war, as far back as September 18, 1931, they had already done everything short of fighting in resistance.

During the days preceding the war, the feeling of the students at times had risen to such heights that the educational authorities were placed in a predicament. Dr. Lo Chia-luen, former Chancellor of the National Central University, once remarked that he had found himself between the devil and the deep sea, because he knew that the Central Government was preparing for resistance while the students had been pressing for precipitate action, which would be of great disadvantage to the nation. For obvious reasons he could not tell the students what was known to him only confidentially.

Upon the commencement of the war on July 7, 1937, a considerable number of students joined the army through various channels, and especially through the Central Military Academy and training schools for air cadets. Other students have been engaged in guerilla warfare, in propaganda and social work behind the lines. Still others have refused to be discouraged by enemy bombs and shells, by privations, duress and other hardships that have ensued. The indomitable spirit of Chinese teachers and students has been best manifested during their long migrations with their schools from the coast to the interior West, Northwest and Southwest China, and during the subsequent years when in their strange surroundings they had to face more bombings and fresh difficulties, financial or otherwise, cheerfully.

The first student migration took place in August and September of 1937. It began with the students leaving the Peiping-Tientsin-Paoting area. Before the war, North China was one of the two

educational centers in the country The three cities of Peiping, Tientsin and Paoting were the homes of eight universities, eleven colleges and three technical schools—twenty-two in all. Hardly the first guns were fired at Lukouchiao than the Japanese military authorities had begun an attack on these cultural institutions and regarded them as the "hot-bed of anti-Japanism." They first struck Peiping. Following the occupation of the city in July, all but a few institutions of higher learning were forced to close down. Before the war there had been fourteen such institutions in Peiping; three months later only four remained.

The fate of Tsinghua University is typical. Founded in 1912 with the balance of the American Boxer Indemnity Fund remitted to China, the university first served as a preparatory college and sent its graduates to the United States for higher education. In 1927 it was made a national university and soon became one of the best equipped and best staffed in the country. Black-listed as one of the principal centers of anti-Japanese propaganda, the university was occupied by the Japanese on October 13, 1937, and has since been used as their barracks. Its John Hay Memorial Library, one of the best and largest in China, has been turned into a hospital for Japanese wounded soldiers and the Theodore Roosevelt Memorial Gymnasium into a stable for the Japanese army horses!

A similar fate befell National Peking University, which was established by the Chinese shortly after 1900 It was the home of the Chinese "Literary Renaissance," where Dr. Hu Shih, Chinese Ambassador to Washington, founder and promoter of that movement, used to teach. The National Peiping University, the National Normal University and others suffered the same treatment from the Japanese.

Nankai in Tientsin, the outstanding private supported university in China, founded and headed by the noted educator, Dr. Chang Po-ling, was the first victim, its buildings being deliberately destroyed in August, 1937, by means of artillery, bombs and fire. Two pretexts were given by the Japanese for this ruthless action. First, it had been a center of anti-Japanese agitation. Second, it had been used as a Chinese military training center. The Peiyang Engineering College in Tientsin was forced to close down in similar circumstances. Meantime, Paoting's two colleges had to be suspended for the same reasons.

Both the school authorities and the students defied Japan's military might, and launched the first migration from the Peiping-Tientsin-Paoting area into the interior. The story of the difficulties encountered by the students and the undaunted courage which they have shown in meeting trials was an epic which will go down in history. To the students, these odysseys were in themselves nothing but an "education through tourism."

Tsinghua, National Peking and Nankai all travelled 800 crow-miles to Changsha in Hunan where they jointly operated a union university. As Changsha came within the range of Japan's air arm which made its first raid on April 10, 1938, when forty to fifty bombs were dropped on Hunan University, it became necessary for the union university to make another move, a further 600—700 miles travel to Kunming, Yunnan, where it has since been known as the National Southwest Associated University. In both cases the actual distances the teachers and the students had travelled were two or three times longer than the straight lines. Mere mileage, however, gives but an inadequate idea of the stupendity of these undertakings and of the immense difficulties encountered. The trip from Peiping to Changsha by rail was a difficult one; but the move thence to Kunming consisted of a hazardous bus trip across mountainous provinces and more primitive mode of travelling—some 1,300 miles.

National Peiping and National Normal Universities in Peiping and Peiyang Engineering College in Tientsin moved some 550 miles and established another union university at Sian in Shensi. Because of the repeated bombings of Sian by the Japanese, they then went on to Nanchang and finally to Hanchung and Chengku, southern Shensi cities by the Han River where they have since operated under the name of the National Northwest Union University (now National Northwestern University). Most of the students travelled more than 1,000 miles, and hardships and daring marked the bodily transfer of the institution. For 12 days, over rocky mountain passes, the entire student body, including more than 200 girls, made its way on foot for 255 kilometers from Paochi, western terminus of the Lunghai Railway, to Hanchung. In spite of the difficulties, thousands of students, hundreds of teachers and their families and large quantities of equipment and supplies were transported by various means to their new homes.

The second student migration followed the fall of Shanghai, Soochow, Nanking and Hangchow in November and December, 1937.

Within a short time of the outbreak of hostilities in Shanghai on August 13, 1937, fourteen of the educational institutions there had been subjected to artillery and air attacks. Among the Chinese-owned universities, at least four, Tungchi, Fuhtan, Tahsia and Kwanghua were practically levelled to the ground. Among the Christian institutions, the University of Shanghai had its buildings occupied by the Japanese soldiers and St. John's University was forced to abandon its campus even though it was within the British defence sector. Other East China institutions of higher learning affected included Soochow University in Soochow and Hangchow Christian College in Hangchow. Most of them were able to take advantage of the relative safety of the International Settlement and French Concession of Shanghai into which they were shifted. The University of Shanghai, St. John's, Soochow and Hangchow shared rented quarters in the heart of the International Settlement.

The National Central University in Nanking suffered the worst, being the object of several Japanese air raids in the fall of 1937. The first bombing took place on August 15, when the school library and the Experimental School were damaged by bomb and machine-gun strafing. This was followed by another raid on the afternoon of August 19, when seven 550-pounder bombs were dropped. Seven servants were killed, while eight school buildings were destroyed. These included the auditorium which was damaged and the Dental School which was burnt. The girls' dormitory was demolished. The destruction of the Experimental School was completed by the third visit of Japanese air raiders on August 26, while a fourth raid on September 25, reduced the buildings of the School of Arts to ruins.

The death and destruction wrought by these bombings would have been much heavier, had it not been for the far-sightedness of Chancellor Lo Chia-luen and the calmness and the presence of mind with which the students faced the ordeal. Forewarned by the August 15 raid, the chancellor on the morning of August 17 instructed the boys to move to the basement of their dormitory and the girls either to go back to their homes or move to the College of Agriculture at San Pailou. So when the upper part of the men's dormitory was damaged on August 19, the boys in the basement escaped unscathed while the girls' dormitory which was levelled to the ground was not occupied at the time of air attacks. Before the School of Arts was demolished on September 25, the main administration offices had been removed to the College of Agriculture at San Pailou.

The school had started packing long before bombings. As early as July 20, when Chancellor Lo returned to Nanking from Lushan (Kuling), he sent for 550 wooden boxes made the previous year. All valuable books in the library and laboratory equipment were put into these boxes. The Dental College was destroyed on August 19, but 28 boxes of dental apparatus and equipment had already been removed to Hsiakwan.

Meanwhile, Professor Ma Hsi-fan, dean of the College of Law, and Professor Wu Kan-hsien, head of the economics department, were sent to Chungking to find a site and make preparations for the removal of the university thither, while Professor Tsai Chiao of the Medical College went to Chengtu to seek from the West China Union University permission to establish on its campus the Medical College of the Central University.

Professors Ma and Wu, with the help of the educational authorities, succeeded in finding a proper site at Shapingpa outside Chungking, but construction of the new school buildings was not commenced until after September 23, when the proposal for the removal of the university to Chungking was approved by the Ministry of Education. The construction forged ahead at such a speed with a total of more than 1,700 workers busy in day and night shifts that within 42 days 24 structures, capable of accommodating more than 1,000 students, were completed. The National Central University, its students and faculty left Nanking early in October, and after a 1,200-mile trip up the Yangtze River reached its new site in early November. Classroom work was resumed shortly afterwards. Its College of Medicine and Dentistry also arrived in Chengtu and resumed work on the campus of the West China Union University.

The College of Medicine and Dentistry of the Central University was subsequently joined by the University of Nanking and Ginling College for Women which started their trek westward early in December. These institutions, together with Cheeloo University from Tsinan, Shantung, joined the West China Union University to become the Associated Universities in Chengtu. Other schools involved in this second mass migration westward included Fuhtan and Kwanghua from Shanghai. The former was removed to Peipei near Chungking and the latter to Chengtu.

The fall of Canton, Wuchang and Hankow in October, 1938, caused the third migration. Long before the withdrawal of the Chinese

forces from the Wuchang-Hankow area, but not before it had been an object of Japanese bombs, National Wuhan University, one of the most beautifully and sumptuously housed of all Chinese universities, moved from Wuchang to Kiating, near Mount Omei, in Szechwan. In spite of bombings at Shasi and Wanhsien *en route* in which some equipment was lost, 500 students and 40 faculty members reached their destination on April 28, 1938, with all the library and most of the scientific equipment. At Kiating, the students, used to palatial buildings, luxuries and comforts had to adjust themselves to life in temples, barracks, city gates and other rented quarters.

Among all mission institutions, Huachung College made perhaps the longest trek from its home in Wuchang to its present site not far from the Burma border. The college left Wuchang on July 11, 1938, and established itself at Kweilin in Kwangsi, its Library School going direct to Chungking. Students and faculty members spent 43 days travelling overland by train, by truck and on foot. Raids soon became too severe in Kweilin, and early in 1939, the first group left for Yunnan. Finally, in the late spring, Huachung re-established itself in a little town near Talifu, Yunnan.

The landing of the Japanese forces at Bias Bay on October 12, 1938, precipitated the longest and most trying odyssey undertaken by 1,300 students and a large teaching staff of the National Sun Yat-sen University, the citadel of high learning in South China since 1924. The trek over nearly 2,000 miles first to Loting in southwestern Kwangtung, then to Lungchow in southern Kwangsi and eventually to Chengkiang in Yunnan was fraught with difficulties that would discourage the bravest.

When Waichow, the main key to Canton, fell on October 14, the immediate removal of the university to Loting was decided upon. All books in the university library and valuable laboratory apparatus were hurriedly packed in some 470 cases. Numerous staff members were assigned to supervise the moving first to a place on the outskirts of the city. The major difficulty was to find needed means of transportation. There were no motor vehicles available. Then on the river all ships had stopped sailing. As a final resort, the few trucks belonging to the school factory, experimental farms, the sericulture improvement station and the machine repair shop were pressed into service. There were too few of them, while the distance to the first base was too great. Consequently, a number of things, including heavy instruments, had to be abandoned.

When the Japanese airplanes came in groups to Canton on October 21, flew low and machine-gunned the streets, and when the city was in flames with huge columns of smoke shooting skyward, the 470 boxes rescued from the campus had already been aboard a fleet of junks ready to move westward. The steam tug-boat previously arranged to stand by had mysteriously disappeared. Thanks to the cool-headedness of those in charge, the boatmen were urged to sail and they did. For one day and one night, they laboured hard on their bamboo poles and oars before Lailiu in Shunteh district was reached. There the party stopped for a breathing spell. Those in charge put their heads together for a consultation. The result was the lease of two steam-boats at an extremely high price to relay the cargo on to Loting. Enemy planes, however, followed. They attacked whatever targets they could spot on the river. Hence for safety's sake, the two ships could sail only at night time, and this delayed arrival at Loting until the 30th.

Loting is a prosperous city in southwestern Kwangtung, often referred to as "Miniature Canton." Japanese troops were already pushing up along the West River and the danger of aerial bombing made it necessary for the institution to move further on to Lungchow in Kwangsi. Preparations were completed by the end of November when cases containing books and instruments were despatched by three groups of small boats to Nankiangkow under the escort of responsible staff members. There the cargo was put aboard larger junks which were pulled up-river in four groups by steam tug-boats.

When the news spread that the university was moving up to the West River, hundreds of students who had their homes in various parts of Kwangtung and Kwangsi joined the main party by boarding the junks at Wuchow. *En route* to Nanning, much time was lost because of engine trouble in one of the steamships. Thus, from Nanning onward, one batch of junks had to sail up-river without any tug-boat. This necessarily cut down the progress considerably, and by the time the last group of junks arrived at Lungchow, it was already January 18, 1939.

Even while *en route* from Kwangtung to Kwangsi, the school authorities had decided further to move from Lungchow to Chengkiang in Yunnan. At Lungchow a few trucks were hired to transport the cargo, which had then increased to 1,000 pieces weighing more than 80 tons. They safely arrived at Kunming by following the highway to the Yunnan capital. In Kunming arrangements were made for

trucks to forward everything to Chengkiang. But the highway ended several miles from the chosen spot, so that scores of donkeys, horses and even oxen had to be engaged to complete the last leg of the long journey.

The students came to Yunnan principally by three routes. About 300 of them came by way of Kwangsi. The second group of 800 boarded ships at Hongkong and from Haiphong they took trains. The third party consisted of 200 out of the 300 students under military training at Lienhsien north of Canton. Under the command of their instructor, they took a different route. They marched through Hunan and Kwangsi provinces. Still 100 others remained in Shaokwan, a railway town in northern Kwangtung, where they had been assigned to various wartime duties by the Provincial Government. Besides, small groups of students trickled in from all directions.

The city of Chengkiang lies 150 miles southwest of Kunming, with gorgeous scenery of lofty peaks and pine forests and almost a perennial spring climate. There the National Sun Yat-sen University remained until the fall of 1940. Preparations for its return to Kwangtung were started as early as July, 1940. A place close to Shaokwan, the provincial government seat since the fall of Canton, was chosen for the university while a few of its colleges were to operate at Nanhsiung, close to the Kiangsi border. A majority of the student body and faculty members travelled by two routes, some by way of French Indo-China and Hongkong, others *via* Kweiyang and Hengyang in northern Hunan, then by train on the mid-section of the Canton-Hankow Railway. Former students of the university who remained in Hongkong after the fall of Canton, were asked to rejoin the university when classes began around November 15, 1940.

The mass migration with its attendant trials and tribulations involved many other institutions which moved at one time or another. To the vicinity of Chungking came also Chunghwa College and the Wuchang School of Fine Arts from Wuchang as well as the Central Political Institute and the National School of Pharmacy from Nanking. Chungcheng Medical School, established in Nanchang by the Generalissimo shortly before the outbreak of war, and the National School of Fine Arts (combining Schools of Fine Arts from Peiping and Hangchow) have both settled in or near Kunming. Tungchi University in Shanghai whose students covered 3,000 miles from the coast to Kunming had to move later in October, 1940, from the Yunnan capital to a western Szechwan city. In Kweiyang have settled Tahsia

University (Shanghai), and Hsiangya (Yale-in-China) Medical College (Changsha, Hunan). Hongkong University in Hongkong became the host to Lingnan University, a mission institution forced to leave Canton even before the Japanese arrived, and part of Canton University also fled to Hongkong. Chaoyang College of Peiping ended a series of moves in Chengtu, while the National Szechwan University, fearful of intensified Japanese air raids on Szechwan cities in 1939, moved to Omei, a small city one hundred miles from Chengtu and at the foot of the famous Mount Omei.

When the beautiful city of Hangchow by the side of the West Lake fell into enemy hands on December 24, 1937, the National Chekiang University had already moved to Chienteh on the upper reaches of the Chientang River, nine-tenths of the books and laboratory apparatus having been laboriously transported, batch by batch, in 2,000 cases. In February, 1938, it moved again to Taiho in central Kiangsi. It remained there for eight months until August, when it was decided to make another move, this time to Yishan in central Kwangsi. Large numbers of the students covered the distance to Yishan almost entirely on foot. It was a weary journey, but not lacking in interest as the route traverses a beautiful country. They followed the highway to Hengyang where they boarded trains to Kweilin. From Kweilin they walked again until they reached Yishan, a large rural town on the highway to Kweiyang and Chungking.

Overlapping all the three migrations is the odyssey of Oberlin in Shansi. The epic trek covering over a thousand miles of the most difficult terrain under the constant menace of enemy aerial bombs began in the early days of the war and ended in April, 1939. When the original home of the school in Taiku fell into the hands of the Japanese early in November, 1937, Oberlin in Shansi decided to take to the road to seek freedom and safety for its work.

The first leg of the journey was a long walk from Taiku to Yuncheng in southern Shansi. It was on this march that they suffered their first casualties—they were caught by Japanese airplanes while they were on the road and were forced to scatter to the fields for shelter. As they lay crouched amid the trees and crops a bomb dropped squarely among them killing the school's trumpeter and another student and wounding yet a third.

In Yuncheng they stayed for two months, after which again they had to flee on foot. Southward to Shenhsien in Honan province they

hiked; there they rested for two months before setting out on the next stage of their wanderings. Their next stop was in Sian, capital of Shensi province, where they were able to settle down to academic life for ten months. Japanese bombings of the Shensi capital, however, soon increased in frequency and ferocity and again it became necessary for China's Oberlin to take to the road. This time it moved to Mienhsien in southwest Shensi—the first half of this leg being done by rail and the second on foot.

It was from Mienhsien that the students set out on the last stage of their journey. The two hundred remaining students—among whom were thirty girls—started from Mienhsien in the spring of 1939. Hardened by the experiences gained in a year on the road, the students covered this last 400-mile stretch in 23 days. The journey was divided into five sections and at the end of each section the students rested a full day. Mountains, rivers, ditches, wildernesses and all the attendant hardships of the long cross-country hike held no terror for those tough sons of new China.

Aside from the dangers and hardships of travel, the war has meant for China's young Oberliners a change from commodious buildings to primitive cottages and temples. Probably no other high school in all China had finer buildings and better equipment than China's Oberlin whose campus at Taiku measured 60 acres and whose buildings were valued at $1,000,000. In Yuncheng, their classroom work was conducted in a Confucian temple. In Shenhsien they had old-fashioned, low Chinese cottages as classrooms. In Mienhsien, they occupied all the temples in the city. In their new home 30 miles from Chengtu, the students have 300 houses in three big compounds as their school premises.

Oberlin in Shansi was founded in 1907 by Dr. H. H. Kung, Vice-President of the Executive Yuan and concurrently Minister of Finance, immediately upon his return to China from Oberlin College in America where he studied. The funds of the school at first consisted chiefly of contributions from Oberlin in America, but later funds were granted by the British Indemnity Funds and the Rockefeller Foundation.

The dislocation of the customary centers of higher education naturally had a profound effect on thousands of students. For many of them, the flight of institutions meant the loss of educational opportunities. Unable for one reason or another to follow their *alma maters* into exile, they have been left stranded. It was estimated that more than one-third of the former teachers and students of Chinese-owned institutions remained in Peiping after the outbreak of hostilities.

For those who followed their institutions during the migrations, many were able to go only part of the way due to financial or other difficulties.

The Ministry of Education early recognized the fact that students might not always find it feasible to remain with their own institutions and devised a plan under which such students might stay as "guests" in other institutions, but finally graduate from the ones in which they originally matriculated. By July, 1938, some two thousand students had taken advantage of this plan.

Despite such arrangements education became unavailable to thousands. Most of the students in Peiping who were deprived of their educational opportunities, for instance, either went into hiding or joined the guerillas, some bands of which are being led by former Peiping professors. Well-known professors from such institutions as Northeastern, Peiping Normal, Yenching and the College of Law and Commerce in Tientsin have been active leaders of guerilla groups in the provinces of Hopei, Chahar, Shantung and Shansi; and more than one has already given his life in this way. Professor Wen Chien-kung, who helped organize the populace in Shansi, was killed in a raid in December, 1938; Professor Yuan Mo-han, organizer of guerillas on the Chahar-Shansi border who was especially adept at winning over Chinese and Mongol troops, was captured in the same month. Professors Chang Yu-kwang and Chen Yen-ming, who trained political workers in Shantung, were both reported missing in November, 1938. Professor Yang Siu-ling, "grandfather" of the Taihang Mountain Guerillas, continues to lead a band on the Hopei-Chahar border.

Then there were those students who banded together as propaganda corps, trying to arouse the patriotism of the soldiers behind the firing lines and people in the rear through stage performances or through mass singing. There have been stories of boys "discarding the pen and merrily joining the army," as the Chinese saying goes, of girls taking French leave of their homes and parents and doing first-aid work among wounded soldiers.

Only a few examples need be given for illustration. Long before the fall of Canton, 320 university men and women and 30 overseas youths organized the Canton Students Medical Corps under the leadership of some Canton doctors. During the prolonged summer aerial bombings of Canton, a number of their members died on service. During the early stages of the Japanese drive on Canton, they were with the Chinese army at Tsengshing, 30 miles to the east of Canton.

They left on the Double Tenth to rejoin the main Chinese army somewhere northwest of the city. Through the previous night and until the very last moment of their safe retreat, the students had calmly gone on with their job of dressing wounds.

When they reached Chuchung, a village ten kilometers away, the Japanese vanguards were approaching. The students were preparing to run for cover into the fields when they saw a bunch of artillerymen trying to haul two 7.5 field pieces to safety. The Japanese advance must be halted to save the guns and Lieut. Liang Kuo-chuan, 26-year-old graduate of the Canton Branch School of the Central Military Academy and leader of the medical group, ordered the students to turn back and help cover the withdrawal of the 7.5's.

Joining the handful of regulars, the students, who had picked up two machine-guns and a few rifles during their flight from Tsengshing, engaged the advancing enemy. After an hour's hard fighting, fifty of them were killed, including Lieut. Liang and Mr. Huang Ching-lung, leader of an overseas Chinese medical unit which had joined the students' corps for frontline service. The enemy advance guards were beaten back, leaving thirty dead, and the guns were saved.

The Kwangsi Student Army, trained early in 1938 for war service, had a force of 3,700. Three hundred of them were girls, each of whom was dressed in khaki uniform, wore a steel helmet, carried two hand-grenades and led a military life. Each of the boys carried a rifle and ammunition besides the grenades.

The girls' unit of the Student Army marched south of Pingyang when fighting was proceeding in the vicinity of Nanning. It helped evacuate the people, and when the order for complete withdrawal was given, it remained to incite people to destroy the roads. By 6 p.m., December 4, 1938, the last military truck passed through Pingyang in a large-scale evacuation. A tense atmosphere prevailed. It was difficult for the people to concentrate on the work of destroying roads and they had worked more or less reluctantly.

Seizing spades from some people, the girl students, like their boy colleagues, proceeded to dig up the road-bed, setting an example for the people to follow. To offset the tension, the girls began to sing war songs. By torchlight, some of the people were observed listening to the song, completely forgetting their work. They had to be reminded of the important task before them and told to listen and work simultaneously.

For students who have continued their academic career in Free China, life on the campus has been none-too-rosy. They have to use double-decked beds in crowded rooms. Mud-bricks are piled up to serve as desks and dinner tables. Matsheds are put up as temporary lecture halls. Oil lamps are generally used for night study. The high price of rice in particular and of all commodities in general has had a most serious effect on student life. After encountering all hardships on the way, they face the question of securing money for tuition, for books, for food and for shelter. This is almost beyond the reach of the average refugee student. In many cases his house has been destroyed, his family killed or scattered and the money earmarked for his education gone.

The Government has assumed a major share of responsibility for student relief through the Ministry of Education. The Ministry gives financial assistance in the form of loans to students from war zones of all government institutions and also to a large number of such students in the private institutions upon the application of the school authorities. By April, 1942, the monthly amount of these loans extended by the Ministry had been increased from $6,000,000 to $12,000,000.

Student relief has also been undertaken by the National Student Relief Committee organized at the beginning of the war by the National Committees of the Y.M.C.A. and Y.W.C.A. This Committee has received its funds from the Far Eastern Student Service Fund in New York, the International Student Service in Geneva, Switzerland, the American Advisory Committee, the National Relief Commission, the Canadian Far Eastern Service, and from generous gifts sent directly by friends in China and abroad. Up to June 1, 1940, the Committee supplied aid to 8,459 students to the amount of $274,545.90.

Despite all these aids for food and living allowances, students have often to attend classes with half-filled stomachs. Meat is as rare as hen's teeth on the dinner tables, and they have most of the time to content themselves with a vegetarian diet consisting of salted cabbage and soy-bean sauce. The practice of ancient poor scholars of studying under the sun or the moon has been revived in modern China as even an oil lamp is too expensive. " Lights out by 8 p.m." is the ruling of an " oil thrift " movement recently enforced by the various schools at Shapingpa and Peipei, near Chungking.

As time went on, few educational institutions, no matter how far removed from the center of war, could be safe beyond the reach of Japan's ever-extending air arm. In June, 1939, the campus of West China Union University in Chengtu was bombed; in August, Wuhan National University suffered in the bombing of a small West Szechwan city to which it had fled. The National Central University at Shapingpa was bombed thrice in the summer of 1940; on July 27 and 29 and July 4.

The National Southwest Associated University in Kunming was most severely bombed on August 14, 1941, resulting in the destruction of the institution's biology laboratory, book shelves of the library, and a number of classrooms. In the same raid the university's normal college, dormitory for women students, dormitory for faculty members, general administration office and the office of the executives were all badly damaged, most of them being rendered uninhabitable. How the students took it was best described in a notice issued by the student self-government, containing the following words: "Such premeditated barbarous act of destroying our cultural institutions by the enemy is most detestable. But enemy raiders can only destroy our material things, not our spirit. Such an act only serves to intensify our bitter hatred, and not in the least affects our determined war of resistance."

To most of the students, Japanese airplanes are not half so dreadful as the mosquitoes. When the planes come, they just seek cover in the dugout and continue to study under the flickering oil lamps as if nothing had happened. But against the mosquitoes which constantly appear in more formidable numbers during the summer months, many of them are quite defenceless as they cannot afford to provide themselves with mosquito nets at their present prohibitive prices.

Indicative of the ingenuity with which the students overcome their difficulties is the movement to engage in farming along with their studies. This was first started by the Central Political Institute which has much space on its premises at the Southern Hot Springs near Chungking for growing vegetables. The thrift movement is sometimes so far-fetched as in the case of the Branch School at Posi of the National Central University that the physical director there, to save clothes and uniforms, made it a ruling for students to appear in physical exercises clad only in shorts. This ruling, of course, does not apply to the co-eds.

Aside from hardening their hearts and toughening their physique, the war has yet another beneficial effect on the students. Brought together from every corner of the country, they have achieved through this human contact, which would have been impossible except for the war, a conquest of provincialism. Boys from the farthest east and north have come to meet the girls of the farthest west and south. This intermingling will no doubt lead to intermarriages which know no differences in locality, in sect or in religion.

There has already developed a tendency among many of the institutions of removing the mysticism with which sexual education has been allowed to be viewed by young collegians. As a first step, a course on marriage has been added to the curriculum of the Associated Universities in Chengtu. Due consideration, however, has been given to the age of the students and the maturity of their minds to qualify them for this course. The regulations provide that only men and women juniors or seniors are allowed to take it. The students who have chosen the course are required each time before attending class to apply at the dean's office for a special certificate to be issued upon the presentation of their record books. This ruling is intended to prevent unqualified students, freshmen and sophomores, from sneaking into the class.

Authorities of the Kweiyang Medical School at Kweiyang have taken the matter of " boy-and-girl relationship " so seriously that they have recently set up a sort of registration office for prospective husbands and wives. All girls desirous of seeking boy friends or *vice versa* may register. The standing joke among the co-eds on the campus is " Have you registered ? "

Now let the students speak for themselves as to how they have faced the war and its hardships. Excerpts from the three best essays which won prizes in an essay contest, conducted in 1940 by the Committee for the Administration of International Student Relief Funds in China with headquarters in Chungking, may best serve the purpose.

Miss Nancy H. Chang, a junior at West China Union University in Chengtu, writes after relating her experiences on a long journey from Shanghai to Chengtu : " It is nearly three years now since that day of my first arrival and during this time I have seen and learned much. Chengtu has been undergoing a gradual change. People poured into it from all over China as into a haven of rest and safety. At the present, in one of the men's dormitories of our university, every province of our country is represented. The high spirit of the people has not been

daunted by bombings, but the more the Japanese destroy, the higher the feeling will be against them.

"On holidays or certain anniversaries we students often went about the streets, talking to the people and telling them of our country's need of the help and co-operation of every one of them. I found that returning from this kind of work I loved my country and people more, for I felt nearer and closer to them than I ever did before. What can be more thrilling than to feel that you have done a little in the service of your country!

"Days pass quickly now and still we are struggling onward; each with his own work and problems. The students fighting against educational and economical difficulties; the farmers fighting for their crops and the poor fighting for a living; but we are not discouraged. We still have the hopes and beliefs with which we began this war and we will continue to hang on to them until the bitter end."

Mr. Kuo-sin Chang, a junior at the National Southwest Associated University in Kunming, writes: "Between the ancient battered city wall of Kunming and the mighty range of mountains which runs a complete circle around the plateau, enveloping within its fold the picturesque Kunming Lake, is a cluster of small rectangular mud houses, some with thatched roofs and others covered with corrugated iron, presenting the appearance of army barracks. This cluster of mud houses is the new campus of one of the highest seats of learning in Free China —the National Southwest Associated University.

"Our dormitories are all matsheds, except the girls' dormitories which are in the South Hall. Our matsheds will certainly be swept off the ground if we were to have anything that is the least bit similar to the typhoons in the South China Seas. We are housed like an army. Our beds are like bunks in a ship, one above the other. The floors of our dormitories are neither cemented nor covered with timber planks, just bare ground! They would not be considered sanitary for cow-sheds in America! But, perhaps, the worst point about our dormitories is the diabolical congestion. In a single big room are housed forty students, really packed like sardines!

"Now let's come to what we eat. Our daily food is of very low caloric value. It is 99.9 per cent vegetarian, because the price of meat in Kunming is prohibitive. For a table of eight students only four small bowls of vegetables are provided, and the vegetables are always finished up long before the students get fairly started. It is quite

evident that the students are subsisting on a semi-starvation basis. Of course, the students can improve their diet, but that entails extra expenses which are beyond their ability to pay. So, the fundamental trouble is their poor financial position, and the poverty of students in this university is very well-known !

" But I must mention in this connection that there is a portion of our fellow-students who belong to well-to-do families or who were born with silver spoons in their mouths. Our co-eds especially are very well off financially. This can be taken as the manifestation of the custom which is still in vogue in our Chinese society, to-day only rich families send their daughters to college.

" In spite of the physical hardships and material insufficiency, our venerable university is still going strong, undaunted and undeterred. We are all proud to be her students, though to be her students means to suffer. We care not if life is but an ordeal to us. We may not have the opportunity to enjoy, but we can and do study and carry on with our pursuit of knowledge, and in the long run it is only knowledge that counts. We are determined to preserve our ' study ' spirit under all circumstances, just as our comrades at the front are determined to keep up their fighting morale. We will not allow ourselves to be daunted in the slightest degree by the possibility that one day our small cluster of mud houses with all our worldly possessions in them may be razed to the ground by Japanese bombs."

Mr. Chopin Hsia, a senior at the National Northwestern University in Chengku, writes : " Chengku is a city isolated from the outside world. Poor communication facilities give rise to some unthinkable difficulties. Equipment is accordingly unworthy of mention. In the library, there is such a small collection of books as not to meet even the requirements of a junior middle school. Students of the college of sciences can do nothing but read their textbooks. Experiment and practical work are entirely impossible. Most indispensable chemicals and apparatus are scarcely available here. Sometimes even the textbooks are wanting. Lecture sheets, mimeographed or typewritten, are used instead.

" Among the students, foreign dress and leather shoes are rarely seen now. Most of them wear the patched Chinese long gowns or threadbare cloth uniforms. On their feet, there is nothing but a pair of sandals. Stockings are not worn even in winter. However, they are well contented as they feel that they are suffering like others for their fatherland.

"Despite all these adversities and the pitiable plight in which the students are suffering, they never let their hearts sink into despair. With the conviction that the final triumph will be ours, every student here seeks in every way possible to do something for the country."

The aggressive war of the Japanese militarists, insatiable in their lust for territorial gains, is a vicious circle. As they extended their treacherous military tactics from Lukouchiao to Pearl Harbour on December 8, 1941, the drama of Chinese students moving and fleeing inland from coastal China in the north, east and south was being re-enacted.

The Peking Union Medical College and Yenching University in Peiping, Soochow University, the University of Shanghai and Hangchow Christian College in Shanghai and Lingnan and other universities in Hongkong were all forced to suspend, and a vast number of the students of these institutions are still on the road to Free China. Plans are afoot to establish a union university somewhere in Fukien province to absorb the students of the Christian institutions in Shanghai. Preparations have also started to remove the Christian middle schools in the Shanghai area to southern Kiangsi. Yenching and Lingnan universities are planning to start anew in the interior.

This is indeed a most trying period in the life of the Chinese students, but they well remember the saying of Mencius:

> "Therefore when Heaven intends to call a man to a great mission, He always first hardens his ambition, belabors his muscles and bones, starves his body, denies him the necessities of life and frustrates what he sets out to do so that his ambition may be kindled and his character be strengthened and he may learn to do what he could not do before." Thus, feeling called to a great future mission, the mission of postwar reconstruction, China's students face and endure their present hardships cheerfully and courageously!

HAWTHORNE CHENG

2. MANUAL EDUCATION IN CHINA

A war is often decided as much on the battlefield as in factories. Just as good troops are needed at the front, an army of technical personnel is necessary in the rear. China to-day is doing her best to expand such an army to run an increasing number of industrial plants from which armaments go to equip her valiant soldiers.

The present emphasis on manual education in China has been a national development, accelerated by military needs. While the Government, on its part, has given all encouragement and facilities towards that goal, there has been a great spontaneous desire on the part of students to shift their studies to the more practical side. If a poll should be taken among Chinese students to-day, a great majority of them would certainly vote for work-in-a-machine-shop rather than study-in-the-classroom. The slogan is: "Turn every school into a factory and every student into a labourer."

Statistical figures recently released by the Ministry of Education serve as eloquent proof. In 1941, 11,226 collegians took engineering courses, whereas there were 5,768 engineering students in 1937. Those who studied agriculture and forestry in 1941 numbered 3,675, whereas there were 1,802 in 1937. In 1941, 1,801 collegians majoring in engineering were graduated, whereas there were only 969 in 1937. There were 282 graduates from colleges of agriculture and forestry in 1937 and 604 in 1941.

Equipped with down-to-earth knowledge and skill, students have sure tools to work with. Upon graduation, they step from their schools to ready jobs in all practical fields. According to a survey conducted by the Ministry of Education in 1940, practically all the 1,208 engineering students graduated that year from Government universities and colleges were employed. Some 70 per cent of the entire group found vacancies in the Ministry of Communications and the Ministry of Economic Affairs as the two ministries absorbed no less than 866 of the new graduates. The remaining 30 per cent found jobs in the Ministry of War, the Board of Military Training, the National Aeronautical Affairs Commission, the National Water Conservancy Commission or the provincial governments of Yunnan, Kweichow, Hunan, Fukien and Anhwei.

Manual education has existed in China from time immemorial. In ancient China, this form of training was even developed to technical heights. Besides the inventions of the compass, gun-powder, paper-making and printing which were mentioned in Mr. Eugene O'Neill's play, "Marco's Millions," ancient Chinese technicians had to their credit many achievements in engineering and architecture. Legendary Emperor Yu of the second millennium B.C. is called China's outstanding hydraulic engineer. In fact, he is said to have won the throne by his success in putting a disastrous flood under control through hydraulic engineering. June 6, his legendary birthday, has been made Chinese Engineers' Day. Then there are the Great Wall, the Grand Canal and the 2,000-year-old irrigation system at Kwanhsien, near Chengtu, capital of Szechwan, which modern engineers all over the world admire.

The training in manual skill in olden days, however, was not given in schools. The father taught his sons on the farm or in his workshop and the mother coached her daughters in sewing and stitching at home. Then there is the time-honoured system of apprenticeship which has survived through the centuries up to the present day. Parents who cannot afford to send their sons to a school send them to a shop to pick up a trade. The period of apprenticeship usually takes three years at the minimum, during which the lads receive no pay. The "teacher" gets plenty of service which the "pupils" gladly give in lieu of their "tuition". They spend a major share of their time doing chores in the shop or in the household and receive actual coaching only in between these side-jobs. Upon the expiration of the three-year term, they are to continue to work, with nominal pay, for their "teachers" for at least another three years before they can go elsewhere. Thus, after six to ten years in the groove of learning one craft or another, a great number of young apprentices become experts.

Out of this age-long system, backward as it seems, has risen multitudes of China's handicraft industries which are playing a role of no small importance in her present resistance and reconstruction. Chinese porcelain and pottery, silk weaving and spinning, bamboo and rattan works and the making of tin and brass utensils rival the world's best products in workmanship.

For illustration, the century-old art of making silver things in Chengtu may be cited. There are about a hundred silver stores with workshops in which 2,000 silversmiths are busy. Silver ornaments and utensils for decoration or practical use of the fanciest and most beautiful patterns are manufactured. They include rings, bracelets,

necklaces, breastpins, teapots, cups, spoons, forks, chopsticks, strainers, trays, chains, vases, shields, pagodas and small ornaments of all description. Many of the workshops have a history of more than 100 years. Mr. Liu Li-shen's shop, for one, was founded long before there was any modern bank in the Szechwan capital. A man of forty, Liu is the third generation to run the store and workshop. Among his working force of 40 men are two 60-year-olds who joined the shop as apprentices when they were boys of 10 or 11. His oldest employee died in 1939 at the age of 74. In view of the intricacy of the craft, five years are required for apprenticeship instead of three.

It was not until 1867, the sixth year of the reign of Emperor Tung Chih of the Manchu Dynasty, that the first technical school came into existence in Foochow. The school was for the training of navigation pilots under the management of the Foochow Navigation Bureau. This was followed by the founding of two tele-communication schools, one at Tientsin in 1879 and the other at Shanghai in 1882. Meantime, the Peiyang Military Academy in Peking (Peiping) and the Kiangnan Army College in Shanghai opened special classes on railway engineering.

China's first school of sericulture made its debut in Kaoan, Kiangsi province, in 1896. Hangchow, by the side of beautiful West Lake, followed suit the following year by establishing a sericultural institute. The honour of a pioneer in the promotion of agricultural education went to Shansi in 1902, when the first school of agriculture and forestry was established in that province.

A milestone of further progress in technical education was marked after the adoption by the Manchu regime, during its declining years, of a programme of educational reform. Under the regulations governing the establishment of schools on a modern basis, technical education was given a distinct place. Vocational schools were divided into three grades known as higher, middle and primary industrial schools. All students above 13, graduates from lower primary schools, were eligible for the primary industrial schools which gave courses on simple agriculture, sericulture, animal husbandry, navigation and transportation. Agriculture, industries, commerce and navigation were taught in the middle industrial schools to students above 15 who were graduates of higher primary schools. Advanced courses were offered in the higher industrial schools for which middle school graduates ranging in age from 18 to 22 were eligible.

By 1905, the 33rd year of the reign of Emperor Kwang Hsu, there were in China 137 vocational schools of all grades with 1,910 students.

The following year, the number of schools was increased to 189 and the number of students to 2,905. Further increases were registered in 1908, the first year of the reign of Emperor Hsuan Tung (Henry Pu Yi), when there were 254 vocational schools with 4,038 students. The number of vocational institutions, however, constituted only 4 per cent of the total of 58,896 schools of all kinds and the number of vocational students only 1·02 per cent of the total of 1,626,720 students.

The graph of technical education took a more upward trend after the founding of the Chinese Republic in 1912 when the former industrial schools gave way to vocational schools for farmers, labourers and merchants. The first year of the Republic saw the establishment of 425 such schools with a total enrolment of 31,726 students. In 1916, the number of schools was increased to 525 with 20,099 students.

According to a survey made by the China Vocational Education Institute in 1922, there were 842 vocational schools in China. Of that number, 48 per cent were agricultural, 18 per cent commercial, 12 per cent industrial and 22 per cent miscellaneous. Schools for men constituted 88 per cent while the remaining 12 per cent were for women. They were distributed in the provinces as follows: Kiangsu, 142; Shantung, 111; Honan, 71; Chihli (Hopei), 61; Shansi, 60; Hunan, 52; Anhwei, 44; Chekiang, 41; Yunnan, 40; Hupeh, 36; Shensi, 26; Fukien, 23; Kwangtung, 21; Kiangsi, 20; Heilungkiang, 19; Fengtien (Liaoning), 15; Kwangsi, 10; Szechwan, 9; Kansu, 8; Kweichow, 7; Kirin, 5 and Suiyuan, 1.

With the adoption in November, 1922, of the new educational system with six years of primary school, six years of middle school and four years of college, vocational schools ranked with middle schools. Above the vocational schools, there were technical colleges. Up to 1929, 219 vocational schools had been established on the new basis. They had 26,609 students, 7·8 per cent of the total number of students in 10,045 middle schools. Besides, there were 4,000 short-term training schools for farmers with 80,675 students, 193 schools for labourers with 15,043 students, 151 schools for merchants with 10,506 students, 299 schools for women with 11,959 students and 718 schools for people of sundry other trades with 29,549 students.

Prior to the outbreak of the Sino-Japanese War on July 7, 1937, the number of vocational schools in China had been increased to 494 with 56,822 students. The schools were distributed in provinces and municipalities as follows: Kiangsu, 61; Chekiang, 20; Anhwei, 28;

Kiangsi, 18; Hupeh, 24; Hunan, 42; Szechwan, 40; Hopei, 17; Shantung, 9; Shansi, 11; Honan, 38; Shensi, 8; Kansu, 4; Chinghai, 2; Fukien, 25; Kwangtung, 32; Kwangsi, 5; Yunnan, 12; Kweichow, 6; Chahar, 2; Suiyuan, 4; Ningsia, 2; Nanking, 5; Shanghai, 21; Peiping, 13; Tientsin, 6; Tsingtao, 1; Weihaiwei, 1.

The following figures given for the four northeastern provinces and the Kwantung Leased Territory were based on reports available prior to the Mukden attack of September 18, 1931 : Liaoning, 35; Kirin, 3; Heilungkiang, 2; Jehol, 1 and Kwantung Leased Territory, 1.

No sooner were the first guns fired at Lukouchiao than the Japanese military began a ruthless attack on Chinese educational institutions. Of this wanton attack, China's pre-war vocational schools in the coastal provinces and other war zones received a full share. They were either destroyed by bombs and gunfire or forced to suspend for fear of Japanese plunder. A number of them joined the mass migrations westward and have since re-established themselves in the interior.

The China Vocational Education Institute, which was founded in Shanghai in 1916 by Mr. Huang Yen-pei, noted educator and a member of the People's Political Council, and who has since been one of the leaders of vocational education in China, was removed from Shanghai to Chungking. When it celebrated its 25th anniversary on May 6, 1942, it reported a total membership of 23,000 including 4,000 graduates from its vocational school and 10,000 graduates from seven supplementary schools. The vocational school which was first established by the institute in Shanghai in March, 1917, is now located at Paisa, a little rustic town not far from Chungking, while the seven supplementary schools are scattered in different parts of Szechwan province.

For those institutions lost in war, the Ministry of Education hastened to make amends. Its efforts bore fruit in the academic year of 1938-39 when Free China reported 256 schools with 31,879 students. The figures, however, increased to 287 with 38,977 students in 1940-41. Of these schools, 8 are national while the remaining 279 are provincial, municipal or private. Hunan province topped the list with 44 schools while Szechwan came a close second with 38 schools. Other provinces listed included Honan with 28 schools, Kiangsi with 19, Kwangsi with 17, Yunnan, Fukien and Kwangtung with 15 each, Chekiang with 13, Shensi with 12. Among the municipalities, Chungking reported 6 vocational schools.

A special plan was mapped out by the Ministry in November, 1938, whereby Free China was divided into three districts for the development of vocational education—Szechwan-Sikang, northwest and southwest. One or more national technical colleges have been established in each of the districts as nuclei of technical education. Each vocational school has its own experimental factory or farm and co-operates with local factories, commercial and banking concerns, agricultural improvement stations and educational institutions to give the student field experience.

Emphasis has also been laid on the establishment of junior vocational schools in the interior cities. A number of such institutions were first established by the Ministry in Kweichow, Kwangsi, Kansu, Chinghai and Ningsia and then turned over to the local educational authorities. Subsidies were granted to provincial institutions. Each province was to emphasize certain branches of training, namely, brewery, pottery, leather-tanning and sericulture in Szechwan; sugar-manufacturing, tea processing, paper-making and weaving in Kiangsi; pottery and woollen weaving in Kansu; cotton spinning and weaving in Shensi; agriculture in Kweichow; paper and lacquer manufacturing in Fukien and small industries in Shansi and Kwangsi. The Ministry also ordered that counties graduating more than 200 primary school students each year should establish a junior vocational school independently or in co-operation with neighburing counties.

Special short courses are also conducted to meet urgent demands of skilled tradesmen. The first wartime short-term vocational class was the tele-communications and automobile mechanics' training class maintained by the Ministry of Communications in 1938. The first group of 150 graduates from this class were immediately employed and their efficiency proved the value of such training. In 1939-40, 36 classes were conducted for 1,300 students on land survey, civil engineering, dyeing and weaving, leather-tanning, printing and processing of agricultural products. Twenty-three classes with an enlarged curriculum embracing pottery, industrial and business management were conducted for 800 students in 1940-41.

For supplementary training for factory workers, the Ministry of Education, in co-operation with the Ministry of Economic Affairs, ordered that supplementary training classes be maintained by factories or mining concerns employing more than 300 or 500 workers. Most of the Government factories and larger private concerns have complied with this order. Besides giving training to their own off-shirt labourers, they have also enrolled primary school graduates who, with one to three years of training, may become foremen and skilled workers.

Thus, vocational education has spread like a highly magnetized rolling stone that gathers the young masses in every nook and corner of the country. Wherever there is a will to learn with both mind and muscle, there is a way provided by a school, a department or a class. The phenomenal growth of institutions of manual education is best described by the slogan "Education in 100 Trades".

But the-hyper extended educational network so far described, however, is mainly for training an intermediate or lower class of tecnical and industrial workers. First-rate engineers, architects and other technicians must be produced by colleges and universities. A number of technical institutes established in Peiping, Nanking, Soochow, Hangchow, Changsha and Chengtu were expanded into engineering colleges when the National Government was established in Nanking in 1928. The Peiping technical institute, founded in 1903 with the "Rouge and Powder Fund" of the Empress Dowager, was expanded into the engineering college of the National Peiping University. This, together with the Peiyang University and two other technical colleges, now form the National Northwest Engineering College in Chengku, Shensi province.

The Nanking and Soochow technical institutes, together with the River and Harbour Engineering Institute, were amalgamated to form the engineering college of National Central University, now at Shapingpa near Chungking. The college, since its removal from Nanking to Chungking, has further expanded from five to seven departments, namely, civil, mechanical, electrical, chemical, architectural, water conservancy and aeronautical. The aeronautical engineering department was established at the request of the National Aeronautical Affairs Commission. Its predecessor, called the auto-engineering department, was established in 1935. Re-named the aeronautical engineering department in the summer of 1937, it also admitted graduates from mechanical, electrical and civil engineering departments to a special research class which gives 18 months of training in aeronautical engineering and two months of field work in an aeronautical factory.

The engineering college of Tsinghua University in Peiping was established by some of its alumni, including Dr. Ku Yu-hsiu, Vice-Minister of Education, who received his doctorate degree in science from the Massachusetts Institute of Technology. This college has been proud of its faculty and laboratory equipment, especially the hydraulic laboratory, the heat engineering laboratory and high voltage

laboratory. There are also two research institutes, namely, the Aeronautical Engineering Research Institute and the Electronics Research Institute. Tsinghua has been merged with National Peking and Nankai Universities to form the National Southwest Associated University at Kunming.

China to-day has 25 engineering colleges, established either in her universities or as independent institutions. In these colleges there are a total of 22 departments of architecture, 11 departments of mechanical engineering, 12 departments of electrical engineering, 10 departments of chemical engineering, 3 departments of construction, 3 departments of river conservancy, 3 departments of aviation, 7 departments of mining, one department of surveying, 2 departments of textile, one department of machinery and electricity and one department of agricultural irrigation. These aggregate 76 departments.

Among the institutions established after the outbreak of war, the Central College of Technology was founded in Szechwan by the Government in the spring of 1939. That summer saw the establishment of the National College of Technology at Sichang in Sikang province and the Marine College in Chungking, the only existing institution in China that specializes in marine engineering.

The college of technology in Sikang occupies a position of unique importance in the programme for the development of China's border provinces. It plans to train a basic force for the exploitation of rich resources of that baby province. It has departments of agriculture and forestry, animal husbandry, civil engineering, mining, mechanical engineering and chemical engineering. Under the mechanical engineering department are mechanics and spinning and weaving courses, and under the applied chemistry department are leather-tanning, paper-making, brewing and pottery courses. Students have chances to practise what they learn as the college co-operates fully with mining, industrial and agricultural interests in the development of Sikang.

The Ministry of Education has encouraged all newly-opened private or governmental institutions to provide first of all engineering departments. For instance, the Ying Shih University, recently established in Chekiang in memory of Chen Ying-shih, a revolutionary martyr, has departments of science, engineering, agriculture and medicine only. The same is true of the National Kwangsi University at Kweilin in Kwangsi province which provides courses in science, engineering and agriculture only.

Students of engineering in China to-day are among the "favoured class". More scholarships and substantial grants for the study of all branches of engineering are offered than for almost any other subject. In 1938 the Government announced that only students engaged in the study of practical sciences, particularly those related to national defence, can go abroad for graduate work. Science students already in foreign universities whose families are no longer able to pay for their tuition and expenses, are given special grants by the Government so that their advanced work can be continued.

The Ministry of Education is planning to send this year to England eight scholarship students for post-graduate work, one on each of the following subjects: aeronautical engineering, mechanical engineering, electrical engineering, ship-building engineering, textile engineering, chemical engineering (particularly manufacture of gunpowder), pharmaceutics and economics (particularly planned economy). Examinations for applicants will be held in Chungking, Chengtu, Kunming and Kweilin from August 20 to 22. Only university graduates with two or more years of research work or public service or technical school graduates with four or more years of research work or public service will be eligible.

The important part played by Chinese engineers in war and in reconstruction justifies the hopes China has placed in her future engineers. The dismantling, packing, shipping and re-assembling of coastal factory machinery in their odysseys to west China proved the ability of Chinese engineers to meet war emergencies. Thanks to their efforts, the myriad of machine shops were able to re-open within two or three months after reaching their destinations.

Automobile engineers have succeeded in converting gasoline-using motors into charcoal, alcohol, *tung* oil and vegetable oil burners. Working in collaboration, chemists succeeded in manufacturing alcohol, cracking vegetable oils, distilling soft coal and mineral oil and compressing natural gas. Most of these enterprises owe their existence to wartime demands and to the ingenuity of Chinese engineers.

Civil engineers construct railways, highways, ærodromes, bridges and buildings. The 600 kilometers of railways completed and the hundreds of kilometers under construction, the 5,000 kilometers of highways completed and the 11,000 kilometers repaired as well as the 4,900 kilometers under construction, are eloquent testimonials to their ability.

Electrical engineers have laid the foundation of electrifying the northwest and southwest where new power stations, operated by steam or water have been erected to furnish current to war industries, a feat not even thought of in pre-war days.

Textile engineers supervise the many modern cotton and woollen mills in the west, where before the war there was only one modern cotton mill in Shensi. Centers of the new textile industry are in Szechwan, Kansu, Yunnan, Kwangsi and Kweichow.

Chemical engineers are engaged in bleaching bristles, spinning silk, cracking *tung* oil, processing tea and treating other agricultural products for export. Engineers specializing in preserving, canning and storing foodstuffs have great wartime importance for soldiers and civilians alike.

Inventions and improvements made by Chinese engineers during the war are numerous. Between 1938 and May, 1941, the Ministry of Economic Affairs granted 134 patent rights, 11 more than those granted by the former Ministry of Industry in the six-year period between 1932 and 1937. Those granted patent rights represent about 35 per cent of the applicants. Beginning from 1941, the Ministry of Education has allotted $200,000 as prizes for outstanding inventions and discoveries, academic reasearch or writing. A special committee of the Ministry is to decide on prize-winning work in natural science, practical science and industrial manufacturing and each prize will be from $1,000 to $2,000.

Thus, China is pooling all her resources with an eye both to the past and to the future for the revival and revitalization of an ancient heritage—the ingenuity to overcome the barriers of Nature. At the helm of this colossal endeavour are China's two foremost engineers, Mr. Chen Li-fu, Minister of Education, who holds a master's degree in engineering from Pittsburgh University, Pennsylvania, and Minister of Economic Affairs, Dr. Wong Wen-hao, famous Louvain (Belgium) educated geologist and metallurgist. The former is watching with confidence the tens of thousands of Chinese youths who are studying to be engineers. The latter is directing 10,000-odd Chinese engineers, who are engaged in war and other types of industry, in mining and metallurgy and general construction in Free China.

HAWTHORNE CHENG

3. YOUTH TRAINING AND ORGANIZATION

That the youth of China is to-day a solid, militant body is due largely to the Japanese. Almost overnight, following the Japanese attack on July 7, 1937, the youth of the land offered their services to the nation. A singleness of purpose, to drive the enemy from Chinese soil, has characterized their actions for five long years. To-day, as the sixth year of the war opens, the youth of China must be considered a potent force for resistance and reconstruction, as they receive military and political training for direct war work.

When the war began in 1937, the Chinese Government immediately started to readjust the nation's educational system so as to make it better to cope with the changed situation. On February 25, 1938, the Ministry of Education issued an outline for the training of youths, to be followed by all schools.

Fundamental concepts of the youth training programme are: First, willingness to make sacrifices for the nation; second, realization of the creative spirit of the Chinese people; third, the state being supreme, every young man and woman must strive to serve the interests of the state; fourth, the ultimate aim in struggling for liberty, independence and equality is international peace.

Faith, character, physique, clean living and service are emphasized in the training programme. Faith in the Three People's Principles and in the nation's leader is first and foremost. Youths are taught to follow the leader's example in thinking and acting. Character training includes 12 rules for youths and 10 rules for soldiers. The 12 rules are similar to those observed by Kuomintang members, the first one being "the foundation of patriotism is loyalty and bravery."

The programme emphasizes the development of physique, observation of the rules of hygiene and study of the fundamentals of military science. Youths are taught to lead industrious, productive and disciplined lives, and that the purpose of life is service.

The Ministry of Education also issued an outline governing wartime training of middle school and college students. More attention is given to subjects related to wartime requirements. Technical schools

have been set up specially for teaching such subjects as mechanical, electrical, civil and chemical engineering, automobile mechanics, medicine and nursing. Students desiring to work at the front or join the army must first receive the approval of the Ministry of Education and other organizations concerned before they are trained and sent to war areas.

Wartime political institutes have been established by provincial governments in places close to the front or behind enemy lines, especially in the provinces of Kiangsu, Anhwei, Shensi and Shantung. Graduates from these institutes are training and organizing the masses in those areas.

The Kuomintang Youth Corps was organized in July, 1938, in accordance with a resolution adopted at the Emergency Session of the Kuomintang National Congress in April, 1938. Considering the establishment of the corps as "a matter of great importance on which will depend the future of our country," Generalissimo Chiang Kai-shek, leader of the corps, in a manifesto summoned the youth of the country to rally to the support of the national cause under the banners of the corps. The Generalissimo gave three principal reasons for the organization of the Youth Corps: First, the corps has the dual purpose of successfully resisting invasion and fulfilling the plans of national reconstruction; second, the corps is to create new strength for the furtherance of the revolution; third, the corps is to make the Three People's Principles more effective. The two-fold purpose is to assist in national mobilization and to lay the foundation of a powerful nucleus to carry out future reconstruction. In order to achieve this purpose, those who join the corps participate in active wartime mobilization work, receive both military and political training and must actively engage in social service. In addition, youths are given scientific training designed to make them think along systematic and practical lines, and are urged to acquire technical knowledge in order to use such knowledge in productive channels.

According to the constitution of the corps, Chinese youths of both sexes, ranging from 16 to 25 years of age, may apply for membership. When formally initiated into the corps, the applicant is required to take the following oath:

> "I hereby swear with the utmost sincerity to practise the Three People's Principles, to obey orders of the leader, to observe faithfully the rules of the corps, to enforce its

> decisions and to live up to the tenets of the New Life Movement. Both in discharging my duty to the state and in working for the people, I shall not shun hardship, nor any sacrifice required of me. I am willing to take the severest punishment if I violate my oath."

The organization of the corps is pyramidal. At its apex is the leader who has complete authority over the corps. Generalissimo Chiang Kai-shek is the leader. Assisting him is an advisory council which decides upon the guiding principles and working programmes of the corps. The highest executive organ is the Central Headquarters, under which are regional offices, district offices, branch offices, and sub-branch offices. These offices, under chiefs appointed by the leader, are scattered over the country.

In the Central Headquarters a secretariat of 35 enforces the leader's orders, adopts working plans and organizes and directs branch offices. Nine of the secretaries are on the executive committee, headed by a secretary-general. General Chang Chih-chung, Minister of the Political Training Board of the National Military Council, is secretary-general. Under the secretariat are departments of organization, training, publicity, social service and women's work.

The corps membership of 400,000 constitutes the cream of Chinese youths, according to Lieutenant-General Kang Tseh, organizer of the corps. Members are working in every part of China, including enemy occupied regions, and 20 units have been organized by Overseas Chinese youths in other parts of the world. Every college or senior middle school in China has a branch of the corps. More than 60,000 staff workers organize and help train youths in local units, including Mongolian, Tibetan and Moslem youths in the far northwestern provinces.

The work of the corps in war areas and behind enemy lines has produced gratifying results. Some of the workers have been killed by the enemy, but the work is continuing with unabated energy. The particular task of youth corps workers in the war areas is to train the masses and to lead them in effecting " scorched earth " tactics whenever fighting occurs. Participation in the Battle of Hongkong under the guidance of Admiral Chan Chak and in the Changsha Battles has won them nation-wide praise. Close contact is maintained between Chungking and such occupied cities as Nanking, Shanghai and Peiping.

Summer camps are held every year for college and middle school students. Last summer, there were camps in Chungking, Chengtu, Nanyo (Hunan) and Chengku (Shensi). More camps will be established this summer. There will be 2,000 students in the Chungking camp alone. Youth labour camps for technical training will be started this summer, with short-term courses in engineering, chemistry, mechanics, mining, animal husbandry, textiles, agriculture, co-operation, accounting, statistics, nursing and home economics.

Social service work includes the opening of youth hostels, youth vocational guidance institutes and educational advisory committees. More than 20 youth hostels are maintained in various parts of the country, housing youths and students from war areas. Thousands of young workers are active at the front, run service stations in the rear and many mobile service units are working at the front.

Fully 10,000,000 persons in China have received boy scout training. At present there are over 500,000 boy scouts and girl guides in primary and junior middle schools and in special units. Every primary school or junior middle school student is a scout, receiving training according to modern standards of service and self-cultivation, symbolizing the birth of a new spirit in China.

The Chinese boy scouts' organization was started at Wuchang, shortly after the fall of the Manchu dynasty in 1911. Its development was not rapid until 1926 when the Chinese Nationalist Government established a Boy Scout Commission at Canton. Upon the completion of the Northern Punitive Expedition in 1927, the General Headquarters of the Boy Scouts of China was organized in Nanking. It was re-organized into the present Chinese National Boy Scouts' Association in 1934. With Generalissimo Chiang Kai-shek as President and Mr. Chen Li-fu, Minister of Education, as Director-General, the association has branches in 27 provinces and municipalities, and a membership of 519,202. Of this number, 515,125 are in 5,031 school units and 4,077 are in 39 special units.

Szechwan with 89,326 in 594 units has the largest number of boy scouts and girl guides. Chekiang comes second with 65,751 in 666 units, while Hunan ranks third with 55,746 in 186 units. Of the 515,125 school scouts, 390,637 are boys, 104,266 girls and 20,222 junior scouts. There are over 15,000 scout masters in China.

Three Chinese characters, " *chih, jen, and yung* " meaning " wisdom, goodwill and courage " have been chosen as the highest goal for the perfection of personality in training Chinese scouts with the eight traditional Chinese virtues as guiding principles. They are: loyalty, filial piety, benevolence, love, faithfulness, righteousness, peace and harmony. Chinese scouts learn by doing and do by learning, having social service as the goal of life. Every scout is given a balanced education, equal emphasis being placed on intellectual, moral and physical training.

The Japanese invasion of China opened a new field of work for Chinese boy scouts. When hostilities spread to Shanghai in August, 1937, Shanghai scouts organized the first Chinese scouts' wartime service corps. Their service in the Shanghai war area was a great help not only to the army, but to the people as well. To-day, there are 15,000 boys and girls in 127 scout units registered with the National Boy Scouts' Association who are engaged in active war work. Kiangsu has 23 units, Kiangsi 17, Kwangtung 16, Hunan 15, Szechwan 12, Fukien, Anhwei, Shensi and Shansi 6 each, Chekiang 5, Kansu 4, Yunnan 3 and Honan, Kweichow, Shanghai, Nanking, Canton, Hankow, Manila and the 105th Division one each. Many of these are mobile service corps. The Shanghai unit is now stationed in Chungking.

The wartime service of boy scouts covers a wide sphere, including assistance in communication control, postal and telegraphic service, transportation, refugee relief, troop comforting, medical relief, nursing, first aid and fire fighting.

Front line service and air raids have caused some casualties among Chinese scouts. In the Shanghai area alone, 13 boy scouts and girl guides were killed, 32 were wounded and three were reported missing. The Shanghai Boy Scouts' Wartime Service Corps had more than 3,000 members, boys and girls, scattered in all sectors of the eastern war zone. Over 300 of them are still working in the rear. Some of them have been of great service to Chungking bombing victims during the last three years.

Among other organizations related to the wartime training of youth is the National Gliding Association, of which Generalissimo Chiang Kai-shek is president and General Pai Chung-shi, Deputy Chief of Staff, Mr. Chen Li-fu, Minister of Education, General Chang Chih-chung,

Minister of the Political Training Board of the National Military Council and Secretary-General of the Kuomintang Youth Corps, and General Chou Chih-ju, Director of the National Aeronautical Affairs Commission, are vice-presidents.

The year-old association has 50,000 members, most of them being young men and women. Besides establishing branches in important cities, the association has organized sub-branch associations at three student centers in Szechwan and ten gliding clubs in colleges and schools. The Kuomintang Youth Corps and the Chinese Boy Scouts' Association are actively participating in the gliding movement. The former has contributed 18 gliders to the National Gliding Association and the latter 10.

The National Gliding Association is operating a gliding training institute at Chengtu with the assistance of the National Aeronautical Affairs Commission. The first class of 20 students, including two girls, was graduated last fall. The graduates are promoting and directing gliding at various places. The second class of 49 includes 16 girls. A Central Gliding Academy is to be started before the end of 1942, and gliding will be included in physical training classes in universities and schools.

The association's 115-foot parachute jumping tower in Chungking, the first one for popularizing gliding in the Far East, has been a great attraction to thousands of young people since it was completed in the spring of 1942. A reinforced concrete structure, the tower is open to the public, with three parachutes operating simultaneously. Towers will be built in other parts of the country to inspire youths to become air-minded.

The National Gliding Association has four aims : youth training, the training of aviation personnel, the promotion of aviation reconstruction and the development of popular physical education.

War always presents an opportunity for a Government to train and organize the people under a unique programme with only one goal, *i.e.*, to win the war and to rebuild the ravaged country after the war. War also presents a chance for the people, particularly youth, to readjust themselves to the situation and to make more concerted efforts for the national cause.

China has achieved this sort of social progress through better organization and training of her youth. For younger Chinese to-day can stand hardship and suffering. Five years of war have deprived them of almost every luxury and comfort they enjoyed before the war. They are no longer in coastal cities like Shanghai and Peiping, living in comfortable buildings with all modern conveniences. They are eating simpler food, wearing plainer clothes and living in makeshift quarters without complaints. They are intent on hard work and preparation for a better future in which the Chinese people will enjoy not only better living but peace and freedom.

Five years of training have made Chinese youth more practical and efficient in thought and action, able to make quick readjustments to the ever-changing environment. Their actions are regulated by a definite guiding light as reflected in the thoughts and actions of their leader. They have become the "real revolutionary youth", as Generalissimo Chiang Kai-shek likes to call them.

CHU FU-SUNG

4. A NEW NATION AND A NEW SOCIETY

No society is ever static, especially one at war. In China dynamic forces, released by major hostilities and mass evacuations, have been at work for five years. Though points of detail are still blurred by the battle smoke hanging low over charred fields and ruined cities, occasional breezes lift the screen to reveal underneath the general outline of a new nation, a new spirit and a new outlook upon life.

First of all, the war has accelerated the process of national reintegration. China is more united than she has been for many decades. Semi-independent regional regimes found in border provinces at the outset of the Japanese invasion, have become things of the past. To-day the National Government exercises undisputed control throughout the length and width of Chinese territory that is not under enemy military occupation.

The past five years have not been easy. Fighting a brutal foe and laying the foundation for a rejuvenated nation at the same time, the National Government has met and overcome untold difficulties and obstacles. Japanese propagandists, ever-alert to misguide the Western public, spread rumours about China's domestic solidarity, only to be disproved by subsequent events.

Sometimes even China's well-wishers were concerned over her internal affairs. They feared that the last vestige of out-moded warlordism in certain far-flung districts might hamper her war effort, or that party differences, buried at the outbreak of war, might crop up to upset domestic equilibrium. These dangers, some potential and others purely imaginary, all disappeared or failed to appear because of the surge of national sentiments and the universal realization that unity is a prerequisite to victory.

China at war stands solidly behind one government, that is, the National Government; one national leader, that is Generalissimo Chiang Kai-shek; and one set of revolutionary and constitutional nation-building principles, that is, Dr. Sun Yat-sen's Three People's Principles of nationalism, popular sovereignty and livelihood or economic democracy. It is held as a matter of certainty that this unity, forged in war, will sustain China in her long period of post-war reconstruction.

Among practical expressions of this national cohesion may be mentioned the universal enforcement of laws, the existence of a unified

administrative machinery, the circulation of a nationalized currency, the operation of an identical system of schools and the collection of standardized taxes throughout the country. Railways and highways constructed since the war began have helped knit closer together far-flung parts of the nation.

In pre-war days there were such things as Shantung troops, Kwangtung troops, Szechwan troops or Yunnan troops, composed of recruits from those provinces. To-day there is only one army, that is, the Chinese Army. Conscription, enforced throughout the country since the beginning of the war, has removed all regional features in the Chinese armed forces. For practical purposes the country has been divided into so many war areas, but questions of strategy and tactics of every battle are decided by the headquarters in Chungking.

Provincialism, which grew out of meagre contacts and physical isolation, used to bar China's progress toward a new nationhood. Since the war began, it has been a rapidly declining force. Following the marching of millions of troops from all parts of the country to meet the invaders and the forced migration of tens of millions of refugees from the war zones to the interior, all regional barriers have broken down. Local considerations have been superseded by national loyalty. Typifying this new spirit is the slogan: "The State Comes First; the Nation Is Above All."

With more than 80 per cent of its people living on the soil, before the war China was a nation of rare travellers even within her own territory. An agricultural economy begets conservatism. Coupled with insufficient means of transportation, this sometimes reached unbelievable limits. There was nothing unusual about a Chinese who throughout his life scarcely travelled 50 kilometers from his ancestral homestead. The Japanese horde, burning, pillaging and killing, forced the Chinese to take to the road. Despite individual differences in intelligence, migration has had a broadening effect on their mental attitude toward other people and their own country.

In places like Chungking, Chengtu, Kunming, Kweilin, Sian and other cities in the interior, one hears all Chinese dialects spoken. People from all parts of China rub shoulders. But for the war, most of them would never have even dreamed of finding themselves in any of the strange places occasionally mentioned in the newspapers. To-day they are actually living and working in these distant places. Mutual understanding and a spirit of tolerance have come into being.

From a long-term standpoint, this mass exodus of scores of millions of people from the coast, from the lower reaches of the Yangtze River, the Yellow River and the Pearl River, to the southwest and the northwest will have a far-reaching effect on China's future progress. Its full import can be understood only in the light of history.

Before the 11th century A.D., the center of Chinese political and cultural activities was in the northwest, principally in the Yellow River valley. Since the removal of the Sung court southward to the Yangtze valley in that century, the southeast has been the centre of Chinese political and cultural life, this despite the fact that, with the exception of short periods, the capital of all subsequent dynasties was in the north. The removal of the Chinese capital from Nanking in the southeast to Chungking in the southwest represents part of a cycle in Chinese history.

Every major movement of the Chinese population in the past was connected with foreign invasion. The House of Tsin shifted its capital to present-day Nanking in A.D. 317, because of pressure from barbarians in the north. This represents the first Chinese effort to develop the Yangtze valley. When the Sungs moved their capital from the southern bank of the Yellow River to present-day Hangchow in the 11th century, they built their centre in the Kiangsu-Chekiang area. When the Mongols came in the 13th century, there was a large Chinese migration southward to Kwangtung and Fukien. Four centuries later, when in 1644 the Manchus came from beyond the Great Wall to establish the second alien dynasty in China, the Chinese loyal to the Mings moved to Kwangsi, Kweichow and Yunnan in large numbers.

There have been only two instances where external pressure did not play any part in the movement of the Chinese population. The first case was the emigration of people from over-crowded districts in Fukien and Kwangtung to the South Seas islands. This began in the Ming dynasty (1368-1644) and kept up to the outbreak of the Pacific War in December, 1941. The other case was the exodus of Chinese farmers from Shantung, Honan and Hopei provinces to Manchuria at the rate of one million a year before the Japanese invasion in 1931-1932. Famine caused by drought was the principal reason.

A conservative estimate puts the total number of Chinese refugees in this war at more than 50,000,000. Literally uprooted from their homes, many succumbed to hardships and deprivations on the way, while others succeeded in reaching places of greater safety in the interior.

With aid either from the Government or from relatives and friends, they soon regained self-reliance. After the war is over, some will return to their native places along the coast, but the majority of them, having settled down, will stay on, marry and raise families. Eventually the racial stock in the interior provinces will be revitalized through the instillation of new blood.

Another effect of the war has been the transplantation of culture from the coastal region and places along the principal rivers to the hinterland. Before the war, the majority of China's 108 universities and colleges were concentrated in the Peiping-Tientsin area, the Shanghai-Nanking-Hangchow area, and in Canton and Hankow. Few institutions of higher learning were to be found west of the Peiping-Canton line. To-day they are distributed over a wide area in the southwest and the northwest. In addition, many new schools of all grades have been established in the interior. The presence of these institutions cannot but raise the cultural level of people in these provinces.

People along the coast and the Yangtze were the first to come into contact with Western science and technical proficiency. Regionally speaking, they had already entered the Machine Age whereas people in the hinterland were still lingering in the stage of agricultural economy. In this respect, however, the war has performed a miracle. Hundreds of industrial plants, together with equipment and personnel, have been moved to the interior during the last five years. Technicians and skilled workmen from the war zones are now teaching the natives in the industrially backward Southwest the Northwest modern methods and skills. Thus, what ordinarily would have taken decades to accomplish in industrializing the interior is being done in a matter of years.

Before the war there were many who doubted the Chinese people's organizing ability. Anyone still in doubt is closing his eyes to facts. For a nation to fight a foreign invasion for five long years is proof enough of the organizing ability of its people. It is certainly no ordinary feat to keep a fighting army of five million men in the field and simultaneously to develop resources in the interior provinces. This requires a tremendous amount of organizing work. True, there are numerous problems which remain to be solved, such as rising commodity prices. Whereas America and Britain can draw on their experiences of the first World War for guidance in tackling their wartime economic problems, China has to learn from the very beginning. This naturally takes time, but the system of control enforced over a number of essential supplies indicates what the Chinese people are attempting.

By far more important is the war's effect on the Chinese people's attitude toward themselves. Fighting alone for the first four and a half years of the war, they have learned to stand hardships, take punishment and to look toward themselves for help. The spirit of national confidence lost in contacts with the outside world in preceding decades, has been regained. Apathy has been replaced by self-reliance. The future may be beset with difficulties but the Chinese people, emerging from this grim struggle for existence, will be prepared to face new situations in the future with equanimity and self-confidence.

The war has brought the Government and the people much closer together than before. In the old days a government was little more than a tax-collecting agency. To-day though carrying on a full-dress war, the Chinese Government is spending a good portion of its revenue on schools and health projects, in building new roads and in helping farmers improve their crops. Of more direct bearing on the war, it has spent hundreds of millions of dollars for the relief of refugees from the fighting zones. Reclamation colonies, refugee factories and new villages have been set up for the homeless. On the people's part, they are paying heavier taxes and making voluntary contributions to the war chest. More than ever, both the Government and the people realize that they are one entity. A concrete example of this new spirit is the close collaboration of civilians with armed forces in the war zones. Many Chinese victories have been made possible by assistance from the people.

Much has happened in five years to the various strata of the Chinese society. The intelligentsia, though still remaining at the top in public esteem, have been the hardest hit by the rising cost of living. Most of them are either government employees, college professors or school teachers. The Government now issues them special allowances. The farmers, though traditionally ranking second, were largely forgotten and neglected until the need of more foodstuffs to feed both soldiers and civilians made everybody realize their really important role in China's economy. From improvement loans from the Government and good prices fetched by their products have placed within their reach more money than they have ever seen in their life. With the Southwest roused from its slumber by industrialization, workmen who form the third stratum have increased in importance. Merchants, who rank fourth, have sunk lower in public opinion because of unscrupulous hoarders and speculators in their midst. It is generally considered a case of degradation for a school teacher to become a shopkeeper or tradesman. All in all, however, no class of people have

risen so much as the soldiers. Formerly at the bottom of the Chinese social hierarchy, soldiers have more than redeemed their honour in five years of war. From despised mercenaries they have become defenders of the nation and are respected and treated as such. When they march to the front, the Government takes care of their families, and if they should be wounded, they become "Honour Soldiers."

In other countries, one of the war's inevitable effects will be on the population. Chinese sociologists believe that in China's case war casualties and heavy loss of civilian lives as a result of the hostilities will constitute no serious problem in the post-war period. In time of peace, there were 12,000,000 deaths a year in China. This figure could not have doubled in time of war. While in certain localities, there might be a dearth of manpower following the departure of the able-bodied males for the front, taken as a whole, China would not experience any acute shortage.

The generally accepted figure of China's population is 450,000,000, the largest one in any single nation in the world. With the exception of India and Egypt, it also has the highest birth rate which normally is 37·07 per thousand. China's mortality rate, however, is correspondingly high. It is 29·7 per thousand. These figures were based on a survey covering over 100 farming communities in Kiangsu, Hopei, Shansi and Anhwei before the war. As compared with America's 10·7 per thousand mortality rate and 17 per thousand birth rate, the rate of natural increase in population between China and America is almost the same. Therefore, if it is the Government's policy to maintain a large population, future efforts should be directed not so much toward encouraging a higher birth rate as toward curbing the shocking mortality rate, especially among children, through the development of medical science and the provision of better health facilities.

To a certain extent the war has reduced the marriage rate among the classes worst affected by the rising cost of living. A large number of government employees or school teachers are postponing marriage, and those already married are trying to have as few babies as possible. Both of these factors will cut down the birth rate among the intelligentsia. Meanwhile, however, the war is not known to have affected the marriage rate among the less educated classes. Increasing prices of farm products and good wages have improved the financial conditions of the farmers and workmen. According to the Chinese Civil Law, the marriageable age is set at 16 for women and 18 for men.

After the first World War several European countries had far more women than men, resulting in a lower marriage rate and birth rate. As the Chinese ratio is 119 men to 100 women, it is believed that casualties will not reduce the number of marriages too greatly.

Many would have expected to find important changes in the Chinese family system as a result of the long war. Apart from the separation of family members, more cases of bigamy, and a noticeable increase in divorces, nothing has happened to undermine the strength of the family system as the bulwark of Chinese society. There is an increasing tendency toward a basic family composed of husband, wife and children. The prevalent conception that the greater family system has existed in China through the centuries is incorrect. A professor of sociology in National Central University, formerly in Nanking and now in Chungking, has made an interesting study. Before the war he conducted a survey in Kiangning, a model county near Nanking, and found that 78 per cent of the families were of the basic type. A similar survey in Tinghsien, center of the mass education movement in central Hopei, also conducted before the war, showed that 60 per cent of the families there were of the basic type.

The same professor has historical data to support his contention that there have always been more basic families than greater families in China. Before 1122 B.C. when China was still in the feudal age, the nobles had greater families while the ordinary people had basic families. The institution of progeniture began in the Chow dynasty (1122 B.C. to 249 B.C.) In his works, Mencius often spoke of "a family of five mouths" or "a family of eight mouths." The former is clearly a basic family while the latter may still be a basic family of two parents and six children. In the Chin dynasty (249 B.C. to 206 B.C.) its premier, Shang Yang, with a view to encouraging the migration of people to sparsely populated areas, enforced a law which made it compulsory for any family with two sons or more to divide its land at the penalty of a doubled land tax in case of transgression. In the Han dynasty (206 B.C. to A.D. 221) the basic family was also popular. The Tang dynasty (A.D. 618-907) went a step further by placing a fine on grown-up sons not living together with their parents. This proves that the situation became so alarming as to necessitate government action to preserve the system of greater family. Once a Tang emperor visited the home of Chang Kung-yi, who had members of nine generations living under the same roof with him and with undivided property. When the emperor asked him how he managed it, the latter, being old and deaf, asked for permission to write out his

answer. As the emperor was watching, he wrote the Chinese character *jen*, meaning forbearance, one hundred times. Filial piety as a virtue received particular attention of scholars in the Sung dynasty (A.D. 960 to 1179). As a result, the system of greater family flourished again. The greatest family in Chinese history was that of Chen Fang in Kiangsi. This patriarch sat at the head of a family of 700 persons from 13 different generations. Members in this enormous clan shared everything though there was little property. The Sung emperor took pity on the clan's poverty and ordered that a yearly allowance of 2,000 piculs of rice be given for its sustenance. Despite official encouragement and promotion by the intelligentsia, the majority of families in the Sung dynasty were still of the basic type. As an indirect proof, the Sung history records only 50 cases of laudable filial piety in a period of 320 years. The coming of the Mongols in the 13th century and of the Manchus in the 17th century had not resulted in any changes in the Chinese family system.

Though greater family has been and is the standard, cases of deviation are overwhelmingly greater than those of conformity. In the rural areas in China, many families living under the same roof would give the impression of their being the greater type. A close study of their livelihood reveals that though sharing the same roof, the family is sub-divided into many smaller units, whose members cook their own food, till their own fields and bring up their own children.

As a concluding note, it should be mentioned that women in China have come to the forefront during the war, playing useful parts and making valuable contributions. Braving danger and hardships, many of them work among the troops, in hospitals, in refugee children's homes, in factories, in schools, in newspaper offices and in government organizations. They have proved their mettle in working side by side with men. After this war more Chinese women will receive higher education, go into professions, and attain economic independence. Judging by the activities of the 15 women members in the second People's Political Council, which is a representative assembly, Chinese women will go into politics with greater enthusiasm in the future. Regardless of what the other half of the Chinese population has to say about the matter, women will have a greater voice in how things should be run in China.

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