

中國襍誌

THE
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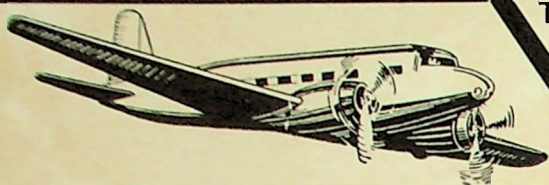
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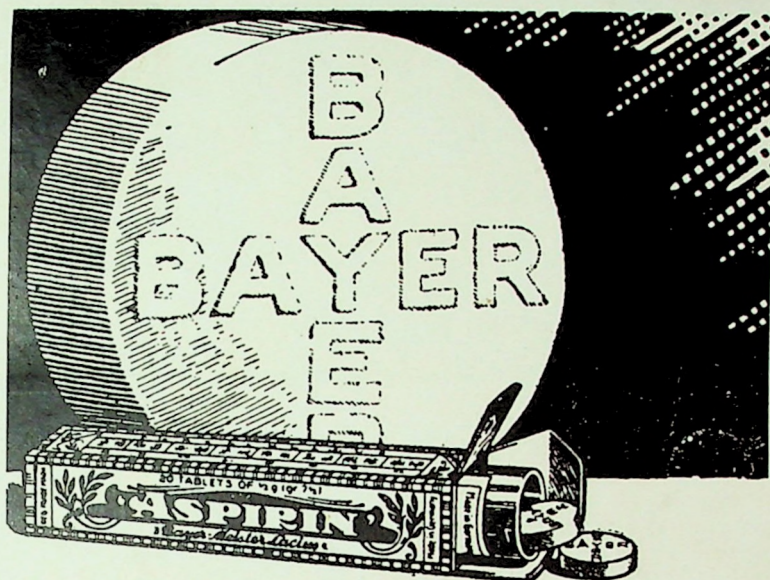
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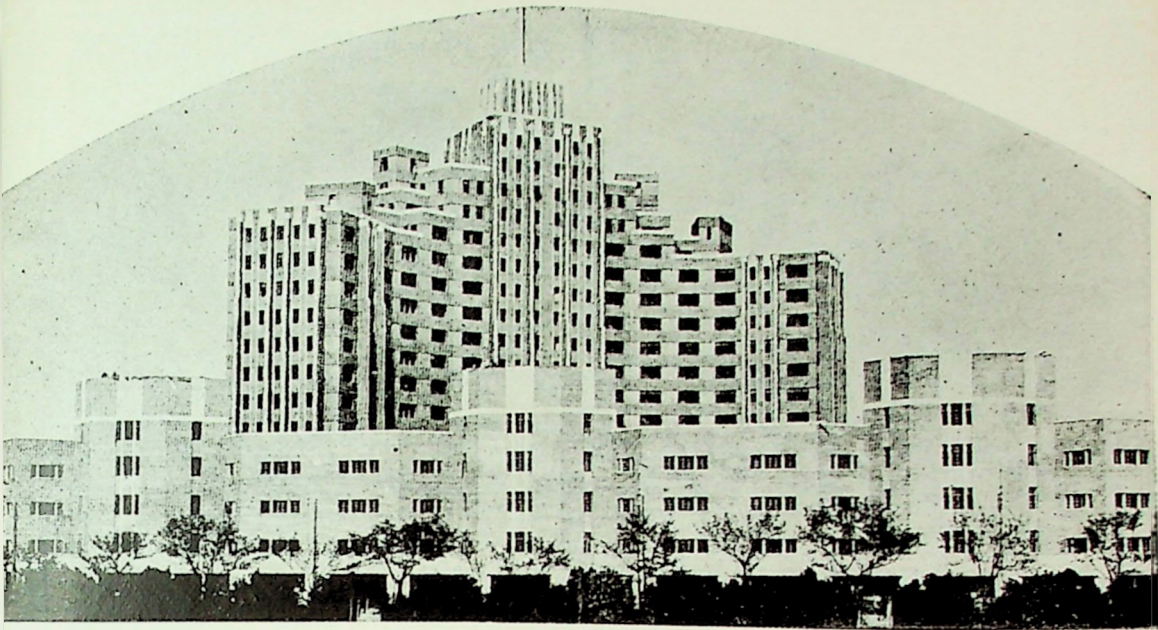
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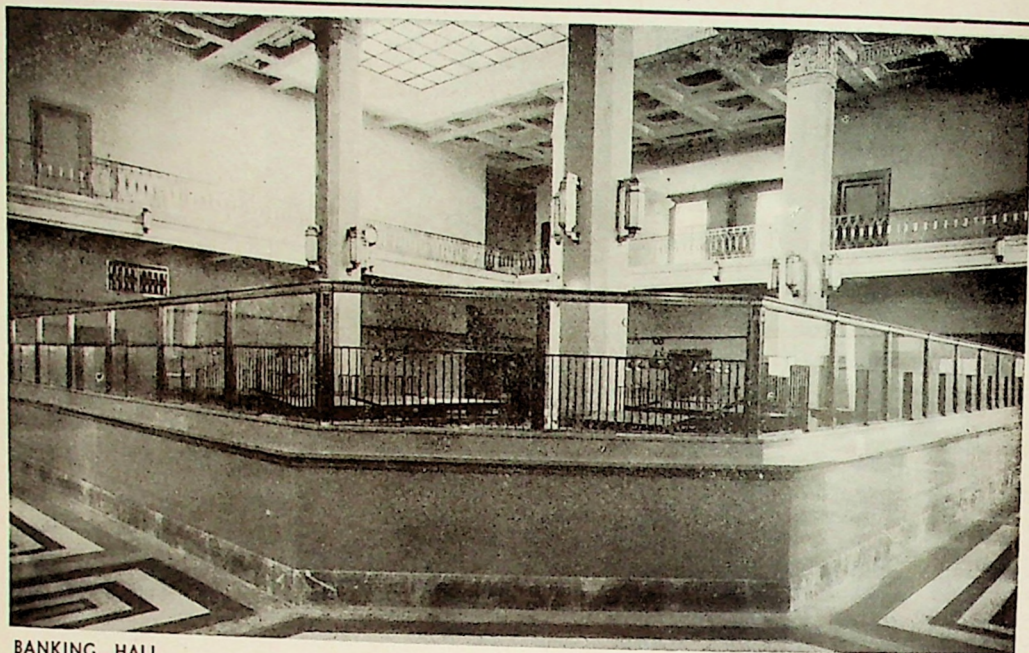
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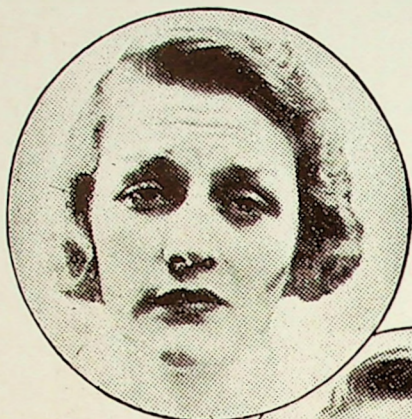
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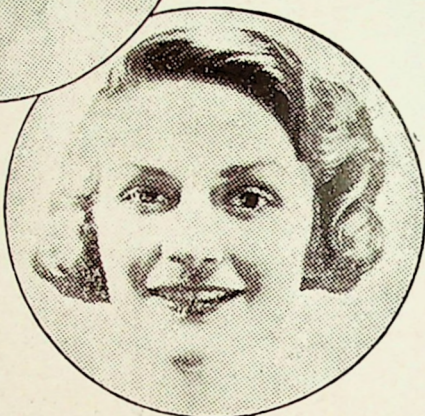
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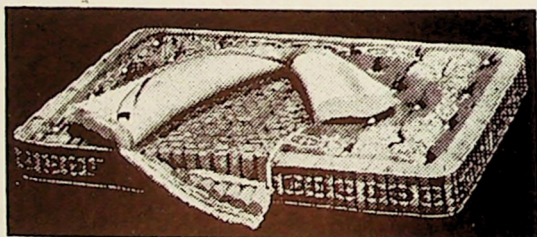
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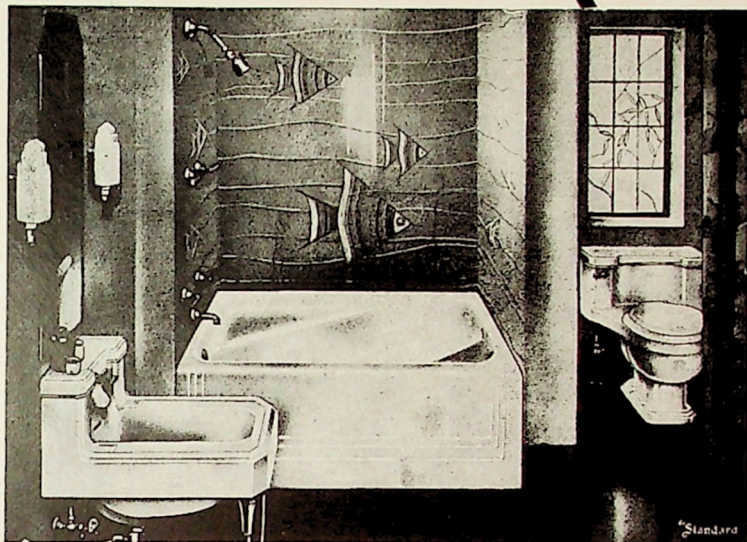


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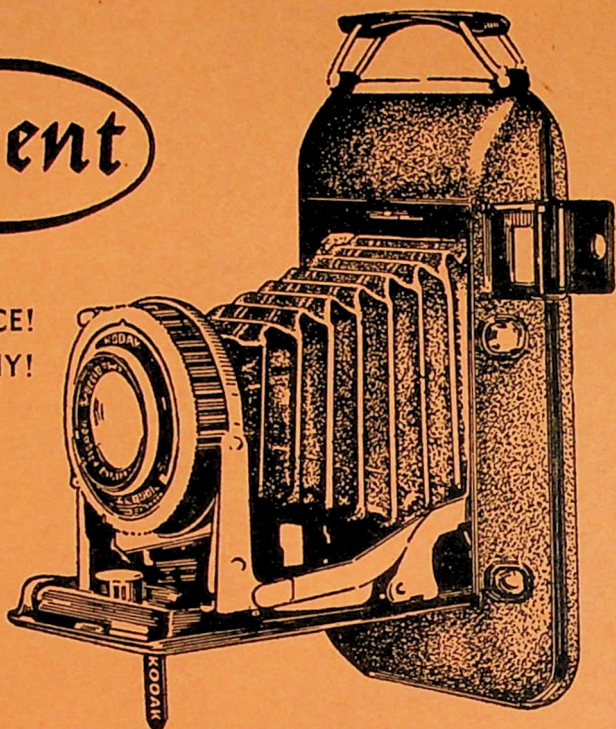
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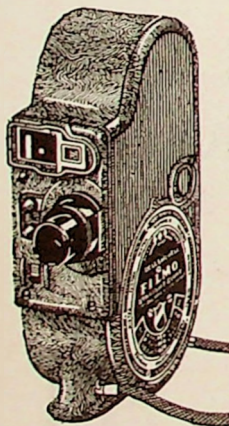
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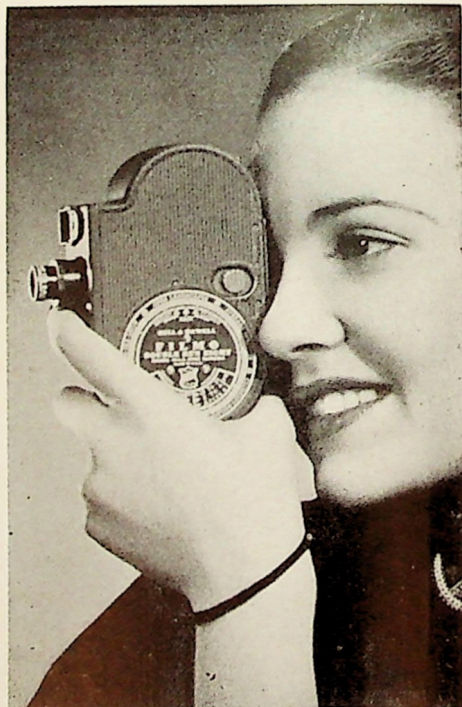
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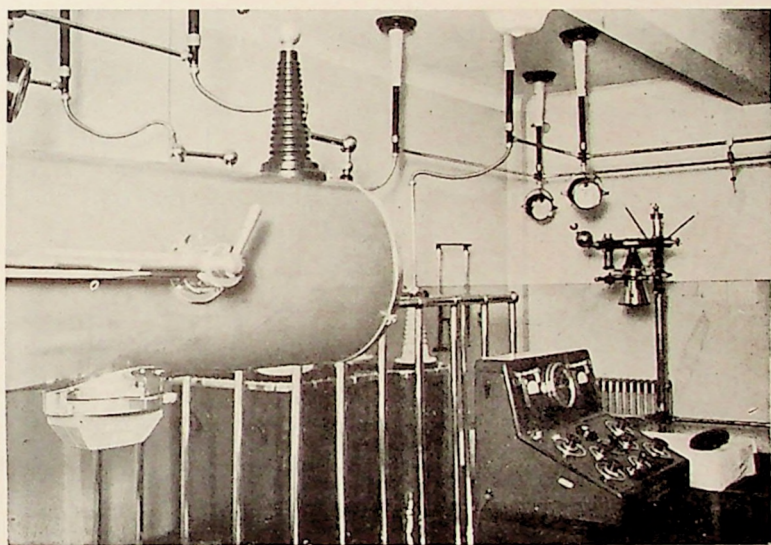
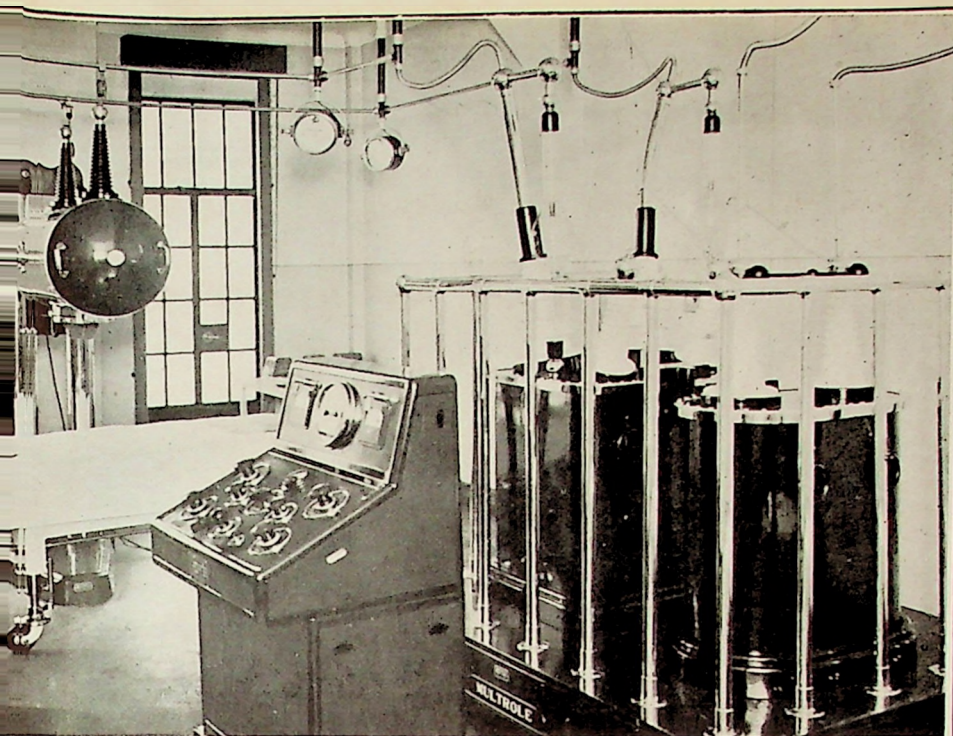
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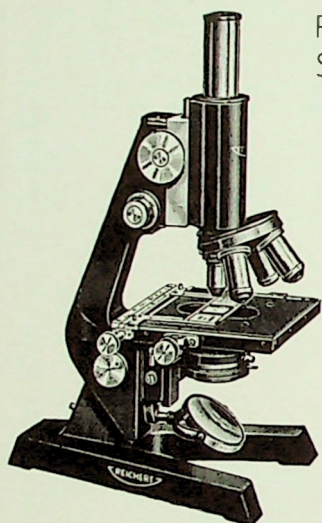
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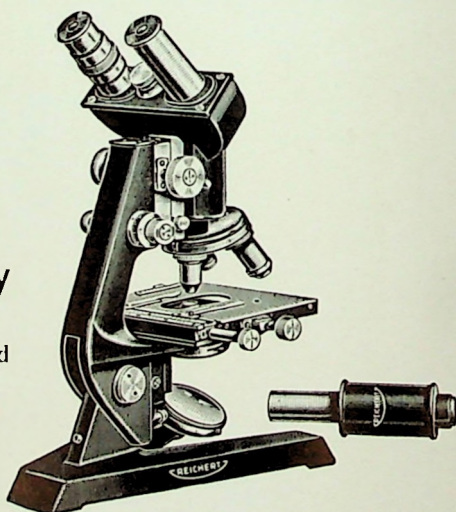
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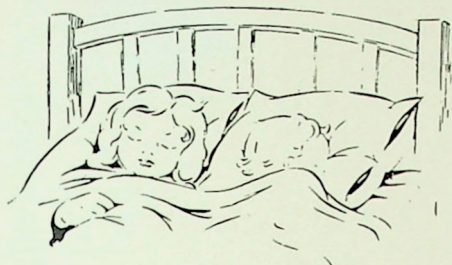
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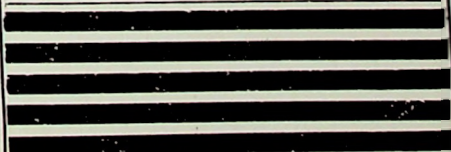


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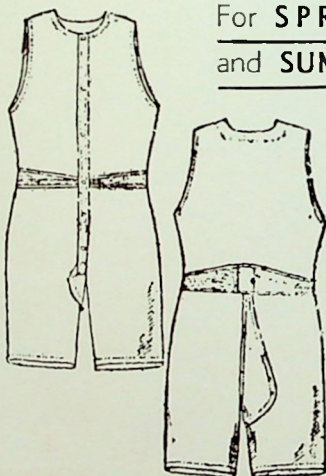
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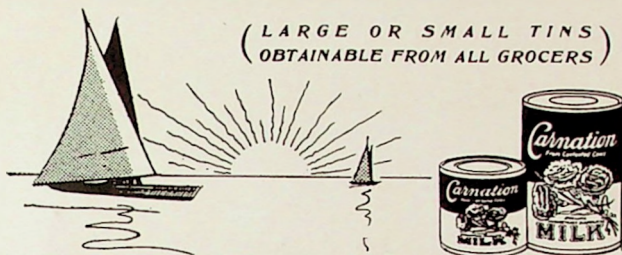
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VOL. XXIV

MAY, 1936

No. 5

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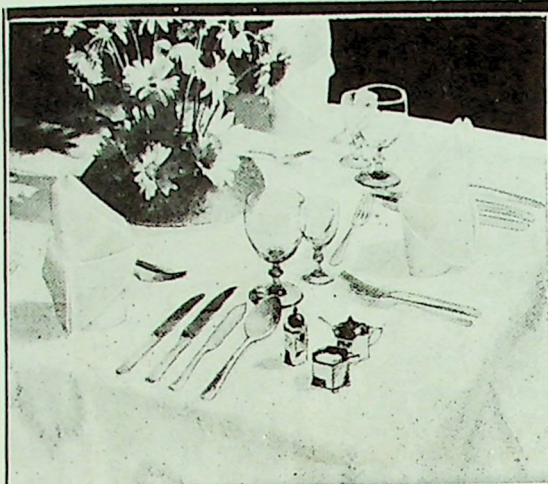
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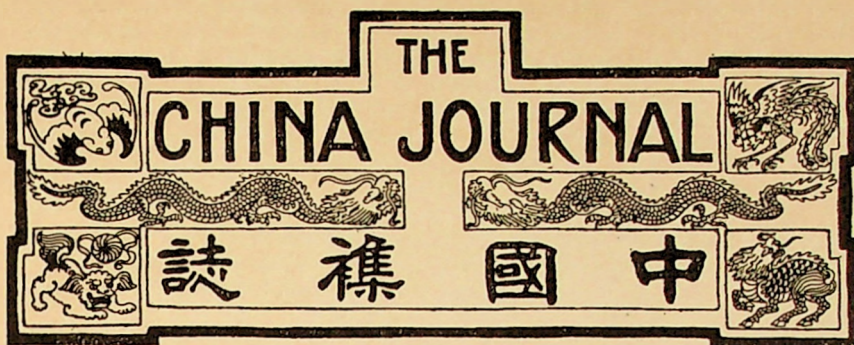
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HONGKONG HARBOUR

Hongkong, although a British Colony, is one of China's big Ports, where Ships of every Description and from all over the World may be seen.

From the Oil Painting
by H. E. Gibson



VOL. XXIV

MAY, 1936

No. 5

EVENTS AND COMMENTS

Our Special Trade Number

The present issue of this journal is devoted to a survey of China's Overseas Trade as announced in our April number, an effort being made to present the situation as it really is in as interesting a way as possible. Recourse has been made to many reliable sources of information and experts consulted in order to present as accurate a picture as possible. Although a flood of literature on economic subjects in connection with China is now pouring from the press it is surprising how little the general public knows of this country's resources, industry and commerce, if the numerous enquiries addressed to the Editor of *The China Journal* may be taken as a criterion. Such enquiries have been born in mind in the writing and compilation of the articles and notes that make up this number of the journal, and it is hoped that they will prove of value to those connected with China's trade, and of interest to the general reader.

* * * *

The World Political Horizon

To what end events are shaping themselves on the horizon of world politics is by no means a matter of easy conjecture, yet the indications seem to point to an armaments Marathon between the leading nations that can only end in another world war. The situation in both Europe and Asia appears to grow graver week by week, almost day by day. Great Britain's decision to increase her armaments, as indicated by the passing by Parliament of Sir Nevil Chamberlain's Budget, is more than significant, as are the recent public pronouncements of Mr. Stanley Baldwin, the Premier, and Mr. Anthony Eden, the Foreign Secretary. Great Britain, placing her faith in the League of Nations and the system of Collective Security, has lagged far behind in this important matter, only to be rudely awakened to a sense of her own insecurity by the actions of certain Powers and the lack of action in regard to those actions on the

part of the League. She now has a serious task before her to catch up, especially in aerial armaments, with other nations, all of which are increasing their military or convertible civil aircraft at an alarming rate.

Lord Lytton's passionate demand of the League of Nations for the immediate further application of sanctions against Italy on the part of nations solemnly pledged so to act, if granted, will inevitably further increase the strain of an already tense situation, and will bring war appreciably nearer.

All this looks very much like preparing for another "war to end war," yet what other course is open, even to those countries which most earnestly desire peace, than to use force against such nations as deliberately break their pledges and embark upon military aggression against other nations?

* * * *

Italy	What to do in connection with Italy's defeat and
Annexes	annexation of Abyssinia appears to be a problem
Ethiopia	beyond the League's capacity to solve, and so it is
	doing what all incompetent bodies have always done

in similar circumstances, namely, shelved it, at least temporarily. Rather than face the issue the League representatives of various countries, presumably on instructions received from their Governments, have postponed even a discussion of the situation till June. In the meanwhile various smaller nations have become distinctly restive, and talk of withdrawing from the League has become general. Prompt and decisive action on the part of the representatives of the leading countries belonging to the League might have saved the day, but, as things now stand, it would appear that there is only one thing to do with the League of Nations, presented to the world by a country whose own constitution prevents her joining it, and that is to bury it. Without the United States of America as a member it never was and never could be any use, its utter futility having first been demonstrated when Japan walked into Manchuria.

Italy now possesses Abyssinia, and, as far as it is possible to look into the future, Italy will keep Abyssinia. It is practically certain that the League will do nothing about it. All that can be done now is to hope that Italy will make a success of administering her new territories, introducing good government in the place of what she described as flagrant misrule, and, above all, abolishing the slavery and other abominations, about which she has said so much in justification of her action against Ethiopia.

In the meanwhile Haile Selassie, whose hopes in the League of Nations have been shattered, as have those of every country that has put any faith in it, has become a wanderer on the face of the earth, like so many other dispossessed rulers before him.

* * * *

Smuggling in North and South China	What can only be described as the most amazing situation in regard to the age-old occupation of smuggling that has ever occurred, at least in modern times, has arisen in North China, and to an almost equal extent in South-east China. Smugglers, main-
---	--

ly Japanese and Korean in the north and Japanese and Formosan in the south, are openly bringing in all classes of goods duty free in such quantities as seriously to effect legitimate imports and to have reduced customs revenue in those areas by about fifty per cent. In the north the Chinese Government is powerless to deal with the smugglers because of the autonomous government and neutral zone which have been established between Hopei and the Manchurian border, and in which neither military nor naval units are permitted to operate and the customs officers are not allowed to carry arms. In the south the irregularity of the Fukien coastline and the innumerable bays and inlets guarded by a host of hilly islands make it extremely difficult for the customs authorities to prevent smugglers from slipping across the narrow stretch of water between China and Formosa and landing goods which are immediately transported into the interior for distribution. Near places like Pei-tai Ho, a famous North China seaside resort not far from the Manchurian border, as many as thirty steamers at a time have been seen unloading goods on to the beaches, and reports state that stations along the section of the Peiping-Mukden Railway between Luan-chou and Shan-hai Kuan are choked with merchandise upon which no duty has been paid.

It would seem that the Chinese Government is practically helpless in the matter, since drastic action, which alone can cope with the situation, would almost inevitably lead to clashes with Japanese subjects and resultant "incidents," the far reaching effects of which can be imagined.

Japan alone is master of the situation, and it may be suggested that the Japanese Government, in order to prove its friendliness with China, might cooperate wholeheartedly with the Chinese authorities by controlling the Japanese, Korean and Formosan smugglers. This whole nefarious business could easily be stopped at its source.

On the other hand, it may be pointed out that high tariffs always provide an incentive to smugglers, and can only be imposed effectively by a country with effective means of preventing smuggling.

* * * *

A Plea for China

A plea may be made to other countries to give China a chance. She is at present faced with many great problems and almost insurmountable difficulties. While the Communists have long since been dislodged from their strongholds in Kiangsi and Hunan in Central China, there are still comparatively strong bands of these malcontents in several parts of the country. In extensive areas in Szechuan famine is rampant as a result of the depredations of the bandit hordes that call themselves Communists, while recently West Shansi has been ravaged by them. The effects of last year's terrible floods are still being felt most severely in Shantung, Anhui and Northern Kiangsu, as well as in places in the Yangtze Valley. The buying power of large sections of the populace has been seriously reduced by these catastrophes, and China's trade is being adversely affected. Her borders are being threatened by allegedly friendly Powers. Never was a country so beset with adversity, and yet, in spite of everything, she is making heroic efforts to set her house in order by developing her resources and industries, extending her foreign trade, educating her people and generally raising their standard of living. Surely it would

be the part of true friendship for her neighbours to show her consideration and to put out a helping hand rather than to make things more difficult for her?

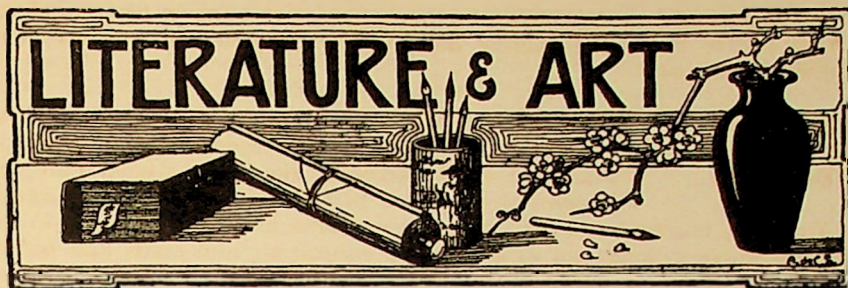
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Shanghai's	In the meanwhile it is to be hoped that the fullest
Fair and	support of all industrial and commercial interests in
Exhibition	Shanghai will be accorded the International Fair and
	Exhibition that is to be held here in July and August.

Already a hundred and fifty different concerns have booked space in the commodious grounds set aside for the enterprize, and stalls and booths in many styles of architecture and in various materials are springing up. Amusements of every description will be provided for the public, as well as places for refreshment. The Exhibition grounds should become the chief rendezvous during the summer months, its position on the banks of the Whangpoo, where cool breezes from the sea can be felt, offering a special attraction on hot nights.

Something of this sort is what Shanghai needs at the moment to help the community out of the doldrums into which it has drifted as a result of the past year's depression. Already there are indications that business is picking up, and a show of the kind the Fair gives signs of being should offer just the necessary fillip to help it "over the top."

A. de C. S.



CHINA'S OVERSEAS TRADE; PAST, PRESENT AND FUTURE

BY

ARTHUR DE CARLE SOWERBY

In the present state of our knowledge concerning Ancient China it is impossible to say just when her overseas trade began. There are indications amongst the finds that have been made at An-yang in Honan, one of the capitals of the Shang Dynasty (1776-1122 B.C.), that the early ancestors of the Chinese people had access to the sea. The bones of a whale as well as numerous cowry shells have been unearthed in the course of recent excavations at this now famous site. While the whale bones indicate that the people of Shang either had reached the sea shore or were in contact with others who lived along the coasts, the cowries suggest that they might have been trading, not only with the coast dwellers, but possibly also with the inhabitants of countries across the ocean, since the cowry is known to have been used as a means of barter even by prehistoric man, and the species of cowry, *Cyprea moneta*, or the money cowry, found in the An-yang excavations was the kind used in Europe and in Africa as well as in Asia.

This, of course, is only surmise, but we know that trade relations must have existed between the Kingdom of Shang and the peoples further west towards Central Asia, for there is no other way of accounting for the presence of jade and turquoise objects amongst the finds made at An-yang, the nearest areas to that city where these substances occur in a natural state being what are now known as Western Kansu and Sinkiang or Chinese Turkestan.

Certainly during the Chou Dynasty (1122-255 B.C.), which replaced the Shang, there was an exchange of goods overland with Central and Northern Asia, there being records of customs barriers as early as 522 B.C.

By the time of the Han Dynasty (206 B.C.-220 A.D.) China was trading overland with countries in Western Asia and even with European countries, for the successful expedition of Chang Ch'ien, Minister of

the Emperor Wu Ti, against the Hsiung Nu, or Huns, had opened communications between East and West, and made it possible for Chinese silks to be worn by the ladies of Rome. To the east and north-east China was trading with Korea, which at that time extended well into present-day Manchuria.

By the third century B.C. the Chinese, then under the sway of the Ch'in Dynasty (255-206 B.C.), had extended their influence to the sea shore by way of the valleys of both the Yellow River and Yangtze, and had begun the conquest of the aboriginal tribes which inhabited the coastal regions from the mouth of the latter river southward. It is safe to assume that they had developed at least a coastwise shipping trade. As early as 115 B.C. there was intercourse with Japan.

Meanwhile Indian and Persian traders had reached South China several centuries before the commencement of the Christian era, so that a contact must have taken place between China's early coastwise shipping and this foreign shipping, and it is not unreasonable to assume that Chinese ships actually traded with India, possibly even with Persia. In pre-Han times the Phoenicians had found their way to the Far East, from ports at the head of the Red Sea. Apparently they reached and traded with South China, possibly with Canton.

Early in the Christian era the Arabs had also opened up trade relations with China, and by 300 A.D. had established a trading colony at Canton. A century later they had pushed their commercial activities to north of the Yangtze Estuary. Up to this time they had used their own vessels to carry their merchandise to and from China, but subsequently, finding the Chinese ships superior to their own, or, possibly, the Chinese to be better mariners than they were themselves, they began chartering Chinese junks, which by this means soon had a monopoly in the overseas carrying trade in these regions. This they held till the advent of Europeans and the introduction of steam-driven vessels. Trade between China and Cambodia and China and Siam was developed early in the seventh century, and was very prosperous.

Thus by the T'ang period (618-906 A.D.) the Chinese had a flourishing overseas trade, which deteriorated somewhat during the Sung Dynasty (960-1206 A.D.), but revived under the Mongol Emperors. (1206-1368 A.D.), trade between Europe and the Far East having been greatly stimulated by accounts of the riches in the latter region by such travellers as the Polos. China's overseas trade was even more vigorously prosecuted during the Ming Dynasty (1368-1644 A.D.) by Emperor Yung Lo and his ministers. Yung Lo's extensive expeditions, conducted by fleets comprising considerable numbers of large ships manned by soldiers as well as merchants and sailors, explored the Indian Ocean as far as the coasts of East Africa and Arabia, and made the seas west of Ceylon safe for Chinese trade, but later in the same dynasty this aggressive maritime policy was abandoned, and Chinese merchants and ships withdrew to waters east of the Malayan Peninsula, carrying on till modern times a lucrative trade, however, with the islands of the Southern Seas, as the Malayan area is called by the Chinese.

By this time the merchants of such European countries as England, Italy, Spain, Portugal and Holland had become anxious to trade direct with India and China, and their mariners were eagerly exploring the ocean in every direction for an all-sea route to these lands of promised wealth. It was this search for a sea route to the Orient that led to the discovery by Christopher Columbus of the American continent. Indeed, when he first sighted land after crossing the Atlantic, he thought he had reached India, hence the name West Indies, which was given to the group of islands in the Western Atlantic he first encountered. In due course the passages round the Cape of Good Hope in South Africa and Cape Horn in South America were discovered, and India and the islands of the Malayan Archipelago were opened up to trade; but it was not till early in the sixteenth century that an attempt to trade direct with China was made. This was carried out in 1516 by Rafael Perestrello, a Portuguese, who sailed from Malacca to China in a native ship on a trade prospecting expedition. In 1517 Fernao Perez de Andrade with four Portuguese and four Malayan ships reached China, dropping anchor at San-chuan, now called St. John's Island, off Canton.

Accompanied by Thomé Pires, Envoy to the Chinese Emperor commissioned by the Governor of Goa, he was allowed to proceed to the latter city with two ships to trade. It was not till 1537, however, that the Portuguese traders were allowed to take temporary shelter on the island of Macao, and not till 1557 that they established a settlement on the desert peninsula at the extreme south of that island. Subsequently the Portuguese jealously guarded the advantage they had thus gained in trading with China, and for many decades managed by intrigue with the Chinese authorities in Canton and other means to keep other European traders away. But in 1575 two Spanish priests managed to reach that port and were favourably received by the Viceroy at Shiun-sing on the Shi Kiang, or West River. On their return to Manila direct trade relations were opened between the Philippine Islands and China. This, however, was mainly in the hands of the Chinese themselves, considerable numbers of whom began to settle in Manila in 1588. These were mostly Fukienese from Amoy, which indicates that Spanish trading influence had pushed up the coast of China as far north as that port. Matters did not go too smoothly with this lucrative commerce, however, for in 1603 there was a general massacre of Chinese in the Philippines, another in 1639, and several others in later years. Nevertheless, by the year 1730 the Spaniards managed to establish themselves firmly in Amoy, where they held a monopoly of foreign trade till 1842, the port being closed to all other Westerners till that year.

The Dutch next came on to the scene, in 1604 sending a ship to Canton. Permission to trade was refused, however, and again in 1607 when another attempt was made to open up direct trade relations. In 1622 Kornelis Ruyter appeared off Macao with fifteen ships and attacked the Portuguese settlement. He was repulsed with heavy losses, and withdrew to the Pescadores, which he occupied, two years later withdrawing to Formosa. Here the Dutch established themselves at Taiwan, Tamsui and Keelung. Another attempt to trade with China

was made in 1653, but again permission was refused. As a result, however, of the embassy sent to Peking under Peter de Goyer and Jacob de Keyzer in 1655 the privilege was granted of sending an embassy once every eight years with four ships to trade. This was early in the Ch'ing or Manchu Dynasty, which had not yet gained complete control of the coastal regions and waters of South-east China. The famous pirate Koxinga, who was established at Amoy and considered himself a partizan of the deposed Ming Dynasty, attacked the Dutch in Formosa and drove them out in 1662. This led to the Council at Batavia in Java sending twelve ships to help the Manchu Emperor against Koxinga, capturing Amoy and driving him to seek refuge in Formosa. It was not, however, till a century later in 1762 that the Dutch were allowed to establish a factory in Canton.

Next to the Dutch came the English, when in 1637 Captain John Weddell with four ships reached Macao and sailed thence to Canton after forcing an entrance to the river on which that city stands. He disposed of his cargo, and, loaded with sugar and ginger, sailed away. The British managed to carry on some trade with Amoy and Formosa in 1670, making another attempt to open trade relations with Canton in 1681. But it was not till 1685 that the Honourable East India Company secured the right to have a factory there, though it did not establish one till 1715. This was occupied by a permanent staff of super cargoes, and was the beginning of the famous Factory¹ system, by means of which China's trade with foreigners was conducted for over a century. To regulate and control prices the Chinese merchants in Canton formed themselves into a guild called the Co-hong, and a system developed of allocating each foreign merchant firm to a single member of the Co-hong, through whom alone could it carry on business. Disputes of various kinds arose, leading finally to the war with Great Britain of 1839, usually known as the "Opium War." This ended in 1842 with the signing of the Treaty of Nanking, whereby the five ports of Canton, Amoy, Foochow, Ningpo and Shanghai were opened to foreign trade regardless of nationality. Thereafter they were known as Treaty Ports. In 1856 an incident at Canton in connection with a boat called the *Arrow* led to the second war between Great Britain and China. It was known as the "Arrow War," and was ended in 1858 by the signing of the Treaty of Tientsin, by which the Yangtze was opened to foreign trade with Kiukiang and Hankow as treaty ports, as well as Kiung-chou, Swatow, Chefoo, Tientsin and Newchwang along the coast and Taiwan in Formosa. Later yet other places were added to the list of treaty ports.

Between the years 1842 and 1871 treaties were signed between China and eleven countries other than Great Britain, all of which had established trade relations with the former. But Great Britain was always far in the lead in commercial matters, so that the history of China's overseas trade during this period is practically synonymous with

1. These Factories were so called because they were the headquarters of Factors or Agents of the Company they represented and not because they manufactured anything.

the history of Sino-British relations during the nineteenth century. It must not be overlooked, however, that an important overland trade, especially in tea, had developed with Russia, its centre being located at Hankow, whence the tea proceeded to Peking and from there by camel caravan to Kalgan and across the Gobi Desert to Urga and other places in Outer Mongolia and Siberia.

As regards British trade with China the year 1834 was an extremely important one. It was then that the charter held from the British Government by the Honourable East India Company expired, and with it the Co-hong and Factory system. Thereafter trade developed rapidly, for numerous British merchants established themselves in Canton, laying the foundations of business enterprises that later came to be known as the "Princely Hong," which were engaged in the importation of Indian opium, Lancashire piece goods, silver bullion and other articles and products, and the exportation of tea, silk, sugar, cotton cloth, porcelain and the like. The trade in Indian opium was not legalized till 1858, by the Treaty of Tientsin, and continued to flourish till it was altogether suppressed in 1910 by the joint action of the British and the Chinese Governments.

The tea trade which developed between China on the one hand and Great Britain and America on the other was one of the most romantic phases in the history of this country's overseas trade. It was mainly centred in Foochow, whence every year when the season's crop had been gathered clipper ships, specially built for speed, used to set out from Pagoda Anchorage in the estuary of the Min River on a long race to London by way of the Cape of Good Hope, the first ships to make the home port securing rich prizes in the way of enhanced prices for their cargoes of tea. Later Hankow and other Yangtze ports became important tea exporting centres.

It was not long before Shanghai became the most important port in China, the reason being its strategic position at the mouth of the Yangtze, by means of which it controlled the import and export trade of the vast and extremely rich valley and basin of that river. In the north Newchwang and Tientsin became important both for imports and exports, but the building of the railway to Dalny (Dairen) and Port Arthur by the Russians, and the Peking-Mukden Railway by the Chinese Government, finally robbed Newchwang of its importance, since it deflected trade from that port's hinterland to other ports. Tientsin's chief importance lay firstly in the development of a flourishing export trade in camel, sheep and goat's wool, skins, cereals and the like, not only from North China but from Mongolia and Turkestan as well, and secondly in the fact that it was the port of entry for foreign goods required for the six northern provinces. Canton, of course, continued to maintain its importance, though somewhat affected by the development of the British colony of Hongkong, since it was the port for South and South-central China, tapping a vast and thickly populated area of considerable richness. Chefoo, on the north coast of Shantung, developed an important export trade in pongee silk, made from the product of the wild silk moth, and lace.

The awakening of China, which followed the Boxer Rebellion in 1900, gave an enormous impetus to her foreign trade, the development in such treaty ports as Shanghai and Tientsin being phenomenal during the first two and a half decades of the twentieth century. The World War naturally stimulated her export trade to its utmost capacity, for Europe needed vast quantities of raw materials of every description. In China, as elsewhere in the world, it built up a false position for traders, and when it was over a post-war depression set in which caused considerable distress. For various reasons, however, the world depression, which has so nearly wrecked the countries of the West, did not affect China seriously, and it is only in the last two years that trade conditions have become really bad in this country. This is due, as far as exports are concerned, mainly to a falling off throughout the world in the demand for raw products, and in regard to imports to a deterioration in the buying power of the Chinese people as a result of civil war, banditry and catastrophic floods in the valleys of the Yangtze and Yellow Rivers. It is probable also that the present high customs duties on imported goods has something to do with the falling off of trade, a situation which the Government might do well to look into, with a view to affording relief where necessary by a reduction in the prevailing tariffs.

Indeed, the future of China's overseas trade depends very largely upon the intelligent handling of her tariffs. In the first place, in order to encourage the export of her products, both manufactured and raw, there should be no export duty. Every cent added to the cost of such products makes it harder for them to compete successfully in foreign markets. Taxes on raw or manufactured products in transit from the interior also should be strictly prohibited, so as to make them as cheap as possible, and everything practicable should be done to encourage the production in rural areas of exportable raw products. Improvement of quality, careful selection, sound packing and protection in transit are all matters that should receive the careful attention of the authorities, who should be careful not to hamper merchants in the ports with stultifying restrictions and ill-considered regulations.

But, since no trade can exist that flows in one direction only, the importation of foreign goods should be encouraged as much as possible. If China wants to develop a big export trade, she must be ready to take what the world has to offer in exchange for her products. Unless she is importing goods from a foreign country she is in no position to insist on that country's taking what she has to offer. In order to develop her own resources and industries China needs all kinds of machinery from abroad. Especially important, for instance, is the development of transportation facilities in the interior, yet at the moment the purchase of motor vehicles is being discouraged by the existing high import duty on gasoline and other motor fuel.

There can be no doubt that, given favourable conditions, China's overseas trade has a bright future. In spite of the invention of artificial silks, for instance, real silk fabrics are and always will be in great demand in America and Europe, and what country is better fitted for

THE CHINESE CUSTOMS SERVICE

the production of raw silk and even silk fabrics than China? Even as this is being written China is being presented with the opportunity of regaining her old time supremacy in the world's silk markets as a result of the Italo-Abyssinian war, which has temporarily knocked Italy out of the running, and the failure of the silk crop in Japan.

China has vast potentialities as a producer of both raw materials and manufactured articles, but, in order for her to realize those potentialities, she must develop her overseas trade along sound lines. Otherwise she will find herself in the same positions as other countries which have brought production up to a high state of efficiency without at the same time building up markets in foreign lands for their products. And there is no surer way of building up a sound foreign trade than by a careful and intelligent manipulation of the customs tariffs, since these provide the means of securing reciprocal trade arrangements with foreign countries.

China, without any doubt, is the world's greatest potential market. With a population of between four and five hundred millions it is impossible for her to be anything else. Even if she develops her industries and natural resources to the same degree that Europe and America have done there will still be much that she must buy from other countries. In fact, the more she develops her own industries and natural resources, the wealthier she will become, and the richer she becomes, the more she will buy from abroad. And a survey of events in China during the past few years can lead to but one conclusion, namely, that this country is developing industrially at an incredible rate. While China still needs much foreign machinery, she is manufacturing considerable quantities herself. She is travelling along the road of industrial development at a rate even faster than Japan did when she changed from a backward secluded nation into a World Power in the course of a single generation. China, very soon, is going to break into the world markets with her manufactured goods, at the same time becoming one of the world's biggest buyers of foreign goods. This is the future of China's overseas trade, a future that is as bright as that of any country in the world. For China possesses the three essentials for trade expansion: plenty of territory and natural resources; an enormous population of industrious and virile people; and an aptitude for commerce and finance second to none.

THE CHINESE CUSTOMS SERVICE

BY

SU-LIN YOUNG

To levy an excise tax on imports for the purpose of retarding the progress of commerce would seem highly fantastic in our modern era, and yet the customs duty, which originates as far back as the Western

Chou Dynasty, was first introduced in China for exactly that purpose. In those early days agriculture was considered of far greater importance to the wealth of a nation than commerce, and economists and statesmen attempted to regulate the volume of trade by taxing merchandise. The result, however, was contrary to their expectations, for commerce increased in spite of taxation, bringing in revenue to the State. Thereafter the levying of customs duties was followed for the primary purpose of collecting revenues.

During the long period from the Chou to the Ch'ing Dynasties there appears to have been little change in the practices involved in the collecting of taxes on imports into China, but with the advent of the first Europeans to reach this country in 1516, the age-old system was found to be inadequate to meet the new conditions which soon arose. Almost at once friction developed between the Chinese officials on the one hand and the foreign traders on the other, finally resulting in wars, which ended in treaties being signed whose object was to regulate matters in this direction.

The history of the present Chinese Maritime Customs Service goes back to the year 1854, when during the Taiping Rebellion the native city of Shanghai fell into the hands of the rebels and the Chinese Customs officials were forced to flee into the foreign settlements for safety. A period followed during which there was a complete absence of authority in regard to Customs revenue in this district. This brought about a system of mixed foreign and Chinese control, and ultimately to the creation of an Inspectorate-General of Customs. Though the disturbances brought about by the Taiping Rebellion were the immediate cause of this change, the repeated failure of Chinese officials to operate the Customs under a practicable and efficient method was an important factor contributing to the reorganization of the system.

On July 12, 1854, a new administrative system was installed introducing Western methods and combining Chinese and foreign control. Under this system of dual control three foreigners were elected to serve on the Board of Inspectors, representatives of the British, French and American communities, while the actual authority and charge of the money paid in revenues was placed in the hands of a Chinese Superintendent of Customs, a practice which has been maintained to the present day.

The benefits derived from this new system soon became noticeable, for honesty and efficiency ruled, and merchants no longer had to fear unequal treatment at the hands of the officials. With the help of the foreigners, China was able to fulfill her obligations under the Treaty of Nanking (1842), by which she had undertaken to adopt a system of fair taxation.

The offices of the Customs were established in a temple situated on the bank of the Whangpoo River in the year 1845, and remained there till a new building was erected on the same site in 1893.

In 1858 the Inspectorate at Shanghai again changed its character, as both the French and the American Inspectors withdrew, while Mr. Horatio Nelson Lay became the first Inspector-General of Customs. He



The old Temple Building on the Bund in Shanghai which housed the Chinese Maritime Customs from 1845 to 1893.



The Customs Building on the same Site as the old Temple which formed the Home of the Customs Service in Shanghai from 1893 to 1925.



Photographs
by Courtesy
of Mr. Loy
Chang, the
Director-
General of
the Kuan
Wu Chu.





The Bund and magnificent Water-front Buildings of Shanghai to-day, the Four largest being the Hongkong and Shanghai Bank, the Customs Building, the Cathay Hotel and the Broadway Mansions. In the Right foreground is the Cenotaph. This beautiful Picture was made by Eastman Kodak Company, Shanghai.



The Customs Building of To-day as it stands an imposing Edifice on the Bund on the Site of the original Building which it replaced in 1927. The huge Clock in the Tower, from which Shanghai takes its Time, is known as "Big Ch'ing." Photograph by Courtesy of Mr. Loy Chang, Director-General of the Kuan Wu Chu.

THE CHINESE CUSTOMS SERVICE

remained in this post even after the Inspectorate was transferred to Peking in 1861 under a new Foreign Board. It operated under the Tsung-li Yamen, as the Foreign Office was then called, until 1906, when by Imperial Decree it was placed under the direct control of the Sui-wu-chu, or Revenue Council.

Mr. Robert Hart (later Sir Robert Hart) came into office as Inspector-General during Mr. Lay's leave of absence in England, owing to the dismissal of the latter for making unauthorized purchases of cruisers for the suppression of piracy. The name of Sir Robert Hart is intimately connected with the history of the Chinese Customs Service, for, though he was not its originator, its growth and success were largely due to his initiative and genius. He built it up into the most important of all the Government organizations in the country, while the funds derived from it became the leading source of revenue of the State. Large numbers of foreigners were employed in the two branches, "Indoors" and "Outdoor," the latter offering splendid careers for men of education and breeding. For a young man to get on the "Indoor" staff of the Chinese Maritime Customs Service meant that he was secure for life, provided he did not disgrace himself in any way. In point of importance members of the Customs Service came next to those of the Consular Services.

Commissioners or Deputy-Commissioners were appointed in every Treaty Port in China, each being supported by an adequate staff of assistants and officers of varying rank down to what were known as Tide-waiters.

Besides the collecting of Customs dues all manner of things came under the control of the Commissioners, such as the establishing and maintenance of lighthouses, lightships and other aids to navigation, the supervision and improvement of harbours, the appointment of pilots, the inauguration of schools and colleges, river conservancy, quarantine duties, the publication of statistics and information vital to or connected with trade, the surveying and charting of the coasts and adjacent waters as well as of navigable rivers, the banking of revenues collected and the payment to foreign countries of the indemnities incurred, first by the war of 1860 and then by the Boxer outbreak. Even China's Postal Service was inaugurated (in 1896) as a branch of the Customs Service, remaining so until it was separated as an independent organization in 1911. In fact, the Customs Service in China was actually something far more than an institution for the collecting of duties on imports and exports. It might be described as the pioneer in China's progress from her ancient system of Government to the system now in force, which is based on those of Western countries. What it accomplished, even before the great awakening that followed the Boxer outbreak in 1900, was amazing.

Subsequent to the latter rebellion, when China was confronted by demands for war indemnities from eleven foreign nations, Sir Robert Hart submitted a plan for payment by annual installments, suggesting that the revenues from the Native Customs and the available balance of the Maritime Customs be reserved for the payment of these debts. As

a result of his proposal a 5 per cent increase *ad valorem* of the tariff rates was established.

Sir Robert Hart retained the office of Inspector-General of Customs until his death on September 21, 1911, although he had been living since 1908 in England, Sir Robert Bredon occupying the position of Acting Inspector-General. Sir Francis Aglan was appointed Inspector-General in October, 1911, being followed by Mr. A. H. F. Edwardes in 1927, and Sir Frederick Maze in January, 1929. Since the Nationalist Government came into power, the chief authority in the Customs Service has been vested in the Chinese Director-General of what is now known as the Kuan-wu-chu, Mr. Loy Chang being the present incumbent of this important position.

In 1925 the old building housing the Customs in Shanghai, erected in 1893, was torn down, and by 1927 a new and imposing edifice stood in its place.

During the period of civil war, from the beginning of the Republic in 1912 to the coming into power of the Nationalist Government in 1927, the foreign officers of the Chinese Maritime Customs Service frequently found themselves receiving orders from two or more Governments established in different parts of the country. This resulted in an extremely anomalous situation, which, however, was cleared up when Peking was captured by the Nationalist Party. The new Government soon transferred the Customs headquarters to Shanghai. Meanwhile in 1925 a Special Tariff Conference, which was one of the provisions of the Nine Power Treaty concluded in February, 1922, between China, the United States of America, Belgium, the British Empire, France, Italy, Japan, the Netherlands and Portugal, had been convened in Peking to discuss the Chinese Customs Tariff, but, owing to the chaotic conditions prevailing in China, the Chinese delegates left Peking without having concluded any treaty or arriving at any definite agreement on the subjects discussed. The two resolutions adopted by the delegation were the restoration of China's customs autonomy and the abolition of likin, both of which were to be put into effect by January 1, 1929.

Following the precedent established by Canton and Shantung, the regional authorities in the various ports open to foreign trade on February 1, 1927, declared a 2½ per cent. surtax and a 5 per cent. luxury surtax, the payment of which was not protested against by any of the Treaty Powers except Japan. With the conclusion in 1928 of a series of agreements with various foreign countries, new import tariff schedules were announced to take effect at various dates up to May 22, 1933, while on June 1, 1931, a revised export tariff was put into force. Following these agreements, which were tantamount to a restoration to China of her customs autonomy, duties were greatly increased, and since the dates on which they were first established several further increases have been made.

To-day the duties on goods imported from abroad are distinctly high. While the Chinese Government has the right to place whatever tax it chooses on foreign goods, especially since such levies constitute its main source of revenue, there are those who feel that the present high

CHINESE ART IN RELATION TO TRADE

duties are having an adverse effect upon the country's trade. For one thing, there can be no disputing the fact that they are largely responsible for the enormous amount of smuggling that is taking place, especially in North China and in Fukien Province. The profits to be derived from smuggled goods are so great that the numbers of those engaged in this nefarious occupation have increased of late out of all reckoning, while the quantities of goods smuggled into the country are sufficiently extensive seriously to interfere with legitimate trading, thus producing a condition of stagnation. Merchants in several lines are complaining that the tariffs are so high that sales have practically ceased. Importers of automobiles and motor vehicles generally are attributing a serious falling off in sales to the heavy tax on gasoline, which, it is claimed, makes the cost of this important commodity prohibitive, and so discourages the purchases of cars driven by this fuel.

While it is not intended here to criticise the policy of the Government, it may be suggested that those in authority might investigate the matter of Customs tariffs with a view to adjusting matters so as to encourage rather than discourage trade, for, while the rulers of the ancient Chou Kingdom had reason on their side when they considered agriculture was more important to the country than trade, and it is safe to say that this is still the case, progress in our modern world demands an outlet for the products of cultivation over and above that provided by internal consumption. And no country can hope to dispose of its surplus products without taking in exchange the surplus products of other countries, so that the hampering of its import trade must in the end impair its export trade, which must inevitably react unfavourably on its agricultural industry and the welfare of its people generally.

CHINESE ART IN RELATION TO TRADE

While most artists have a poor opinion of trade, the fact remains that, in order that they may live, their creations must be sold. Sad though it may seem, the prices their pictures and sculptures command and the demand that exists for them in the market are, in these days of commercialism, the standards by which their merits are judged. As a matter of fact, the enthusiasm with which most artists greet a possible purchaser of one of their works suggests that the contempt they express for mere trade is more assumed than real. While they naturally like to feel that they are above such mundane matters as buying and selling, and are inclined to look upon money as a rather unpleasant necessity in a world that has forgotten the true place of the artist, they cannot help appreciating a good sale. It is distressing to think that the days are gone when the wealthy prided themselves on being patrons of art, maintaining artists in the ease and comfort that should be their lot in order to enable them to work undisturbed by the economic urge.

To-day works of art, no matter of what quality and description, must be marketed, just as everything else must. Indeed, the world has become so materially minded that the art dealer in most cases is of considerably greater importance, and certainly is a great deal better off, than the artist. Art has become thoroughly commercialized, and there are few artists to-day whose interest in their is purely for the work's sake. This is true both of the East and of the West, but, perhaps, a little more true of the East than of the West. In the East art-craftsmen greatly exceed in number artists, in the generally accepted meaning of that term, and the applied arts far outweigh the fine arts in importance.

Although in times past the Emperors have usually assumed the rôle of patrons of art, and superlatively good works were supposed to go to the Imperial Court, art objects in China have always been articles of trade, not only within the confines of the Empire, but as exports to foreign lands. By art objects is not meant merely the superb paintings of great masters or the bronzes, porcelains and carvings of master craftsmen, but all the innumerable artistic articles that the Chinese from time immemorial have made as much for daily use as to please the aesthetic sense.

The Chinese have always been an artistic as well as an industrious people. Even the commonest utensils made by the Chinese have invariably had an artistic value immeasurably superior to that of similar objects made in other countries, and it was only natural that the less cultured races surrounding China, and even those occupying territory at considerable distances, should have appreciated and desired the creations they produced in such abundance. Thus there has always been a foreign market for China's art productions. Especially was this the case during the early periods when Chinese travellers and merchants were carrying this country's culture to all parts of the Indian and Western Pacific Oceans, and China's overseas trade was being developed.

Thus, in the Sung period, large quantities of choice porcelain and glazed pottery found their way into the Philippines, Borneo, Java and even as far south as South Australia, in all of which places an abundance of such ware has been unearthed recently in the course of archaeological excavations. A fragment of Sung celadon ware has been found buried beneath the famous and mysterious ruins at Zimbabwe in Rhodesia, proving that somehow Chinese products reached even as far as South Africa many centuries ago.

It must be remembered that while many of the porcelain and glazed pottery pieces found in these out-of-the-way places are to-day looked upon as art objects, it is probable that when they were originally exported from China they were considered to be nothing more than objects of daily use, the innate artistry of the Chinese people insisting that even such objects should have beauty as well as utility. Their shapes must be right and their colours pleasing, and it is not to be wondered at that they were in great demand in the countries visited by Chinese traders. They were far superior in every way to anything of a like nature those countries themselves could produce.

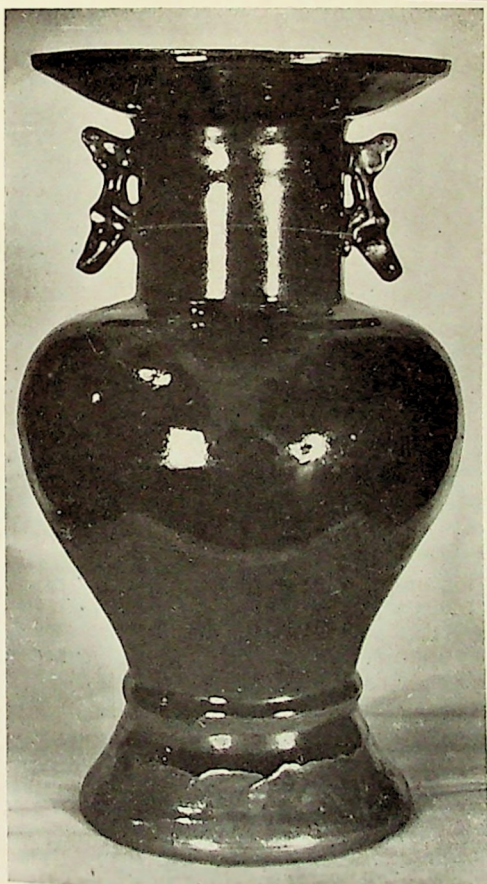
CHINESE ART
OBJECTS



An Enamel Ware Plate of
the Ch'ien Lung Period.
The Landscape Scene is
in Blue and White, the
Border Design in Five
Colours.



To the Left is a Mirror Black Vase of the
Ming Period.

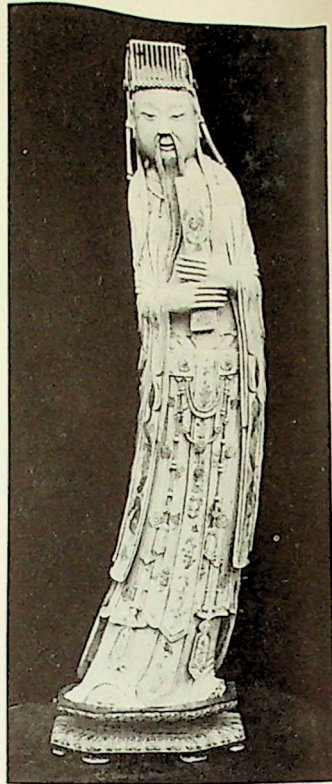


A Mirror Blue Vase of the Early
Ch'ing Period.

Photographs by Courtesy of Komor & Komor (Toyo Murakami Agent).



A Sung Dynasty Pottery Jar with Underglaze Design in Sepia and Brown on a Yellow Ground. W. Weber Collection.



Ivory Carvings of Kuan Yin and Confucius, 38 and 29 Inches, respectively. M. F. Kline Collection, Washington.



A Bronze Vase of the Han Period Showing a Brownish Patina.



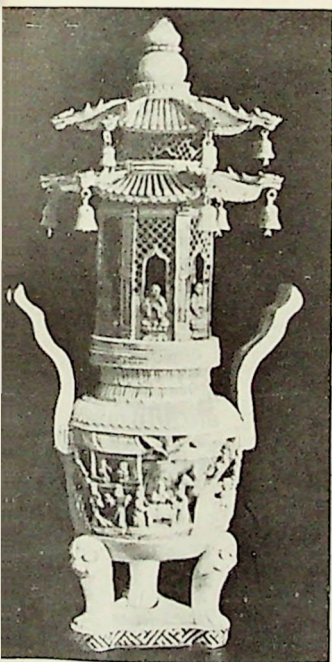
CHINESE ART OBJECTS



Glazed Pottery Head, over Life Size,
in Three Colours. Ming Period.



A Statuette in Copper of a Tibetan
Deity, Seventeenth to Eighteenth
Century.



An Ivory Incense
Burner in the Form
of a Pagoda. On the
Left is a Wooden
Figure of the T'ang
Period.

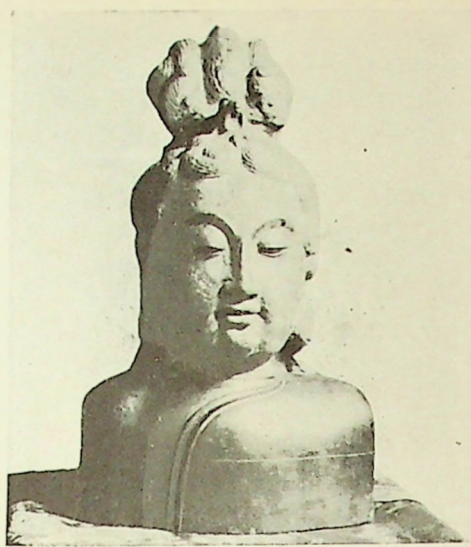


A Glazed Pottery Duck in Three Colours of the Kang Hsi Period.

Photographs by Courtesy of Komor & Komor (Toyo Murakami Agent).

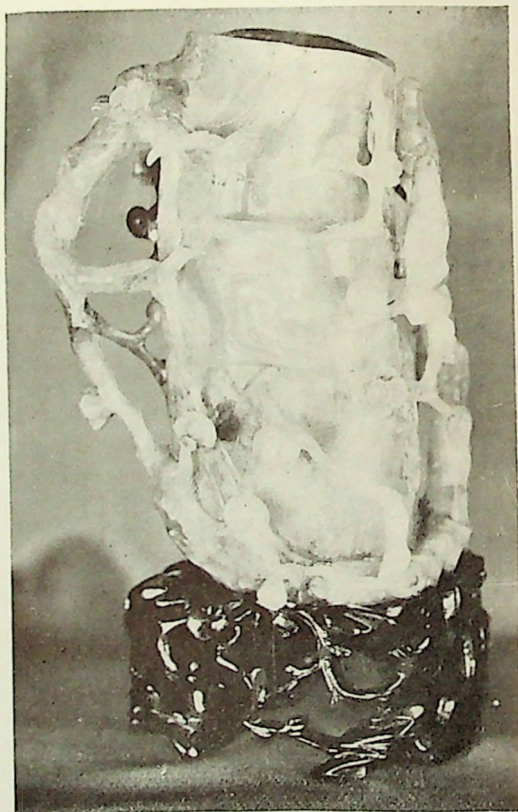
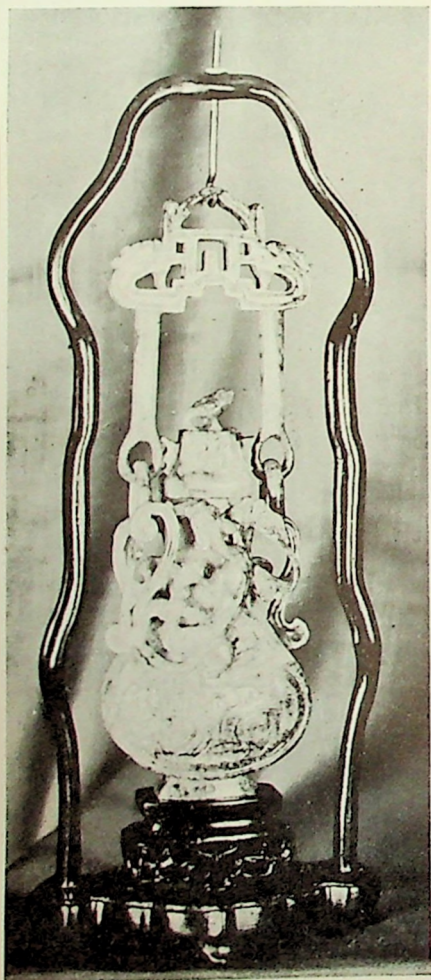


Parti-coloured Jade Sacrificial Vessel in the Form of an Ancient Bronze. M. F. Kline Collection, Washington.



A Stone Head of Sakyamuni in the Tang Style of Carving.

Photographs by Courtesy of Komor & Komor (Toyo Murakami Agent).



An elaborately carved Pearl-Jade Vase. On the Left a Green Jade Incense Burner Carved in the Fashion of an Antique Bronze.

CHINESE ART IN RELATION TO TRADE

In later times, when traders from the West came to China, Chinese *objets d'art* began to be shipped to Europe both as presents to those in high places and as merchandise, and it was not long before they began to have a definite influence on the art and culture of Occidental countries. Chinese porcelain was undoubtedly the main source of inspiration in the ceramic industries of England and the Continent, and it is possible to trace in English landscape architecture, as opposed to that of the formal schools of France, Holland and Italy, the influence of Chinese scenic paintings on scrolls, porcelains and lacquer ware.

Cabinets, screens and other lacquered, pearl inlaid or blackwood articles of furniture found their way into European homes, as well as beautiful porcelain, carved ivory, jade and wood and many other productions of the Chinese art-craftsmen of the period, and there developed the brisk trade of the Georgian and Victorian periods in what is known as *Chinoiserie*.

Strangely enough, it was not till late in the nineteenth or early in the twentieth century that the West began to know and appreciate the finer works of art produced by the Chinese, such as the early bronzes, the stone sculptures of the Han and later periods, the beautiful tomb figures of the Sui, Wei and T'ang Dynasties and the glorious paintings of the T'ang, Sung and Ming, but, once these became known to the general public through the writings of the few, there arose a keen demand for such artistic creations, to satisfy which the whole of China has been scoured by dealers. Ancient graves have been rifled, old temples despoiled, the heads of stone figures on cave walls knocked off and carried away by sacriligious seekers of pelf, and even the palaces of Manchu Princes looted by unscrupulous upstart militarists. Vandalism has been rife.

Very soon the supply of such articles became insufficient to meet the demand, with the result that spurious but in many cases exceedingly well executed imitations began to flood the market. Instead of killing the trade, this seems rather to have stimulated it, and to-day, although it is suffering from a temporary set-back as a result of depression, there is a very extensive "curio" industry in China with an important overseas trade. In Honan and Peiping, where a great deal of the genuine articles of China's ancient art originate or come on to the market, there are regular factories where excellent imitations are turned out by the hundred. Many of these are so well made that, from the aesthetic point of view, they are just as good as the originals, and have the advantage of being obtainable at a fraction of the price of the latter.

In Peiping and Shanghai there are a great many curio shops, or art emporiums, according to whether they are operated by Chinese or foreign dealers, where really exquisite pieces of all kinds can be purchased. There are also wholesale shippers of Chinese art objects, antiques and curios, as well as factories and workshops where all manner of modern articles of virtu—carved jade and other semi-precious stones, carved ivory, carved redwood and blackwood, pearl or ivory inlaid, coromandel and lacquered furniture—are turned out in unbelievable quantities.

There is only one other country in the world which trades in art to the same degree that China does, and that is Japan, whose fascinating art shops never fail to ensnare the visitor to that country's shores. This is undoubtedly owing to a close similarity in the cultures of the two countries, due in the first place to the fact that Japan derived much of hers from China. Especially was this the case in her art, and it is not surprizing to find in both the Japanese and the Chinese people the same love of beauty and desire to surround themselves with beautiful objects, which, in the last analysis, is the reason why in each country such an extensive art industry and trade exist.

ART NOTES

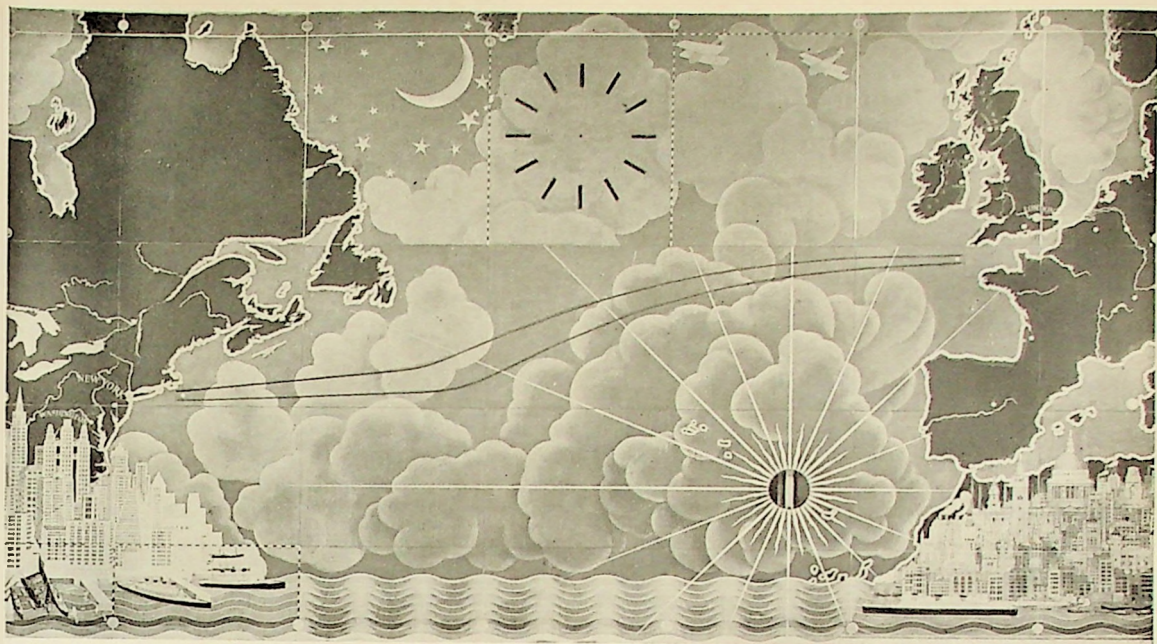
Art on Ocean Liners: Interior decoration on the fast luxury liners which nowadays carry tourists to all parts of the world is becoming an ever more important feature. As each new leviathan is built and launched the public is treated to a further series of surprises at the elegance displayed and the art lavished on its magnificent saloons, companionways and staterooms. In the *Queen Mary*, the latest triumph of the British ship-builder's art and the pride of the Cunard White Star Line, in the main restaurant is a huge decorative map, occupying a large section of the upper part of one wall, which shows West Europe and the British Isles on one side and Eastern North America on the other with the route of the great ship across the Atlantic from England to New York and *vice versa*. A model of the *Queen Mary* travels automatically along the route, indicating her exact position at every moment of the journey. This handsome and interesting mural is the work of MacDonald Gill. A reproduction is given in the accompanying illustration.

Laughing Buddha Sent back to China: Some two years ago the Postal Commissioner in Shanghai, Mr. A. M. Chapelain, was surprized to receive a parcel addressed to him from England, which, on being opened, was found to contain a Foochow lacquer figure of the Laughing Buddha, or Mi-lei Fu, with an unsigned request from the sender that he should take care of the god in the land of its origin. After keeping the little grinning idol for some time, Mr. Chapelain presented it to the Shanghai

Buddhists Association, where it has remained in safe custody. Recently he received another communication in the same handwriting, but addressed from New Zealand, further charging him to take care of the Buddha.

What lies behind this story it is impossible to say, but one's imagination cannot help being stirred by it. What, one wonders, is the true history of this much travelled Buddha? Its origin was certainly Foochow in Fukien, where alone is produced the particular kind of lacquer ware of which it is made. It must have been taken as a curio to England, where, perhaps, it appeared to its owner to be languishing in an inhospitable climate. Perhaps it seemed to be bringing ill-fortune to its owner, and so was sent back to China. Be that as it may, the little lacquer figure representing the Chinese Messiah, who is destined some day to return to earth bringing peace and happiness to mankind, is now in a good home and being well cared for by adherents to the faith to which it belongs.

Jewish Coin for Identification: Recently the Numismatic Society of China, whose headquarters are located in Shanghai, was asked to identify and value the coin shown in the accompanying illustration. As far as can be ascertained it is a silver shekel and probably dates back to some time before the Christian era. Its value is not known to any of the members of the Numismatic Society, and information on this point would be appreciated by the Society's Honorary Secretary, Mr. G. D. Raeburn, who can



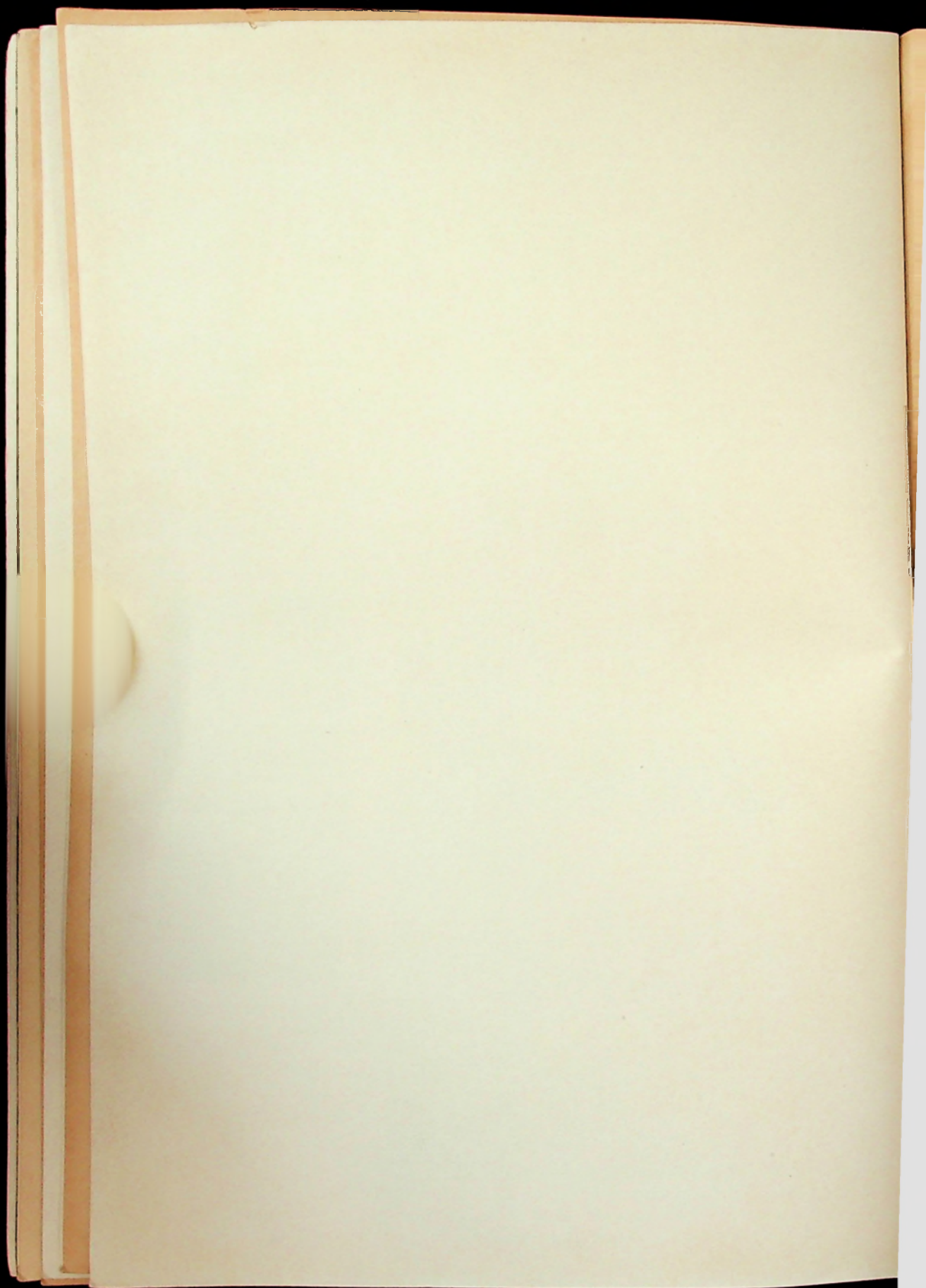
Decorative Map, by MacDonald Gill, in the Main Restaurant of the *Queen Mary*, Cunard's giant new Trans-Atlantic Liner, showing the Vessel's Route across the Atlantic.



Facsimiles of the Obverse and Reverse of an Ancient Jewish Coin, about which information as to Identity and Value are requested.



A much-travelled Laughing Buddha, or Mi-lei Fu. This little Figure in Foochow Lacquer was sent in 1934 to the Post Master in Shanghai by an unknown Person in England with a Request that he should care for it in its Land of Origin.



THE LIBRARY

be reached in care of *The China Journal*, Museum Road, Shanghai.

The coin, it will be seen, shows a sacrificial altar on one side, with smoke ascending to Heaven, on the other Aaron's rod, which, according to the Bible story, blossomed as a sign from Jehovah. It is shown actual size in the illustration.

Japanese Exhibition of Water Colour Paintings: The well known art emporium, Toyo Murakami, is holding its spring exhibition of water colour paintings by leading Japanese artists in its premises at 270 Kiangse Road, Shanghai, and those of our readers who are keen on such things are advised not to miss

it. Although the proprietors of Toyo Murakami are professional art dealers, the excellent exhibitions they hold twice every year do something more than cater to the trade in art objects. They afford those interested in art an excellent opportunity of studying the best that Japan has to offer, and so present the art loving public with a real intellectual and aesthetic feast.

In the present exhibition many remarkably fine paintings are to be seen, Japanese artists having thoroughly mastered the difficult technique involved in the medium as developed in Western countries. The landscapes, which predominate, are extremely pleasing.

A. de C. S.

THE LIBRARY

Chinese Research Library for New York: Recently it was announced that negotiations conducted by Mr. Li Shih-tseng, a veteran Kuomintang leader, with the authorities and educationalists in New York have resulted in a decision to establish in that city a branch of China's International Research Library. Mr. Li is the Director of this institution at Geneva, and went to New York from China early in the year with the express purpose of establishing a branch in America.

Libraries Association in Chekiang Formed: On April 19 at a meeting presided over by Mr. Cheng Hsun-tsu, Director of the Hankow Provincial Library, the Chekiang Provincial Association of Libraries was formally inaugurated. The meeting was attended by some ninety Party and Government officials and representatives of various libraries and public bodies in the province, says a *Kuo Min News Agency* message. A Board of nine Directors was appointed.

Chinese Newspapers number 375 in China: According to a survey recently made by Mr. Li Wen-yi, Director of the first Public Library in Peiping, three hundred and seventy-five morning and evening newspapers in the Chinese language are published in China. Kiangsu

leads with fifty newspapers, while Peiping has forty-eight. Shanghai comes next with thirty newspapers, Chekiang has twenty-four, Kuangtung twenty-two, Fukien sixteen, Shantung fifteen, Shensi twelve, and Ninghsia and Kuei-chou only one each.

Head of Greater Shanghai's Municipal Library Appointed: A native of Anhwei, and for some time head of the preparations committee of the Municipal Library of Greater Shanghai, Mr. Hung Kwei has recently been appointed Director of the Library, which has now been officially established at the Civic Centre at Kiangwan.

Shanghai Holds Record for Bible Publication: It was revealed at the 123rd Annual General Meeting of the British and Foreign Bible Society held in Shanghai on April 14 that this city publishes more copies of the scriptures than any other in the world. Between four and five million copies are printed annually in Shanghai, a figure which represents about forty per cent. of the ten to eleven millions circulated in China each year. Since the publication of the first Chinese New Testament a hundred and twenty years ago, about a hundred million copies of the scriptures in the Chinese language have been issued by the British and Foreign Bible Society.

REVIEWS

All About Tea, by William H. Ukers, M. A.: The Tea and Coffee Trade Journal Company, New York, 1935. Two Volumes. Price U.S.\$25 the set.

Although these handsome volumes were received for review some time ago, they have been reserved for notice in the present issue of this journal, devoted to China's Overseas Trade in which tea has always played an important part.

"All About Tea" is a well chosen title, for we can think of no phase of the subject which has not been completely covered by the author in these two volumes. Each volume comprises three books as follows: Volume I, Book I, Historical Aspects, Book II, Technical Aspects, Book III, Scientific Aspects; Volume II, Book IV, Commercial Aspects, Book V, Social Aspects, Book VI, Artistic Aspects. The last book deals with "Tea and the Fine Arts," and "Tea in Literature," and so might be the most interesting to most of our readers. Besides reproductions of many paintings by European as well as Oriental masters, in which tea drinking figures, artistic teapots, caddies, urns, spoons, basins, cups and saucers, plates and whole services from all parts of the world are shown. Especially interesting are the teapots, a great variety of which are depicted and discussed.

Literature on the subject of tea dates back to a very early period in Chinese writings, the most important work in this language being the *Ch'a Ching*, or *Tea Classic*, by Lu Yu of the T'ang Dynasty. Translations of poems of the same period are given as well as poems of a later date. Poetical and literary references to tea in Japanese as well as in English further intrigue the reader, while a section on "Tea in Modern Prose" followed by an enormous Bibliography, will help to bring the student up to date in his knowledge concerning a commodity that has had an extraordinarily far reaching effect on world affairs.

Going back to Book I, dealing with the "Historical Aspect" of tea, we realize now, if we did not before, that this delightful and stimulating beverage has more than once made history. Outstanding in its achievements was the American Revolution, which resulted from the attempt on the part of England to force the colonists of North America to pay taxes on the China tea sent there from the mother country, and which was precipitated by the famous so-called Boston Tea Party

of December 16, 1773, when certain of the infuriated citizens of Boston, Massachusetts, boarded ships loaded with chests of tea and threw the latter into the harbour. A chapter entitled the "Golden Age of the Clipper Ships," telling of the romantic days of the China tea clippers, will appeal to all residents in this country, while the full and detailed accounts of the cultivation, production and marketing of tea to-day must prove of inestimable value to those engaged in the tea business. Scientists will appreciate the chapters on the "Botany and Histology of Tea," the "Chemistry of Tea" and "Pharmacology of Tea," which conclude Volume I.

Now that China is making efforts to improve her tea cultivation and recover her position in the world's tea markets, these two volumes should attain a wide circulation in this country. Certainly every school, college and university library should include copies, as well as the libraries of the agricultural and industrial departments of every Provincial Government. As already indicated, those interested in China's culture, art and literature, will also find much to interest them in these well printed, profusely illustrated and sumptuously bound volumes. The address of the Tea and Coffee Trade Journal Company is 79 Wall Street, New York. Incidentally, it may be mentioned that this organization issues an extremely useful monthly publication, at U.S.\$3.00 per annum, entitled the *Tea and Coffee Trade Journal*, edited by the author of the work here reviewed.

A. de C. S.

The Chinese Year Book, 1935-36, edited by Kwei Chungshu: Commercial Press, Limited, Shanghai. Price \$30.00 with map.

As with any work of pioneers, "The Chinese Year Book," which was published under the auspices of The Chinese Year Book Company and released early this year, has received its full share of criticisms since its maiden appearance. However, though it has been justly criticized for the omission of an important chapter on the Manchurian situation, which, the editor explains, was not included because of extraordinary circumstances in the Three Eastern Provinces and the lack of verification of the data at hand, and though it has been equally criticized for its bulkiness, we aim here to give due

credit to the group of Chinese writers and publishers who had the initiative and independence of thought to present to the public for the first time a year book on China entirely under Chinese management and Chinese editorship.

A glance at the list of writers will not fail to give the reader an impression of its authenticity and exhaustiveness of subject, for well-known authorities have contributed a wealth of material and information on subjects with which they are familiar. Thus we find a chapter on astronomy written by the director of the National Research Institute of Astronomy; climatology by the director of the Research Institute of Climatology; Executive Yuan by a member of the Yuan, and so on. Each author is an expert in his respective line.

In each case a brief historical sketch is given, with special reference to the period immediately after the establishment of the National Government, which fact, states the editor, accounts for the thickness of the volume.

An unusual feature of the new book is a lengthy treatise on public finance written by Mr. P. T. Chen of the Ministry of Finance, giving a detailed survey of the nation's financial programme. There are also chapters on war, reconstruction and local finance, and the Customs, Salt and Internal Revenue Administrations. This data, which is said to be unavailable elsewhere, should be an invaluable source of reference for students of Chinese economics.

Another distinguishing feature is a chapter contributed by Mr. Chen Chun-pu of the Overseas Chinese Affairs Commission, on the Chinese Overseas, a subject hitherto almost entirely neglected by publications in China.

Special emphasis has been placed on rural economy and the development of native industries, data having been compiled by members of the Ministry of Industries resulting in fine articles on the fishing industry, animal husbandry, mining, forestry and even the more recent motion picture industry.

Thus it would seem that the Editor, Mr. Kwei Chungshu, was all too conscientious in apologizing for the errors and omissions of the maiden edition, shortcomings which after all are insignificant in comparison with the value of its contents. It may be added here that the clumsiness of its size is well compensated by the legibility of the print,

which is neither too small nor too closely set together.

The Chinese Year Book is an excellent example of what Chinese writers, given the right opportunity, can do in expressing themselves in a foreign language; certainly, as a pioneer, it should be hailed by the public as a great achievement in China's publications, and it is to be hoped that the Editors will find enough encouragement in the criticisms offered by the reading public to continue with future editions.

S. L. Y.

Reconstruction in China, by T'ang Leang-li: China United Press, Shanghai, 1935. Price \$15.00 with map.

Those who have noted with interest and have followed the stages in China's social, political and economic development since the establishment of the National Government in 1927 will be amazed when confronted by the actual facts and figures as presented in comprehensive form by T'ang Leang-li in his recent book on "Reconstruction in China."

Beginning with a brief review of China's political situation in 1927, a period preceded by military chaos and administrative instability, the author describes the steps by which China gradually attained her national unification through reconstruction, a feat all the more remarkable because it was accomplished in spite of economic limitations, communism, banditry, floods and famines and foreign invasions. He attributes the success in the nation's rehabilitation, not to the leaders of Old China, who would probably have been satisfied in the face of such conditions "to sit with hands tucked in their sleeves, resignedly waiting for the will of Heaven to work itself out in some way, for better or for worse," but to the spirited leaders of Young China, who are "grimly determined to battle along and do their utmost to overcome every obstacle encountered."

The programme for the country's reconstruction was envisaged in an ambitious proposal by Dr. Sun Yat-sen in 1919 for the International Development of China. Though his idea of spending millions of dollars to build extensive railways and highways, canals and harbours, to develop important industries and on rural rehabilitation and afforestation was too far advanced for a backward and reluctant nation to adopt, yet the principles he first set forth have

been the basis of present day reconstruction.

The author seems to have spared no efforts in compiling data for his book, for he has covered the subject of the nation's reconstruction from almost every angle—industrialization, educational reforms, athletic progress, public health and social relief, cultural reconstruction, the law and its enforcement, the banking system, railway development, road construction, commercial aviation, the mercantile marine, posts, telegraphs, telephones, rural rehabilitation, town-planning and municipal development, national defence, the Chinese Maritime Customs Service and the Chinese press.

If one compares the China of olden days, a country divided into separate provincial units absolutely out of communication with each other, with the modern China united by a network of roads, railways, omnibuses, radios and even aeroplanes, one cannot but marvel at the speed with which her programme of reconstruction has progressed.

The book under review is well written and printed, and supplies a large amount of information that is particularly valuable at the present critical period of China's history. It is the third of the "China To-day Series" being got out by the China United Press with Mr. T'ang Leang-li as editor and compiler.

S. L. Y.

Some Technical Terms of Chinese Painting, by Benjamin March: Waverly Press, Inc., Baltimore, 1935. Price U.S. \$1.50.

This is an extremely useful little book for those interested in and studying Chinese painting. All the terms used by Chinese artists, such as those for the silk and paper on which the pictures are

painted, the different kinds of ink and pigments used, the many forms of painting, the subjects depicted, brushwork, composition, mounting of scrolls and so on, are given with brief discussion and comments, a series of plates placed at the end of the book helping to elucidate these matters.

In his preface the author points out that in order to appreciate a subject such as that of painting one should learn, not merely through the eye and ear, but also through the hand, and he emphasises the importance of acquiring some detailed knowledge of the craft on the part of the historical and critical student.

He prepared the basis of this work in Peiping in 1931, while carrying on research in a problem of Chinese painting. It is greatly to be regretted that Benjamin March, one of the most promising of the younger generation of American students of Chinese culture, should have been cut off in the full tide of his work. A note in front of the title page announces his death as his book was going to press. He was born in Chicago in 1899, and, after graduating from Chicago University in 1922, came to China, where he occupied teaching positions in the universities in the north till 1927. After his return to America he lectured at various institutions on Chinese art, at the same time that he filled the position of Curator of Asiatic Art in the Detroit Institute of Art. Perhaps his most important work was his "Standard of Pottery Description," published in 1934. The book under review has been issued under the auspices of the American Council of Learned Societies, and is No. 2 of the series of "Studies in Chinese and Related Civilizations."

A. de C. S.

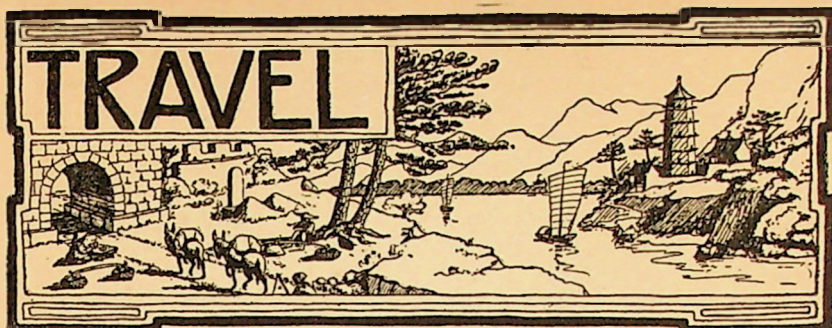


SOUTH CHINA TRADERS

Trading Junks putting out to Sea
from Bias Bay, the famous Pirate
Stronghold of South China, but also
an important Resort for Native
Shipping.

From the Oil Painting
by H. E. Gibson





CHINA'S OVERSEAS SHIPPING; ANCIENT AND MODERN

At a very early date the Chinese had taken to the sea, and the so-called Chinese junk, of which there are many varieties, is one of the oldest types of sea-going vessel in existence. At least as far back as 1200 B.C., in the Chou period, the Chinese, expanding from the middle valley of the Yellow River in Honan, Shensi, Southern Shansi and Western Shantung, had reached the mouth of the Yangtze, and by this time the prototype of the so-called Pechili trader, described and illustrated by Ivon A. Donnelly in his excellent work "Chinese Junks," published in 1924, must have been in existence, and at least a coastwise shipping trade developed. It is even possible that the people of the Shang period (1776-1122 B.C.) had begun to embark upon the sea in ships, although of this no direct evidence has yet come to light further than that they used cowry shells and that the bones of a whale have been found in the recent excavations at the An-yang site in Honan commonly known as the Waste of Yin.

One of the most primitive types of vessel to be found to-day in China is the barge-like Huang Ho *ch'uan*, or Yellow River boat, which plies on that river between Ning-hsia and the lower reaches, being built near Pao-t'ou Chen, on the great northern bend, and never returning up-stream once it has made its long and perilous journey to the plains laden with produce from the far interior. This has such features as a square bow, flat bottom and bulkheads dividing it into water-tight compartments, characteristic of all Chinese craft, and it is safe to say that it was probably from such a boat, designed and used by the earliest Chinese for riverine navigation, that the junks of to-day have descended.

There is, as a matter of fact, an even simpler form of the Huang Ho *ch'uan* in existence, notably on the rivers of Manchuria. This is a small boat made out of three shaped boards, one for the bottom and one for each side, rivetted to a shaped section of log at bow and stern, and held together by thwarts at intervals along their length, and,

again, we are safe in assuming that this was the origin of the *san-pan*, or *sampan*, literally "three boards," which is the common Chinese name for all of the smaller types of boat. Even it, however, is not the most primitive form of water craft used by the Chinese, for the fishermen along the coast of Northern Shantung use a *san-pan* made from three undressed logs or tree-trunks fastened together and propelled by the ubiquitous *yu-lou*, or stern skull, which is so characteristically Chinese. It can readily be seen how that from this simple construction the three-boarded *san-pan* could have developed, in turn giving rise to the larger barge of the Yellow River, from which the sea-going junk undoubtedly evolved.

While there is considerable difference in general appearance between the great three to four hundred ton Pechili trader, with its five masts and many-slatted sails of the north, and the Hongkong trader, with its three masts and three-slatted sails, the main features of construction and rigging in all Chinese vessels are identical, placing them in a class distinct from those of the rest of the world, both now and in the past. There is but one exception, and that is a hybrid vessel called a *lorcha* which originated in Macao early in the nineteenth century, and is characterized by having the hull built on the lines of Western sailing ships, but Chinese masts and sails. About sixty of them were built for the purpose of combatting pirates. Some of them may still be seen plying along the China coast or lying at anchor in the harbours.

Many authorities have criticized the Chinese junk, but there are others who consider it an excellent craft for the open seas, while the Chinese are universally admitted to be amongst the world's best seamen. Indeed, if proof of the two latter statements is required, it is only necessary to consider what Chinese mariners have accomplished in the way of oceanic exploration and the development of an overseas trade to appreciate that both Chinese ships and Chinese sailors, from the earliest times, must have been of the best.

It is not intended here to go into details of all the different types of sea-going junks used by Chinese mariners. The subject has been thoroughly and extremely well covered by Donnelly in the work already mentioned. It is sufficient here to say that the following types of vessel are described in detail and illustrated with delightful sketches or paintings by the author, whose intimate knowledge of Chinese marine craft is second to none:

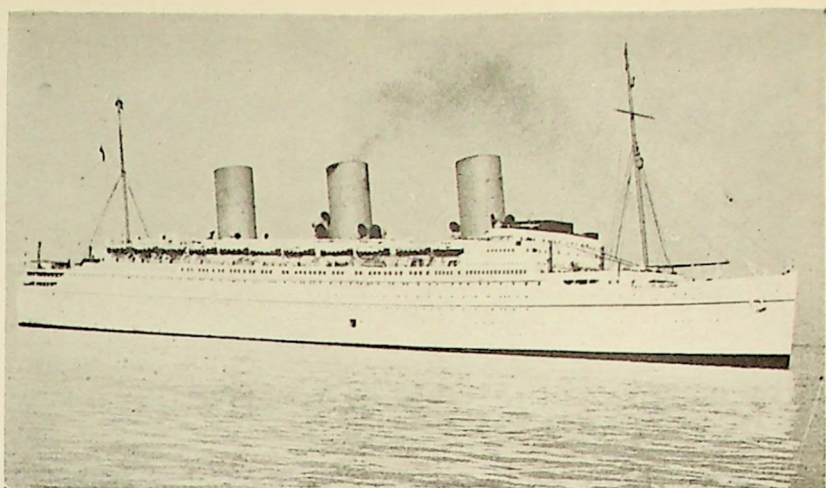
THE PECHILI TRADER, a large vessel found in the Gulf of Pechili and plying between the various northern ports as well as Korea and sometimes Japan.

THE YENTAI OR CHEFOO TRADER, another large vessel trading in the same area as the above.

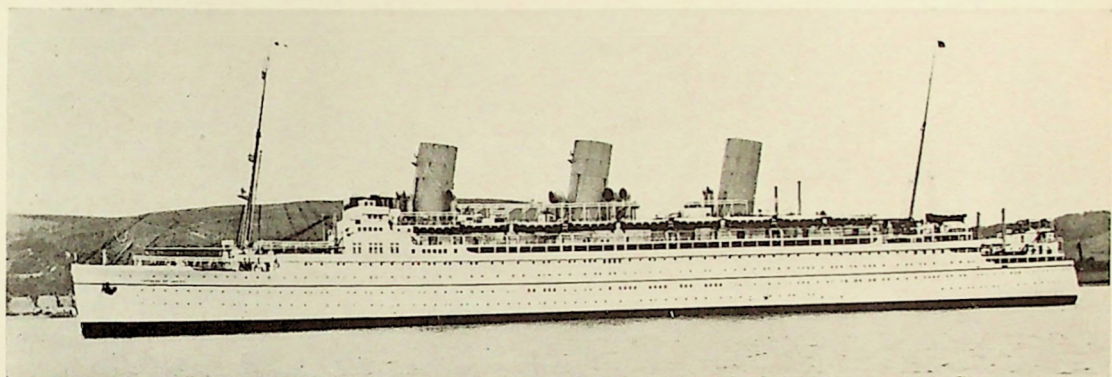
THE CHINCHOW TRADER, from the South Manchurian coast, decorated, trading with Korea and Shantung and other places along the China coast.

THE ANTUNG TRADER, somewhat like the Yentai Trader, with the mouth of the Yalu River as a trading base.

China's Overseas Trade is almost entirely carried in the Ships of Foreign Countries, many of which from all Parts of the World call at Shanghai, the Greatest Port in the Far East.



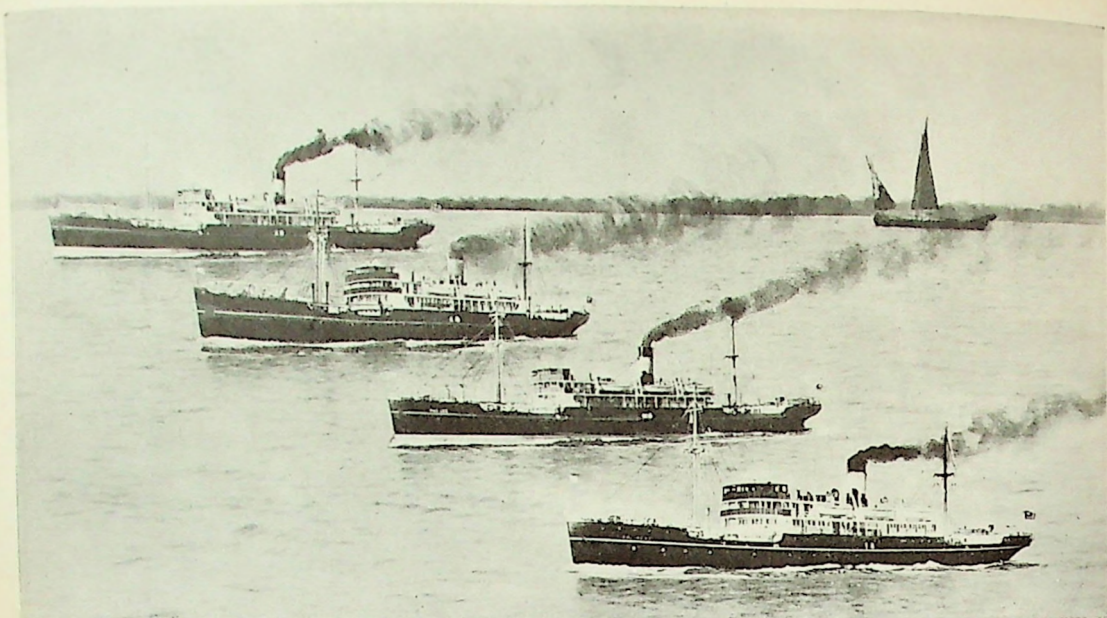
The *Empress of Britain*, one of the Canadian Pacific's World Cruisers that visits Shanghai.



The *Empress of Japan*, the biggest and fastest Ship on the Pacific Ocean. Belonging to the Canadian Pacific, she is 26,000 Tons Gross, 39,000 Tons Displacement and measures 666 Feet over all.



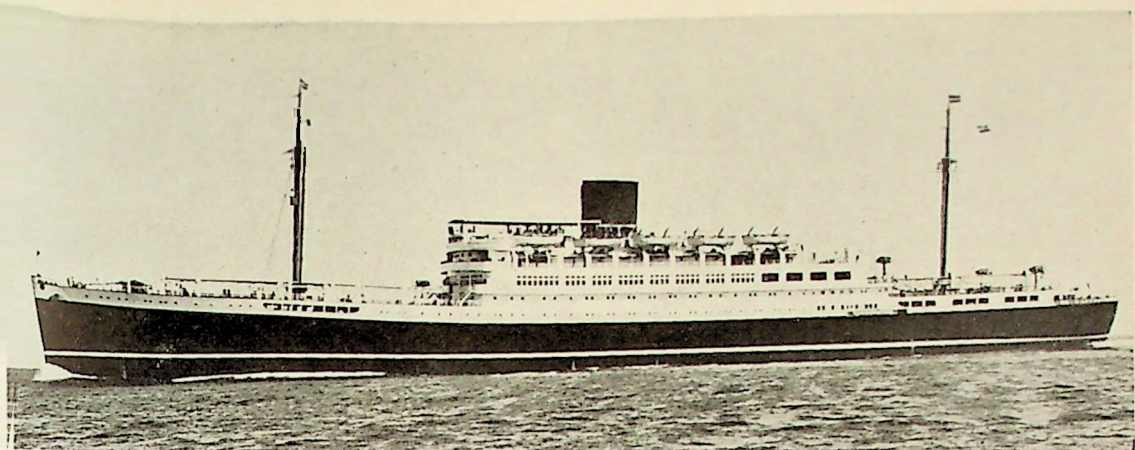
The *R.M.S. Empress of Canada* arriving at Vancouver, B.C. with Mails, Passengers and Cargo from China and the Far East. This is another of the beautiful Liners of the Canadian Pacific.



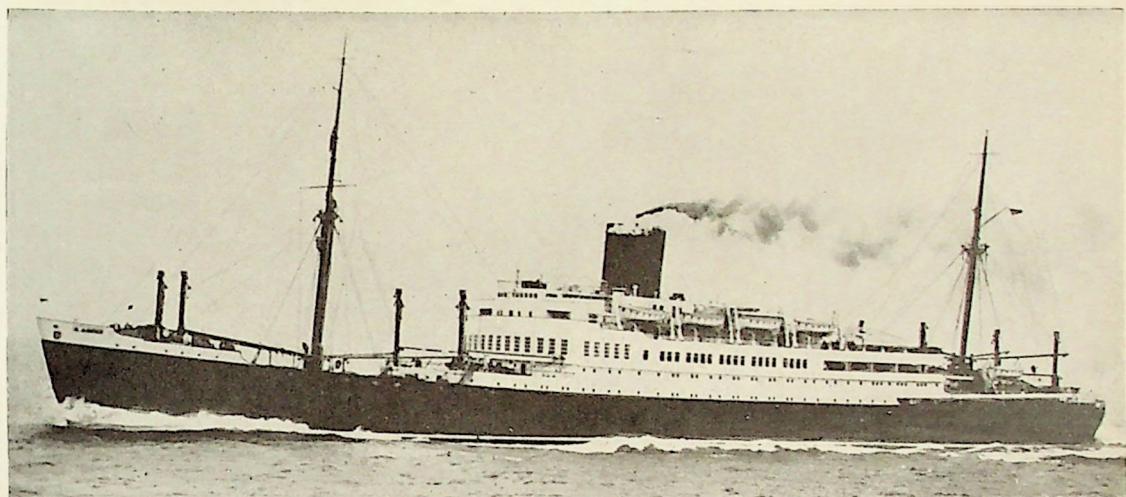
A composite Picture showing Four of the China Merchants' Steam Navigation Company's Fleet, namely, the *Hai Yuen*, the *Hai Heng*, the *Hai Li* and *Hai Chen*.



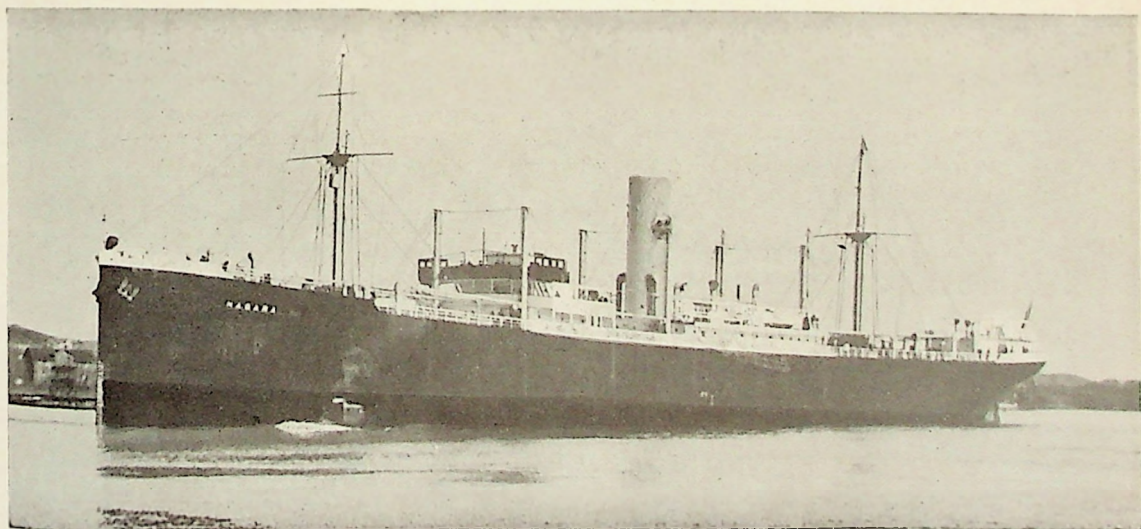
The Far Eastern Express Liner S.S. *Schwanhorst* of the Norddeutscher Lloyd, Bremen, whose magnificently appointed Vessels run between Europe and China by way of the Suez Canal.



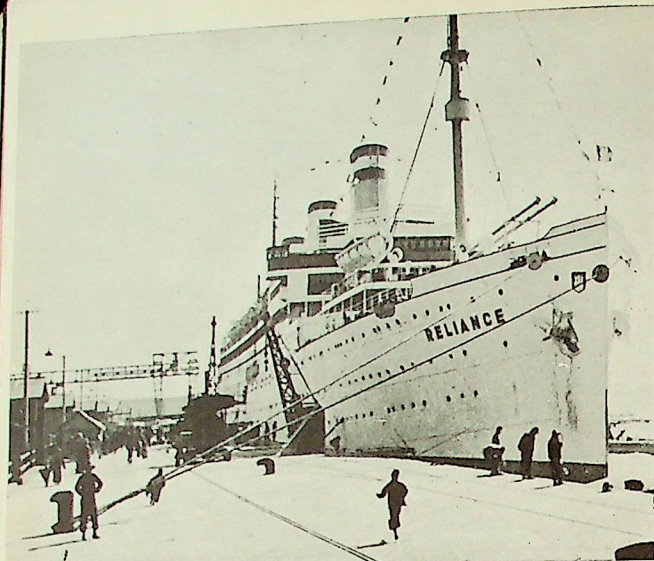
The *S.S. Potsdam*, another of the Norddeutscher Lloyd's Express Liners to the Far East.



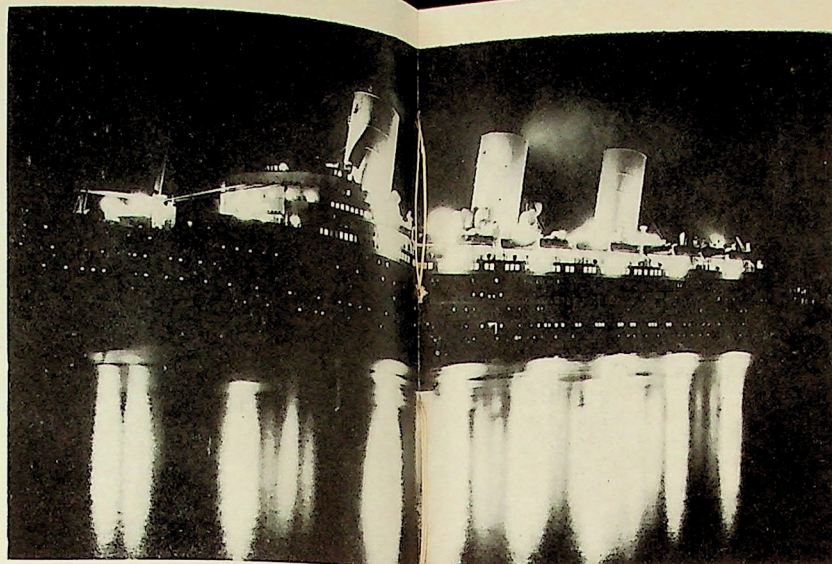
The *S.S. Gneisenau*, Express Liner of the Norddeutscher Lloyd.



The *S.S. Nagara* of the Swedish East-Asiatic Company, of which the Ekman Foreign Agencies, Ltd., are the Agents in China.



The S. S. *Reliance* of the Hamburg-America Line arriving at Shanghai. Photograph by Courtesy of the *China Press*.



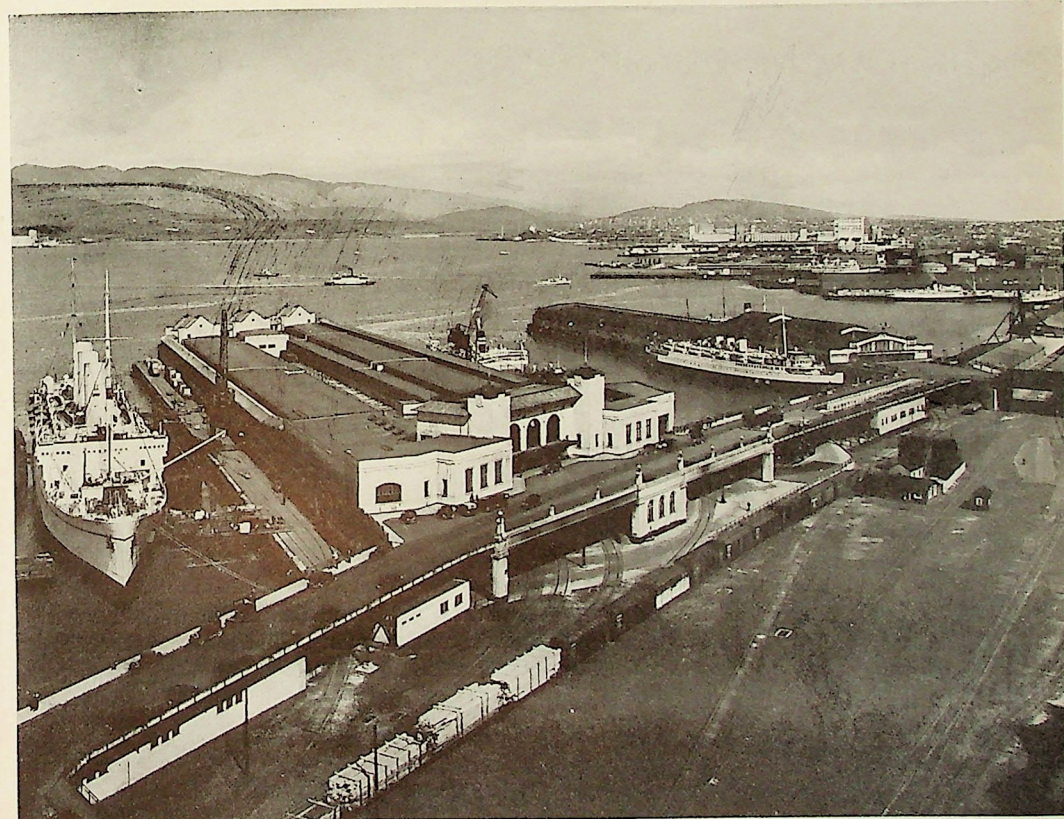
Above is shown the *Empress of Britain* lighted up at Night by Flood Lights, a most impressive Sight.



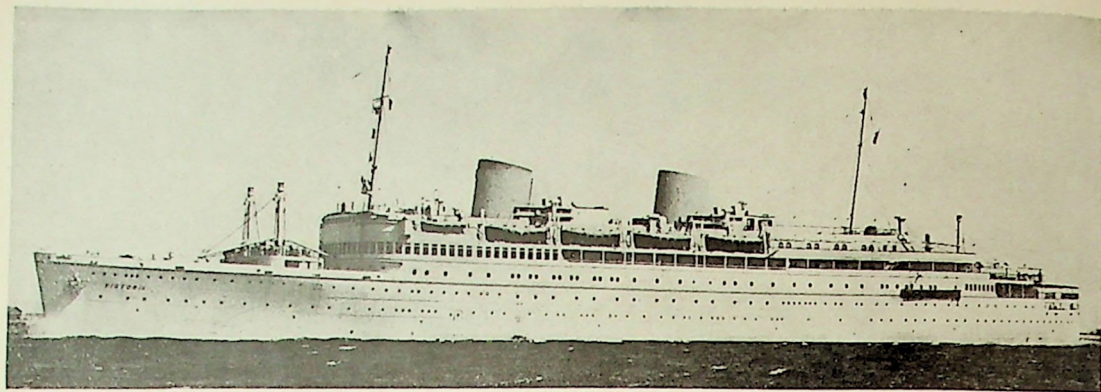
The *Empress of Asia*, another of the great Liners belonging to the Canadian Pacific.



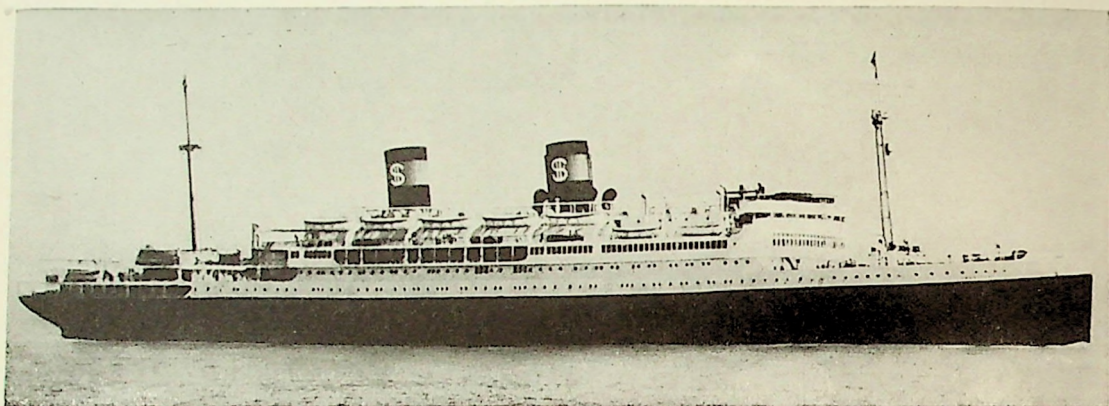
The Peninsulas and Oriental Liner S. S. *Carthage* leaving Tilbury in the Thames Estuary for Shanghai.



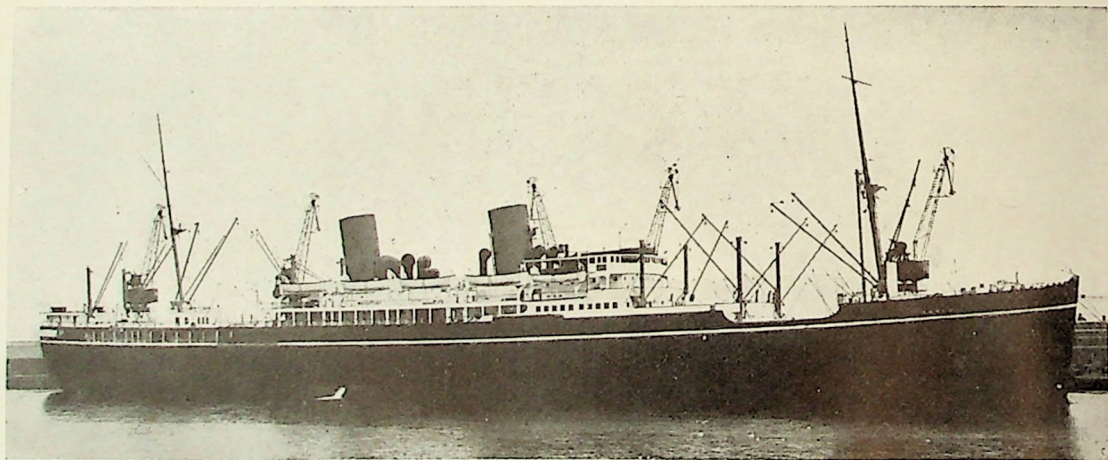
The Harbour at Vancouver where the *Empress* Boats crossing the Pacific from the Orient meet the Trans-Continental Trains of the great Canadian Pacific Railway.



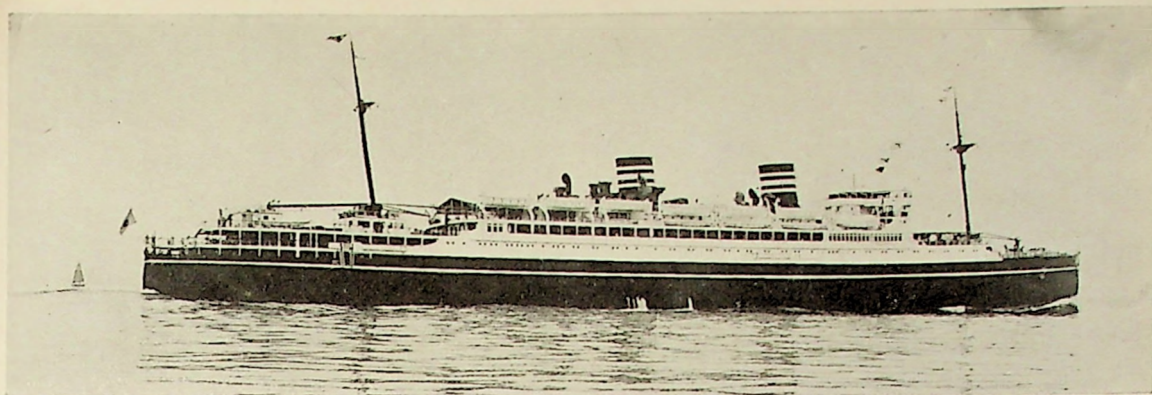
Lloyd Triestino's Motor Vessel *Victoria*, one of the fast luxury Liners on the Suez Route from Europe to China, which does the Run from Shanghai to Brindisi in Twenty-three Days.



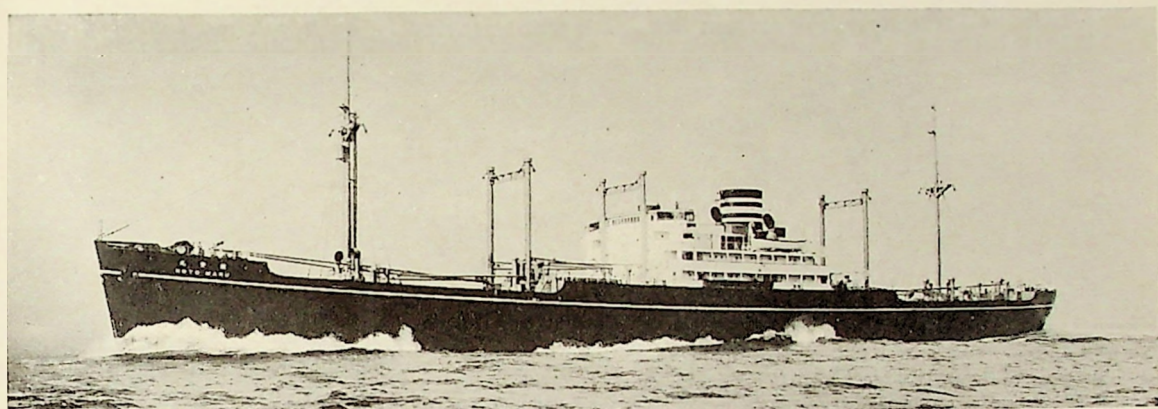
The S.S. *President Hoover* of the Dollar Steamship Company, one of the great Trans-Pacific Passenger Boats.



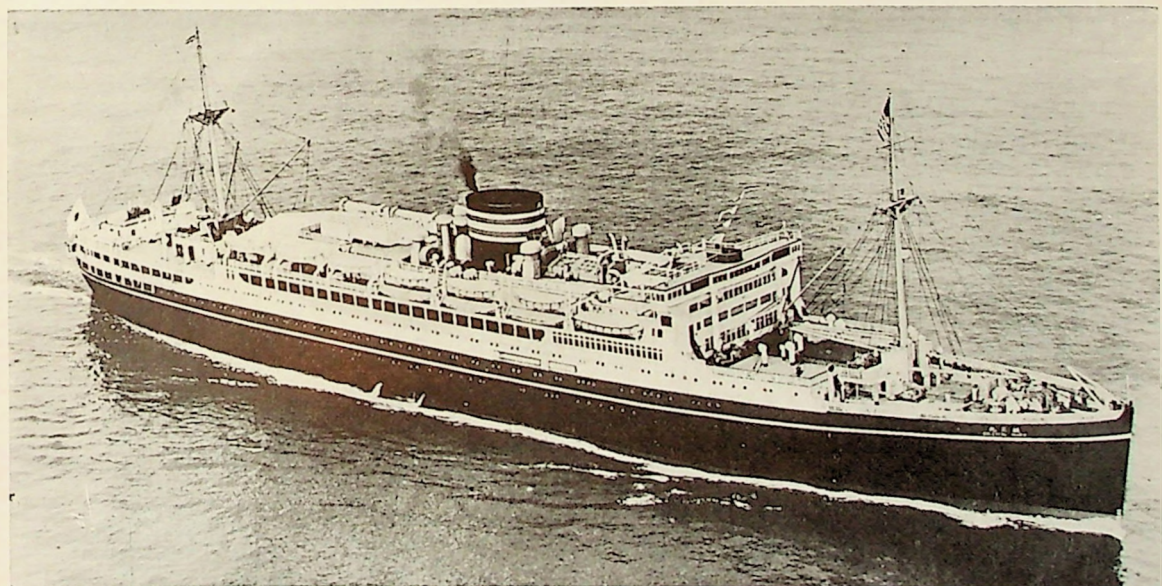
The S.S. *Corfu*, a Suez Route luxury Ship belonging to the Peninsular and Oriental Line, of which Messrs. Mackinnon Mackenzie and Company, Shanghai, are the Far Eastern Agents.



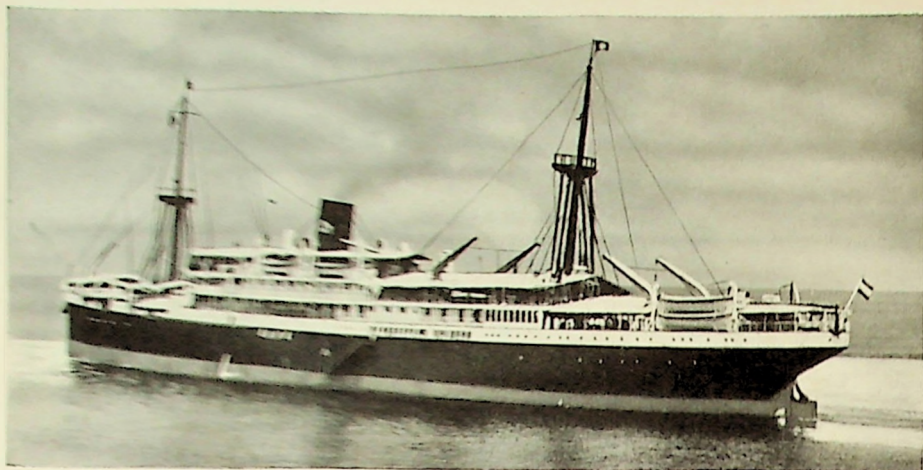
The Nippon Yusen Kaisha's Motor Vessel *Asama Maru*, Sister Ship of the *Tatsuta Maru*, 17,000 Tons each, which are both on the Oriental-California Service across the Pacific Ocean.



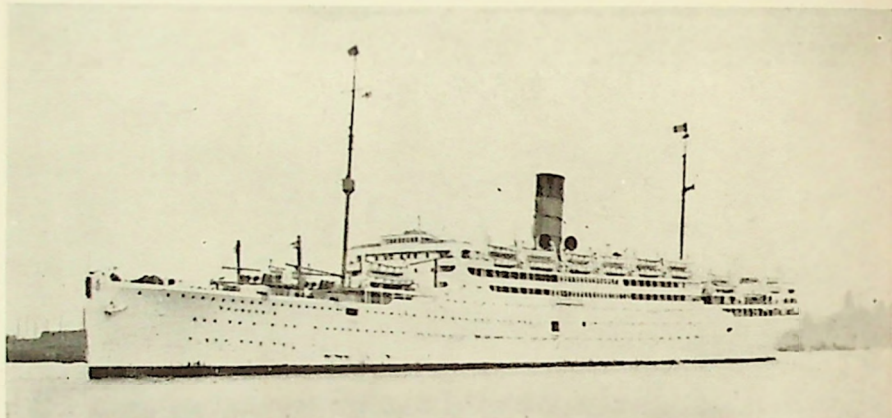
The Motor Vessel *Noto Maru*, 7,200 Tons, which, with Five Sister Ships, gives Fast Freight Service between the Far East and New York.



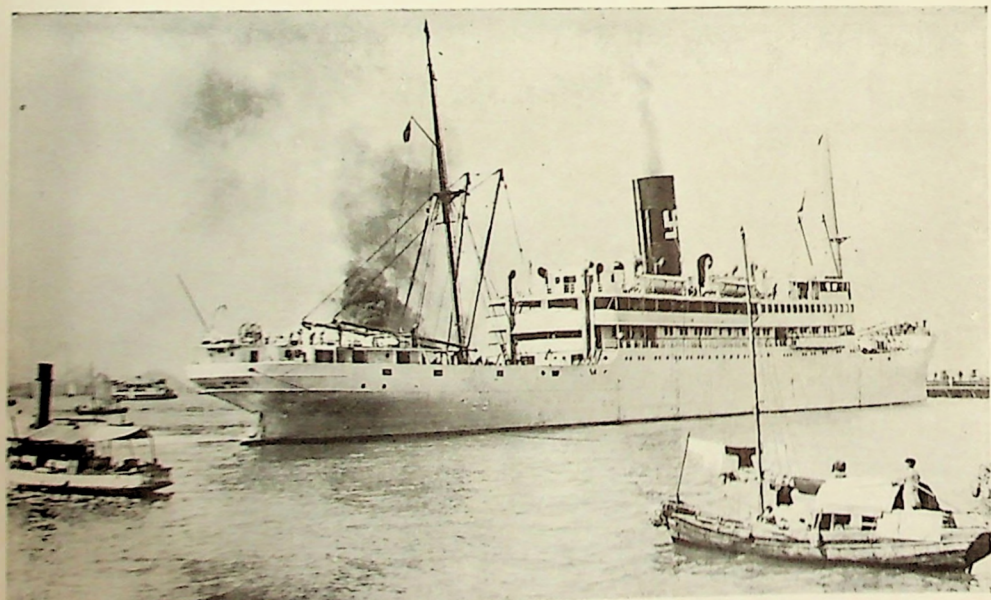
The *Chichibu Maru*, 17,000 Ton Motor Vessel of the Nippon Yusen Kaisha, engaged on the Trans-Pacific Run between the Far East and California.



One of the large and comfortable Ships of the Java-China-Japan
Line plying between Shanghai and Batavia.



The S. S. *Franconia* one of Cunard's World Cruisers.



The S. S. *General Sherman* of the States Steam Ship Company.

CHINA'S OVERSEAS SHIPPING; ANCIENT AND MODERN

THE SHITAO BAY TRADER, a three-masted junk, modelled somewhat after the South China types, trading from the South Shantung coast.

THE LORCHA, already described.

THE HANGCHOW BAY TRADER, a distinctive type trading from the mouths of the Yangtze and Ch'ien-t'ang Rivers up and down the coast and across to Formosa.

THE NINGPO TRADER, trading from Ningpo northward to Shanghai and South Manchurian ports.

THE FUKIEN TRADERS, three types from Santuao, old Ch'uan-chou and Amoy, respectively.

THE FOOCHOW POLE JUNK, a very picturesque junk used mainly to carry the famous Foochow poles (*Cunninghamia lanceolata*) from Fukien to northern ports, especially Shanghai.

THE CH'AO-CHOU TRADER, somewhat like the Fukien Traders, but working from Ch'ao-chou and Swatow in Kwangtung Province.

THE HONGKONG TRADER, a distinctive type common to South China generally, and, with the foregoing three types of vessel, trading well into the Malayan region.

Besides these trading junks Donnelly describes several types of fishing vessels from the various ports along the China coast, all of which are excellent sea-going craft.

One of the earliest records of an overseas journey by Chinese is that which tells of the Taoist monk Hsü Shih's expedition to the fairy islands in the Eastern Sea at the orders of Ch'in Shih Huang-ti of the Ch'in Dynasty (255-206 B.C.) in search of the Elixir of Life. He is said to have taken with him a large retinue on several large ships, including some three thousand youths and maidens as offerings to the spirits on the island. The expedition never returned to China, however, and it is believed that it reached Japan where its members became the ancestors of the Japanese.

Records of Chinese overseas voyages subsequent to that of Hsü Shih appear to be not too numerous. We know, however, that there were plenty of Chinese vessels trading abroad, for we have records of the important sea ports of China as they existed down through the ages. Thus in the T'ang Dynasty (618-906 A.D.) the chief port in China was K'an-p'u on Hangchow Bay, now one of the more or less insignificant places along the North Chekiang coast, although it was still a flourishing port in the days of Marco Polo during the Yuan or Mongol Dynasty (1206-1368 A.D.) Indeed, the attempt of Kublai Khan to conquer Japan show clearly the strength of China's maritime shipping, for in the year 1274 he was able to muster from North China and Korea a fleet of nine hundred vessels large enough to convey forty thousand soldiers, to the attack of the Island Empire. The expedition met with defeat, but in 1281, when the Mongols had conquered South China, and so had further means at their disposal, a fleet of four

thousand five hundred ships was gathered together and the attack on Japan renewed. This time it was almost completely destroyed by a severe storm, after which no further attempts were made to subdue the Japanese.

But by this time Chinese ships were proceeding as far as India and were trading regularly with Java and Sumatra, as well as with Indo-China and Siam. There is the account of the journey by sea made by the Polos with a Mongol Princess chosen to be the bride of Argon, the Ilkhan or Governor of Persia under Kublai Khan. They sailed from Wenchow in Northern Fukien in 1291, stopping *en route* in Sumatra and Southern India. Again, the famous traveller Chou Ta-kuan, to whom is owed the only existing account of the glories of the Kmer Kingdom in Cambodia, sailed from Wenchow to that country in 1296.

Next came the famous voyage of Chêng Ho, who was sent by the Emperor Yung Lo of the Ming Dynasty (1368-1644 A.D.) to the Western Ocean, by which was meant the Indian Ocean. It was during this period that Chinese ships reached the East African coast in the west and Southern Australia in the south, proving well their seaworthiness and the skill and daring as navigators of the Chinese mariners.

When the terrible nature of the typhoons that prevail throughout the seas sailed by these early Chinese is taken into consideration, there can be nothing but admiration for the latter as they traversed the ocean in their comparatively small craft. And it is interesting to think that the same type of shipping still carries a great deal of China's coastwise and overseas trade, tens of thousands of junks of every description being met with all over these Eastern seas.

The next important period in connection with China's overseas trade was after the advent of Europeans, when commercial relations by sea were established between this country and the West, including America. Although, strictly speaking, forming no part of China's overseas shipping, the famous clipper ships of the China trade during the nineteenth century must be mentioned. There is an extremely interesting book on this subject, written by Basil Lubbock in 1916 under the title "The China Clippers," which tells in great detail the romantic story of these ships as they raced from various China ports to London or New York with valuable cargoes, mainly of tea, and returned with cargoes of Manchester piece goods or silver bullion. They were the fastest sailing ships that were ever built, and their voyages compare favourably in the matter of duration with those of the steam-driven cargo boats of later days.

For various reasons the carrying of merchandise between China and Western countries has always been in the ships of the latter, probably the most important being the fact that the initiative in trade with this country has consistently been with the merchants of Europe and America. Even when the Chinese first began using steamships it was for the purpose of attacking the Taiping rebels, and later, when they were used for carrying trade and passengers, they indulged almost exclusively in coastwise traffic. As early as 1864 they began building

CHINA'S OVERSEAS SHIPPING; ANCIENT AND MODERN

steamers, the first vessel, called the *Tien Chih*, being completed in 1868 in Shanghai and sailing up the Yangtze to Nanking. The name of Tseng Kuo-fan, the great statesman, is intimately connected with the starting of modern shipbuilding and the use of steamers by China. He died in 1872, but his work was carried on by enthusiasts, and in 1877 the China Merchants Steam Navigation Company was formed with the *S.S. Aden* as the first steamer to sail under the Chinese flag. On October 20, 1879, the first Chinese-owned steamer to be despatched overseas, namely, the *S.S. Hochung*, sailed for Honolulu with a cargo of emigrants.

Although the China Merchants Steam Navigation Company was originally formed with the object of replacing foreign shipping plying up and down the China coast and along the mighty Yangtze River, this purpose was never accomplished. Indeed, such a task would have been entirely beyond China's utmost resources, for by that time the Princely Hongts had become well established in the coastwise and up-river carrying trade, and were running considerable fleets of well-equipped steamers. Chief amongst these concerns were the Indo-China Steam Navigation Company, a subsidiary of Jardine, Matheson and Company, and the China Navigation Company, owned by Butterfield and Swire. However, the China Merchants, as it was usually called, became a big and important shipping concern, and for long shared the China coastwise and Yangtze trade with the two foregoing, running an extensive fleet of first class steamers of a tonnage and draft suited to this traffic.

Later Japanese steamers appeared on the scene in considerable numbers, the most important company with vessels on the China coast run being the Dairen Kisen Kaisha, whose fine steamers now ply regularly between Shanghai and Dairen in South Manchuria. In due course other Chinese shipping companies were formed, and to-day there are a great many steamers owned and entirely run by Chinese sailing the coastal and riverine waters of this country.

But none of this, of course, can be called overseas shipping. Somehow China has not up to the present developed this phase of her shipping, and practically the whole of the merchandise to and from China, as well as passengers arriving in or leaving the country, are carried in the steamers belonging to companies in foreign lands. The now vast carrying trade across the Pacific is mainly in the hands of such companies as the Canadian Pacific, the Dollar Lines, the States Steamship Line, the Nippon Yusen Kaisha and the Maersk Line, while on the Suez route to Europe run the ships belonging to such lines as the Peninsular and Oriental, the Swedish East-Asiatic, the Glen and Shire, the Lloyd Triestino, the Blue Funnel, the Norddeutscher Lloyd, the Hamburg-Amerika and the Messageries Maritimes. While traffic from China to the Philippines is taken care of by some of the Trans-Pacific companies already mentioned, whose western terminus is Manila, the Java-China Japan Line, as its name suggests, plies between the Netherlands Indies on the one hand and China and Japan on the other, operating a fleet of excellent steamers with plenty of cargo space and very comfortable accommodations for passengers. Its ships make

connections at Batavia with those of the Dutch companies running to Europe.

The Eastern and Australian Line's steamers run regularly from China direct to Australia and New Zealand while these countries may also be reached by joining up with the various ships on the run from India and Europe at Singapore or Colombo. The British India Steam Navigation Company's boats run from China to Calcutta. Ships also sail, from time to time, from Shanghai or Hongkong to South American and South African ports. In fact the ships of all nations sail from Shanghai to all parts of the world, the foreign companies represented in this port being too numerous to mention in detail.

Thus China is extremely well served in the matter of shipping to other countries. Round-the-world excursions in mighty vessels comparable with those that ply on the Atlantic between Europe and America, nearly always call at Shanghai, while the European run has become sufficiently important for the various companies interested in it to compete with each other in building fast luxury liners of the latest type.

However, it is only a matter of time for China herself to be sharing in this profitable traffic. Already Chinese owned steamers are trading in the South Seas, and, as Chinese shipping interests become better organized, it is not unreasonable to assume that they will branch out and place steamers on the European, Trans-Pacific and Australian runs.

TRADE ROUTES TO AND FROM CHINA

It is clear from such records as have survived that far back in the history of civilization the peoples of Europe, Asia Minor and the Mediterranean region generally commenced trade relations with the peoples of Eastern Asia, including China. From the very beginning the all-important question of safe trade routes occupied their attention, for many obstacles had to be overcome in order to discover an easy, safe and quick passage between the East and the West. For many centuries the only route known to them was the overland one through Central Asia, with all its hardships and hazards. True, the Phoenicians are credited with having traded with China by sea in the sixth century before the Christian era, but, even so, their ships set sail from the Tigris, where a colony of these people had been planted by Sennacherib in 650 B.C., and a long overland journey from the shores of the Mediterranean was necessary before their trading base in Mesopotamia could be reached.

Although in Chou times commercial intercourse was taking place between China and Central Asian countries as well as with Siberia,

TRADE ROUTES TO AND FROM CHINA

it is probable that this was more or less sporadic and that no well established trade routes existed. What there were in this line were too much at the mercy of the Scythian and other nomadic raiders to become regular highways of commerce. It was not till early in the Han Dynasty (206 B.C.-220 A.D.) that the Chinese managed to establish the first great trade route to the West. This was when Chang Ch'ien was sent by the Emperor Wu Ti on a mission to the countries of West-central Asia with presents of silk, being attacked and made prisoner by the Hsiung-nu, or Huns, as they were later known to Europe. He managed to escape, however, and reached a country named Ferghana, called Ta-yüan by the Chinese, whence he returned to China with plans for the defeat of the Hsiung-nu. In this he was successful, thus opening the way for trade between China and Western Asia. Further military expeditions followed, and within three decades of Chang Ch'ien's first mission to the West, China's sovereignty had been pushed as far as the shores of the Caspian Sea, and direct trade relations established with Europe. The great overland trade route which carried China's silk and spices to the West extended from Si-an Fu, then known as Chang-an, in Shensi in a north-westerly direction through Kansu, Chinese Turkestan and across the howling wastes of the Takla-makan, and it remained open and safe to trade as long as China's power in Central Asia remained paramount. Later, however, it was once again closed by the savage Tartar hordes which came down from the north, and intercourse between China and the West ceased.

Many centuries later, when Europe had emerged from the Dark Ages and was beginning to develop anew, the traditions of the wealth of Oriental countries were revived, and European merchants began to look for ways of reaching the Far East in order to renew the ancient trade relations. The land-and-sea route, by way of Asia Minor, Persia or Arabia and the Indian Ocean, was the only practicable one. It was not till Genghis Khan, the mighty Mongol conqueror, subdued practically the whole of Asia and imposed his implacable rule upon the countries along the ancient overland route between China and the West that this once more became safe, or, perhaps, it would be better to say, moderately safe, for travel and trade. It was then that the famous Venetian travellers, Nicolo and Maffeo Polo, made their never-to-be-forgotten journey to the court of the great Kublai Khan, nephew of Genghis Khan and the first Emperor of the Yuan Dynasty (1205-1368 A.D.) to sit on the Chinese throne in Peking, then known as Cambulac. When they returned to Europe after a warm reception from the Mongol Emperor they decided on a second journey to China, this time taking Nicolo's son Marco with them. After many years sojourn in China, during which he travelled all over the country, Marco returned to Europe by the sea route, and his account of the great wealth of the countries of the Far East so fired the imaginations of the merchants and mariners of Europe that their efforts to discover a good trade route to the Orient were redoubled.

It was not, however, till a century later that the way to India and China round the Cape of Good Hope in South Africa was discovered. Although some maintain that Hanno, the Carthaginian

navigator, sailed round the southern extremity of the Dark Continent somewhere about 500 B.C. there is nothing to substantiate this belief, and it is almost certain that the first Westerner to accomplish this journey was the Portuguese navigator Bartholomew Diaz in 1488. He was followed by Vasco da Gama in 1497 on his way to India. Thus it became possible to trade direct with India and China by an all-sea route. In November of 1520 the first circumnavigator of the world, Ferdinand Magellan, a Portuguese who later became a naturalized Spaniard, completed the passage of the long and narrow straits between Patagonia in South America and Tierra del Fuego and entered the Pacific Ocean, thus opening up yet another sea route to the Orient.

As people in Europe attained to a better knowledge of geography it was realized that a passage to China might lie to the north of the great land masses of Asia and North America, and explorers began to dream of discovering what were called the North-east Passage and the North-west Passage to the Far East. The first attempts to discover these were made by Henry Hudson on behalf of the Muscovy Company. In 1607 he tried to find a way through the Arctic Ocean north of Canada, but failed, although he made many valuable discoveries. The following year he tried in the opposite direction to find a North-east Passage, but again without success. Since his time many other explorers and navigators have sought an all-sea route to China through North Polar regions. While, however, the North-west Passage still remains the dream that it always was, the North-east Passage has recently become a reality, thanks to the energy and determination of Soviet Russian explorers. A steamer service has now been established between Murmansk north of the White Sea on the northern coast of European Russia to Vladivostok on the coast of the Maritime Province, or Primorsk, of Eastern Siberia. This takes place during the summer months, one voyage one way by each ship essaying the passage being possible. It takes about two and a half months to make the journey either way. Although this passage has only become practicable as a means of reaching the Far East from Europe in the last two years, it was first traversed in 1878-9 by the Swedish explorer A. E. Nordenskiöld.

The sea route from Europe to China was greatly shortened in 1869 when the Suez Canal was first opened to traffic. Although it seemed ridiculous that so short a distance should divide the waters of the Mediterranean Ocean from the Red Sea, the fact remained that, to get to China by sea previous to this, ships from countries in the former region had to go all the way round Africa and across the Indian Ocean. As far back as 1380 B.C. in the days of Ancient Egypt a canal was cut to connect the Nile with the Red Sea, but still boats from the Mediterranean could not reach the Red Sea as they could not ascend the necessary branch of the Nile. In 600 B.C. Pharaoh Necho began work on another canal from the Nile to the Red Sea, which was abandoned, subsequently being completed by Darius. In 285 B.C. Ptolemy Philadelphus joined up the two branches of the Nile so that ships from the Mediterranean could reach the Red Sea. Later this became impracticable, and again the all-water route to the Orient was closed, only to be opened once more some two thousand years later.

OPENING UP CHINA'S INTERNAL COMMUNICATIONS

In the meanwhile the sea routes to Asia across the Pacific Ocean from North America had become established and were rendered doubly important by the building of the great trunk railways across the continent. The completion of the Canadian Pacific Railway in 1885 made a rapid journey from Great Britain to China possible, as large fast steamers were placed on the run from Vancouver to Shanghai and Hongkong, and American liners began to ply from Seattle and San Francisco to Shanghai by way of Honolulu in the Hawaiian Islands.

From early in the sixteenth century Russia had been pushing her conquests across Siberia to the Far East, coming into contact with the Chinese Empire under the Manchus in 1567. In due course there developed a brisk trade between China and Russia, which naturally was transported along the great overland routes across the Gobi Desert from Peking and other cities in North China by way of such border towns as Kalgan, Kuei-hua Ch'eng, Pao-t'ou and Ning-hsia. Even the famous road through Kansu and Turkestan became a busy thoroughfare once more. But Russia had other ideas, and, with the advent of the steam engine, conceived of a great trans-continental railway through Siberia to her possessions in the Far East. By 1895 the Trans-Siberian Railway was a *fait accompli* and soon the Chinese Eastern Railway through Manchuria joined it up with Vladivostok. Later the latter was linked up with the South Manchurian port of Dalny, now known as Dairen, and the system of railways that had developed in North China.

The sea route to China from New York and other east-coast American ports was still a long and tedious one, and the idea of cutting a canal through the neck of land joining the two Americas was conceived. The first attempt to do this was a dismal failure, but in 1907, the United States Government embarked upon the task, and, with General William C. Gorgas in charge of sanitation, the chief difficulty, in the way of an appalling death rate amongst the workers, was overcome, and the undertaking brought to a successful issue in 1914. Thus one more route to China was opened by the persistence and ingenuity of man.

To-day Shanghai stands at one of the world's great cross-roads. Trade routes spread from this great city, both on land and on sea, like the rays of a great star. In every direction—north, east, south and west—they point, and, even as this is being written, plans are being made for it to become a centre and terminus of a number of great air-routes.

OPENING UP CHINA'S INTERNAL COMMUNICATIONS

The news that the railway between Canton and Hankow has at last been completed marks an epoch in the history of China's internal communications, for at last her whole system of railways, now very considerable, is linked up. Were it not for the fact that the gauge on the Cheng-Tai Railway, which runs from Shih-chia-chuang, near Cheng-ting

Fu on the Shansi-Hopei border, to T'ai-yuan Fu, capital of Shansi, is only a metre wide, a truck could now be despatched from any one station to any other throughout the length and breadth of China. The difficulty of crossing the Yangtze River has been overcome by the installation of the large steam ferries which run between Nanking and Pukou, and make possible the journey between Shanghai and Peiping without changing trains.

It may be presumed that in due course a similar arrangement for crossing the Yangtze at Hankow will be put in operation.

Apart altogether from the benefit to China's internal communications that will accrue from the completion of the Canton-Hankow Railway, it is interesting to think that it is now possible to travel all the way by train from Canton to Calais, easily the longest railway journey in the world.

The importance to China's overseas trade of good internal communications is paramount, for it means a reduction in the cost of transport and therefore in the price of commodities coming from the interior to be exported to foreign lands, and every cent off the price of such commodities gives them a better chance to compete in the world's markets and therefore tends to increase China's export trade.

At present this country is engaged on an extensive programme of motor road building, and the extension of her railways.

Amongst the most important of these projects are the extension of motor roads and railways into the far western provinces, where large quantities of raw materials of all kinds are produced. Especially important is it to tap China's great North-West, as it has been called, the provinces that lie in the upper basin of the Yellow River and on towards Central Asia.

Although at present arid and constantly suffering from famine conditions, this vast stretch of territory is capable of considerable economic development. Irrigation and the planting of trees would soon reclaim much of the now more or less desert land, but there would be little advantage in developing it if no market existed for its produce. Therefore, amongst the first considerations are sure and steady means of transport to the rest of China, and especially to the ports, through which the produce from this land-of-the-future may pass out to the markets of the world.

While the Yellow River at present is not very satisfactory as a means of transport from the far interior to the coast, there is no doubt that it could be developed into a valuable waterway, which would further increase the potential wealth of the regions through which it passes.

The Yangtze is, of course, China's leading trade artery, bringing the wealth of its fertile upper and middle basins, in which lie Szechuan, Kueichou, Hupei, Hunan, Kuangsi and Anhwei, to Shanghai, the leading port of China. A railway running up the valley of this great river would greatly enhance trade, as it would be considerably quicker than the water route, and also would connect up with a network of railways and roads that are coming into existence in the western provinces.

South China, too, is being opened up to commercial enterprise by

TRAVEL AND EXPLORATION NOTES

motor roads and railways, especially the former, and the result should soon be felt in a much larger volume of trade passing through Canton and Hongkong.

Altogether, the prospects of China's internal communications are bright as a result of the vigorous campaign that is being carried out by both the National and Provincial Governments in this direction.

TRAVEL AND EXPLORATION NOTES

German Brazilian Expedition Reported Safe: The two German explorers Schulz-Kampfenkel and Gerd Kahle, who are doing scientific research work in the Brazilian interior, are reported after two months' silence to be safe and to have established camp near the upper reaches of the Jary River. However, the waters of this river have risen to such an extent because of heavy rain-falls that the expedition will not be able to proceed further for some time.

French Expedition to Greenland: A *Havas* report states that a party of four French explorers, M. Paul-Emile Victor, Count Eigil Kunth, Dr. Robert Gessain and M. Michel Perres, are undertaking an expedition to Greenland, the purpose of which will be to climb and cross the mountainous barriers separating the east coast of Greenland from the west coast. The work of this expedition will be based on previous explorations made in 1933, and it is the hope of its members that the task will be completed in two months.

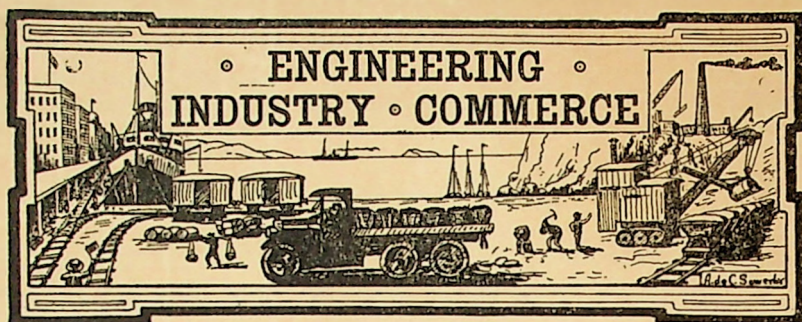
Old Ruins of Carthage and Angkor to be Uncovered: Two French expeditionary parties are contemplating the excavation of the ancient city of Carthage in North Africa and the uncovering of further architectural ruins at Angkor in Indo-China, which hitherto have been hidden by dense forests, says a *Havas* message of April 13. Aerial photography has made possible the discovery of the location of the Angkor ruins, but the task of freeing them from the thick underbrush and entanglements will require years to complete. The excavation of Carthage is primarily for hy-

gienic purposes to free the ancient port of its stagnant and germ-infested waters, the dangers of which will be removed when it is once more connected with the sea. As it is now the site constitutes a constant menace to Tunis, which is only a few kilometres away, owing to the danger of deadly epidemics arising in the fever smitten swamps.

Many Round-the-World Tourists Arrive: This spring has been marked by the arrival in Shanghai of many round-the-world tourists. Among the liners arriving last month and depositing such passengers were the *Reliance*, the *Potsdam*, the *President Wilson* and the *Empress of Britain*.

Increased Bookings for Summer Resorts: Not only Shanghailanders but also overseas passengers calling at Shanghai are planning to take trips through the famous Yangtze Gorges this summer, the result of which is a great increase in the bookings of various shipping companies. Among other favourite holiday resorts in China are Tsingtao, Chefoo and Weihaiwei, all of which offer excellent accommodations and many attractions for visitors.

Small Modern Hotels in Japan: A movement has been started in Japan to improve the tourist trade at popular resorts by building a number of small modern hotels. This has already begun in the vicinity of Lake Kawaguchi with the erection of a hotel with forty rooms and private baths. The Japanese Government is giving its aid to the project by lending money at low rates of interest.



WHAT CHINA HAS TO EXPORT, ACTUAL AND POTENTIAL

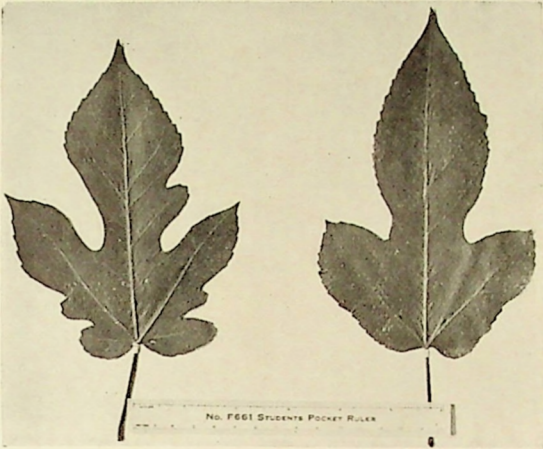
BY

ARTHUR DE CARLE SOWERBY

As matters now stand the products that China has to export belong to an overwhelming degree to the category of raw materials. Although this country manufactures in the aggregate an enormous number of articles of an infinite variety, these are mainly for home consumption. She has not yet developed industrially to the point where she has any considerable quantities of factory products to send abroad, although it is only a matter of time for her to become a serious competitor with other manufacturing countries in the world's markets. At the moment she is busily engaged in developing her industries so as to be able to supply her own needs in regard to many articles she now has to import. Even in such lines as machinery she is forging ahead in local manufacture, and, even if the machines of different kinds she now makes are inferior in quality, break down more easily and wear out more quickly than the foreign made imported articles, their lower initial cost coupled with the nationalistic spirit that is pervading all ranks of society in the country creates for them a ready market. It is the opinion of many competent observers that in becoming a self-sufficient country China is moving even faster than Japan did a few decades ago when she set about changing her status from that of a backward country wrapped in medievalism to that of a progressive World Power. Be that as it may, however, some time must elapse before China succeeds in supplying her own requirements in the way of many manufactured articles, and an even longer time before she herself becomes a large scale exporter of such products.

In the meanwhile she has much to offer other countries in the way of raw materials, especially those resulting from her agricultural activities. For China, first and foremost, is and always has been an agricultural country. While throughout the ages she has always supplied her own needs in the way of food staples, both animal and vegetable, she has been unique in that she has developed other products of the soil, such

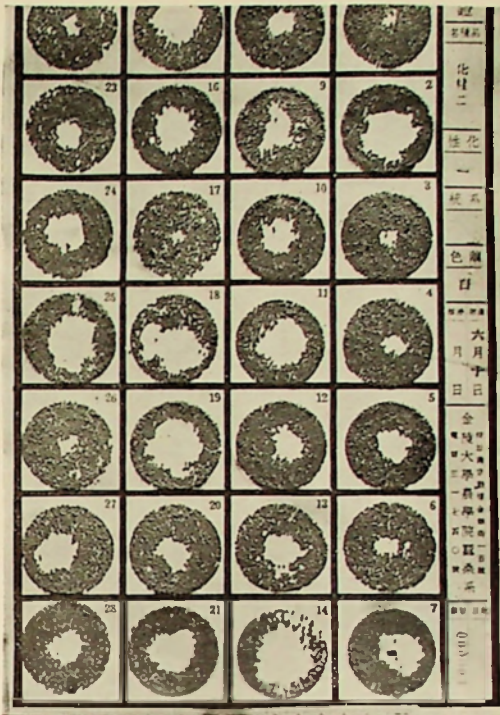
From the very Earliest Times Silk has been China's most important Article of Foreign Trade. It was exported to Western Asia and even Europe as long ago as the Second Century before the Christian Era.



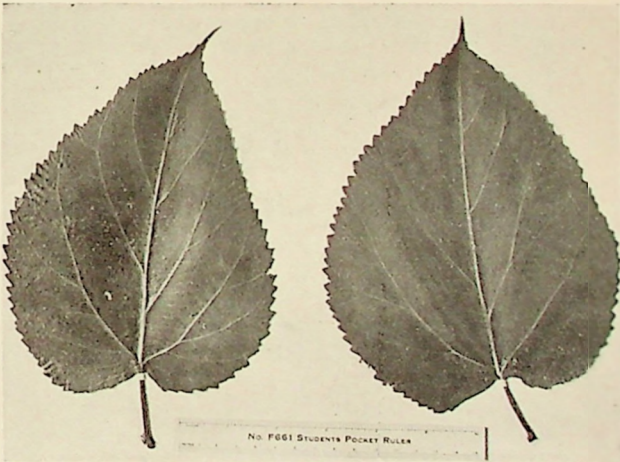
Two Leaves of the Wild Mulberry Tree as used for feeding Silk Worms in the very early Stages.



The Lu San, an improved Variety of Mulberry Tree.



A Card of improved Silk Moth Eggs of the Hua Kuei II Variety. The Eggs in each Circle have been laid by one Moth. Such Cards are issued to Silk Growers in China so as to ensure a High Grade Product.

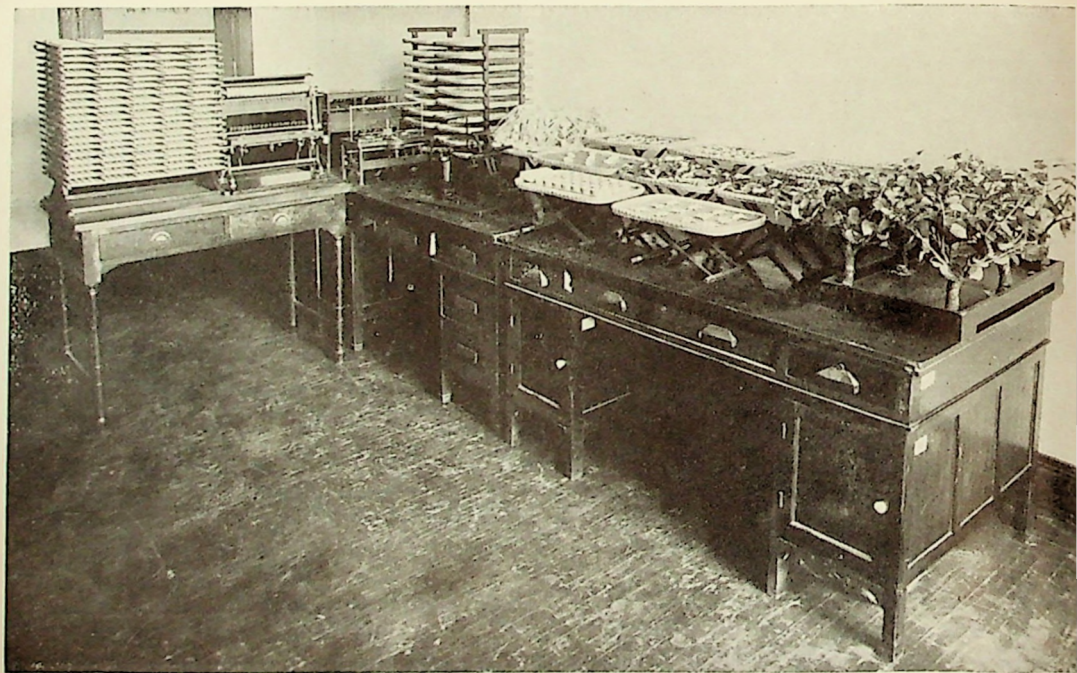


Two Leaves of the Lu San, the cultivated Mulberry Tree, which forms the main Food of Silk Worms.



The Cocoons from which the Silk is wound off by Operatives in the Filatures. Large Quantities of Cocoons are also exported in the right Seasons, of which there are several during the Summer Months.

Above are shown some of the Varieties of Cocoon produced in China. Photograph by Courtesy of the College of Agriculture and Forestry, Nanking University.



A Corner in the Government Testing Bureau in Shanghai showing all the different Stages in the Development of the Silk Worm and the Production of the Raw Silk.

WHAT CHINA HAS TO EXPORT, ACTUAL AND POTENTIAL

as silk and tea, in great demand in other countries, and it was because she had such articles to offer that she was able to develop an overseas and overland trade with foreign lands.

THE SILK INDUSTRY OF CHINA

From the very earliest times of which we have any knowledge China has been growing and manufacturing silk. The people of the Shang Dynasty, fifteen or more centuries before the Christian Era, were using silk fabrics, and in the Chou period, which followed the Shang, silk was an object of barter with the countries to the north, north-east, north-west and west of China. In Han times it formed the chief item of trade with the far-distant kingdoms of Central and Western Asia and even such European empires as those of Greece and Rome. Naturally when in more recent times European traders came to China silk became one of the leading exports, its importance in this direction increasing steadily as foreign trade developed till Italy and Japan came into the field as silk producers, and by using more scientific methods in developing the industry began replacing China to a certain extent in the world's silk markets.

China, however, responded to the challenge by making serious and to no small degree successful attempts to introduce improved methods of sericulture, so that her silk is still one of her most important articles of export. The industry has suffered considerably during the past decade, but recently it has shown signs of recovery and she is being able to take advantage of the situation that has developed through Italy's war with Abyssinia and a failure of the cocoon crop in Japan. Indeed, in an address delivered on April 22 before the members of the Central Silk Society of Japan in Shanghai, the resident official, Mr. G. Nishimura, is reported to have said that China will redeem her heritage as the world's largest exporter of raw silk within the next ten years. In 1935 China exported silk to the value of \$40,537,926, which was an increase over the previous year of \$11,782,238.

It is interesting to note that a considerable amount of research work in the way of improving silk production methods in China is being and has been carried on by various Governmental and other institutions in the country, while farmers are not only being supplied with disease-free eggs, but are being educated in hygienic and economic methods in the raising of silkworms and the handling of cocoons and raw silk. The Department of Sericulture of the College of Agriculture and Forestry of Nanking University deserves much credit for the pioneer work it has done in this field. The Bureau of Foreign Trade under the Ministry of Industry has established a Government Testing House in Shanghai with a view to keeping up the standard of silk, cocoons and other commodities exported from China. This is a step in the right direction.

CHINA'S TEA INDUSTRY

The origin of the use of tea in China, like that of silk, is lost in antiquity. The plant is included in the earliest Pên Ts'ao or Herbal, which, according to legend, dates back to 2700 B. C. In the Chou Dynasty it was already known under the name *ch'a*, which it still bears, but ap-

parently was used as a medicine. In the reign of Wên Ti of the Sui Dynasty (589-618 A.D.) it was used as a beverage, while the T'ang and Sung poets sung its praises, by which time it was not only widely used in China, but in the form of "brick" tea had become an important article of trade, especially with Tibet, Mongolia and Central Asia.

It was not known in Europe, however, till in the year 1610 Dutch traders took some tea back with them to Holland. Even so, it was not looked upon as a beverage, but a medicine. The East India Company (British) was the pioneer in placing tea on the market as a beverage in England, a country where, ever since its introduction in 1667, it has been greatly in favour. Indeed, the tremendous overseas tea trade which China enjoyed in the seventeenth, eighteenth and nineteenth centuries was mainly with England, although a very important overland trade in this commodity had developed with Russia, which had been receiving regular shipments since 1689. Incidentally, Russia appears to have been the first European country to get to know about tea, having received its first supply in 1567.

The boom years of the China tea trade were in the eighties of last century, the peak in the export of tea from this country being reached in the year 1887, when 300,000,000 lbs. were exported to England alone. Since then, however, the foreign tea trade of China has steadily decreased, having met with competition from plantations in India, Ceylon and Malaya. The revolution in Russia in 1917 and the conditions prevailing there during the following years completely destroyed China's big tea trade with that country, and only recently it has begun to revive, although Soviet Russia is making strenuous efforts to grow her own tea.

In recent years there has been a growing demand for certain kinds of China tea in North Africa, where, it is said, green tea is rapidly taking the place of coffee as a beverage.

But, regardless of the state of the foreign market for China tea, the home consumption, always enormous, has continued to increase so that it really mattered little to the industry as a whole whether or not much of this commodity was exported. Under present conditions of world trade, however, this state of affairs cannot be considered satisfactory, for China needs commodities to export in order to counterbalance her now very considerable imports, and tea is one of the products she may well look to for this purpose. The Chinese Government is faced with the problem of placing this country's tea industry on a competitive basis, for one of the chief obstacles China tea has to overcome in order to meet world requirements is its comparatively high price. Methods now in vogue in China in growing, picking, curing, packing and transporting tea and the fact that the industry and trade are carried on more or less piecemeal by innumerable small growers, middle men and dealers make the higher grades of tea, which alone are suitable for export, considerably more expensive than the various grades produced by the great plantations in Ceylon, India and Java. Indeed, it is only the superior flavour and fragrance of China teas that have enabled them to hold their own at all in foreign markets.

A falling off in the quality in recent years of the various grades of tea brought to the coast for export has had a further adverse effect

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upon the market, and the amount exported from Shanghai in 1935 showed a marked decrease from that exported in 1934. The total amount of tea sent abroad from Shanghai in 1935 was 41,541,894 lbs., which was 5,178,131 lbs. less than during the previous year. Of this quantity Africa took 21,875,760 lbs. of green tea, the United States 3,820,526 lbs. and England 391,498 lbs., the last named country also taking 3,655,000 lbs. of black tea. The total exports of tea from the whole of China in 1935 amounted to 83,933,520 lbs., valued at \$29,624,184.

Up to the present efforts on the part of the authorities, National and Provincial, to improve the tea industry and trade have met with but meagre results. Recently something more than a "storm in a tea-cup" has been produced by an attempt by the Anhwei Provincial Government to assume control of the famous Keemun tea industry with a view to improving the quality of the tea, reducing the cost of transportation, eliminating the middlemen and even marketing the tea. This has resulted in the tea merchants having refused for a period to finance the industry, as they have always done heretofore, as a protest against this action. While transactions were later resumed and the necessary money sent up country, the matter has not been satisfactorily settled, and the merchants have expressed their intention of continuing to fight the Anhwei Government's attempt to establish a tea monopoly.

As far back as February of the present year the National Economic Council held a conference to discuss the improvement of the China tea industry, passing a number of resolutions which it was hoped would bring about this desirable end. Whether or not anything of great importance has resulted from this it is too soon to tell, but recently it was announced that a Keemun black tea of a greatly improved quality was expected to come on the market this season, notable results having been achieved by the experimental farm in the Keemun district established last year by the National Economic Council in conjunction with the Anhwei Provincial Government.

It must not be thought that the Keemun teas are the only kinds of any importance in the matter of export. The provinces of Kiangsi and Fukien also produce large quantities of excellent tea which go to foreign lands, while Szechuan and other western provinces produce large quantities of low grade tea to be made into "bricks" for the Tibetan market. In 1935 some 21,320,640 lbs. of brick tea was exported, most of it to Tibet.

While in every kind of China tea—black, green, brick and others—there was a marked decrease in the exports in 1935, there is no reason why China should not revive her once enormous trade in this commodity, providing intelligent means are taken to improve and maintain the quality, to reduce the present high price and to encourage the farmers to produce tea where possible on the sides of the hills and mountains, where alone it will grow, and where often it is not easy to grow other crops of any value.

The latest development in China's tea industry is the trend on the part of provincial authorities to create monopolies. Not only has the Anhwei Government established or attempted to establish such a monopoly, but that of the neighbouring province of Kiangsi has likewise done

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se, forming a combine with the former, which, according to latest reports, the Chekiang Provincial Government has also joined. What ultimate effect this procedure will have on the country's tea trade it is impossible to say. It may benefit the tea grower and it may tend to increase the export of tea from China, but it would probably deal a fatal blow to the tea merchants in the treaty ports, unless, of course, the exporting continues to be done through them.

CHINA'S EGG EXPORTS

One of China's most important exports is that which includes eggs and egg products. Besides fresh eggs in the shell, preserved and salted eggs were exported, as well as dried and frozen albumen, yolks, and whole eggs, to a total value of \$32,081,734 in 1935. This figure shows an advance of \$1,834,625 over that for 1934, though it falls short of the 1933 figure by \$4,398,019. The four principal collecting and exporting centres are Hankow, Shanghai, Tsingtao and Tientsin, tapping the provinces that lie in the lower valleys of the Yangtze and Yellow Rivers, namely Hupeh, Kiangsi, Anhuei, Kiangsu, Chekiang, Shantung and Hopei (Chihli). There are seven large and a number of smaller egg factories, operated by both foreign and Chinese interests, in the four treaty ports and at various other strategic points in the provinces mentioned, and investigation shows that on the whole the egg and egg products exported by these concerns are of a high grade and have been handled in a thoroughly hygienic fashion, only carefully selected and tested eggs being used. The propaganda against Chinese eggs that has taken place in Great Britain is in no way warranted by facts, and it is to the credit of the representatives of the British people that attempts that have been made in Parliament to prohibit the importation of Chinese eggs and egg products have so far failed. As Great Britain is by far the biggest importer of Chinese eggs and egg products, in 1935 taking \$18,480,314 worth of the total value, it would be a bad thing for China if the drastic action mentioned above were taken. It, therefore, behoves those interested in the industry to see to it that their products are kept up to the highest possible standard, so as to give those desirous of eliminating them from the British market no grounds upon which to do so.

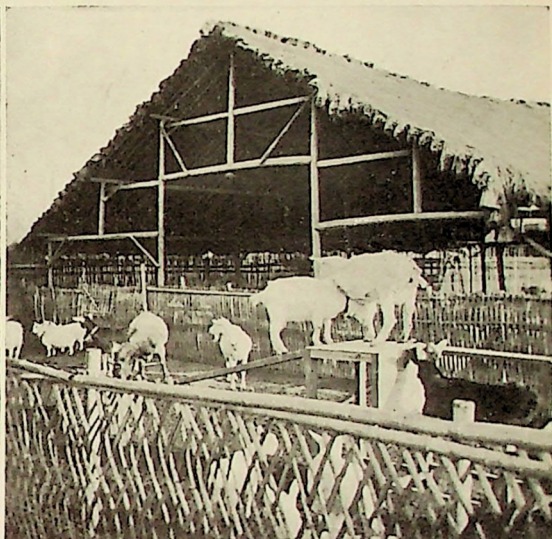
CHINA'S TRADE IN FURS, SKINS AND HIDES

In years gone by China's fur trade was very much bigger than it is now. The falling off in this important export can be attributed firstly to the diminishing demand for furs throughout the world as a result of depression, and secondly to the loss of Manchuria, which was one of China's main sources of supply in the way of furs and certain skins. Nevertheless this country's trade in furs, taken in conjunction with skins and hides, comes to a very substantial figure, the total value of exports in 1935 being \$23,628,606. This shows a decrease of \$5,479,040 from the 1934 figure, which in turn was \$2,812,678 less than that of 1933. The main items included in this trade are water buffalo and ox hides and the skins of dog, fox, goat and kid, lamb, hare and rabbit and weasel or mink. There are the skins of other animals, including deer, mostly muntjac, antelope, raccoon dog, squirrel and others, but the foregoing

Camel, Sheep and Goats' Wool are exported from North China in Great Quantities, though not at present to the same Extent as formerly. Sheep and Goat Skins also form important Exports.



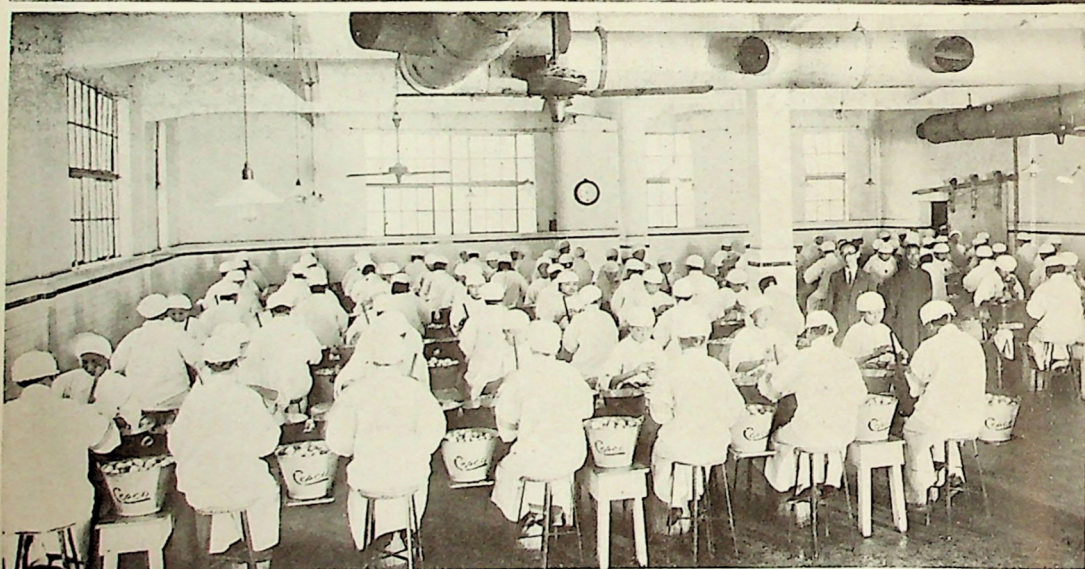
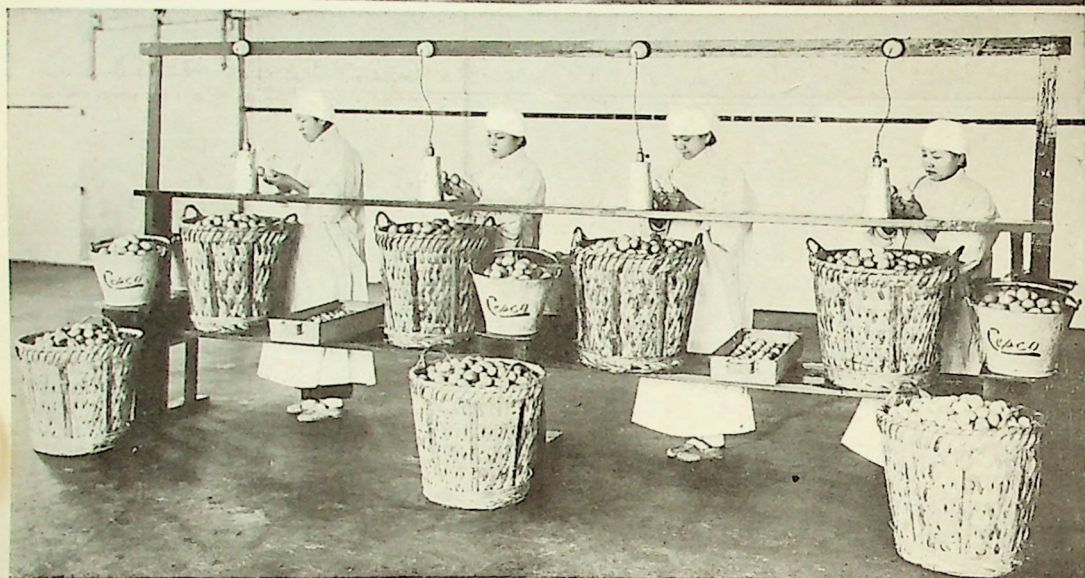
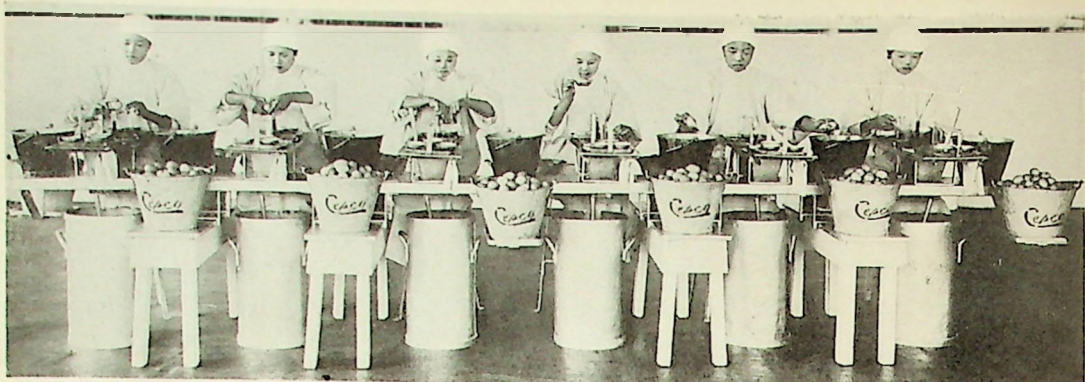
Here are shown a Chinese Sheep (above) and Goats, the latter on a Shanghai Farm supplying Goats' Milk to the Community.



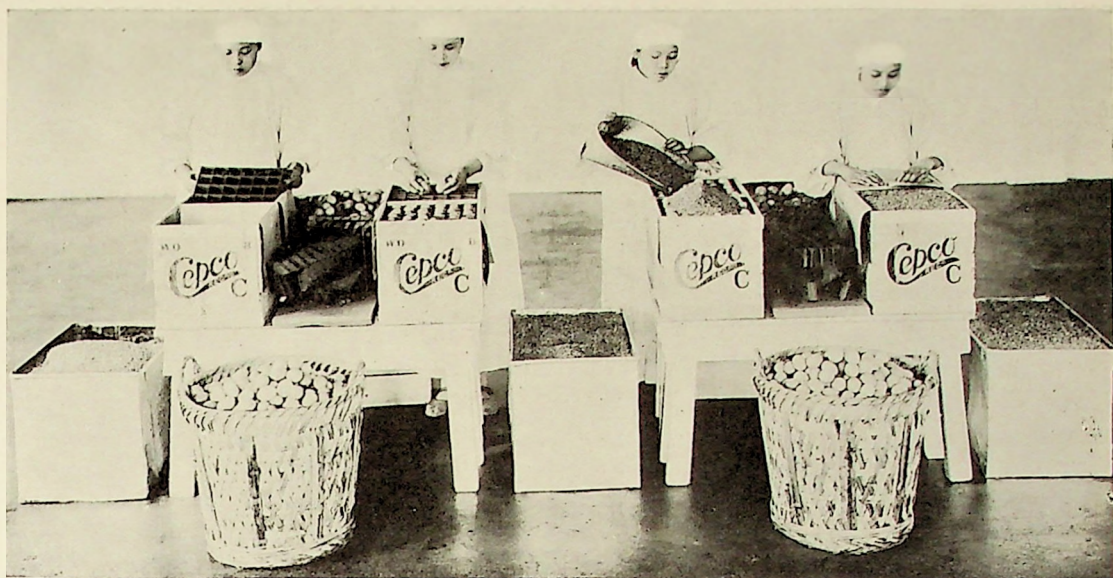
Photographs by
Courtesy of the
Bureau of For-
eign Trade,
Shanghai.



The Examination of Hides for Export at Shanghai. These form an important Item of China's Trade.



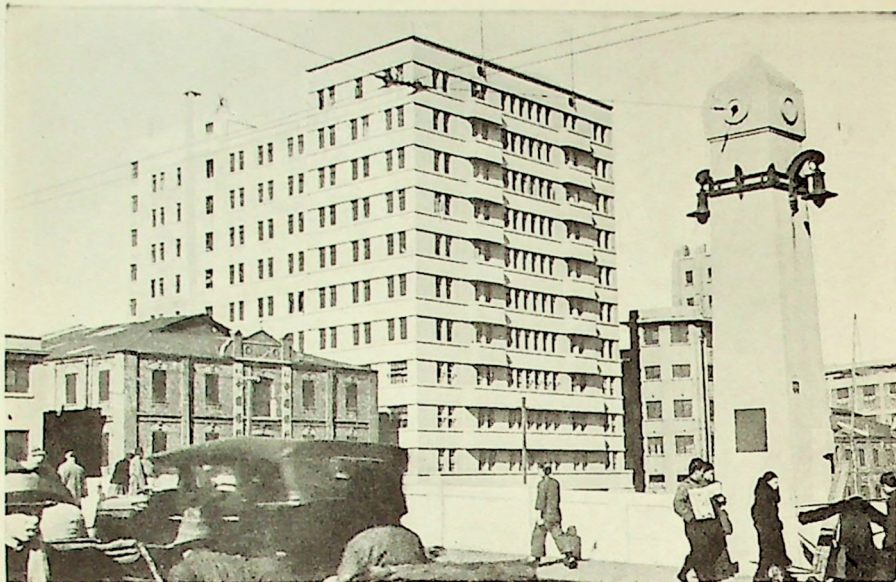
Eggs form one of China's most important and profitable Exports. Here are Scenes in the "Cepco" Egg-products Factory in Shanghai showing Operatives breaking Eggs and testing Eggs with Lamps as well as the well-ventilated Rooms and Hygienic Conditions under which they work.



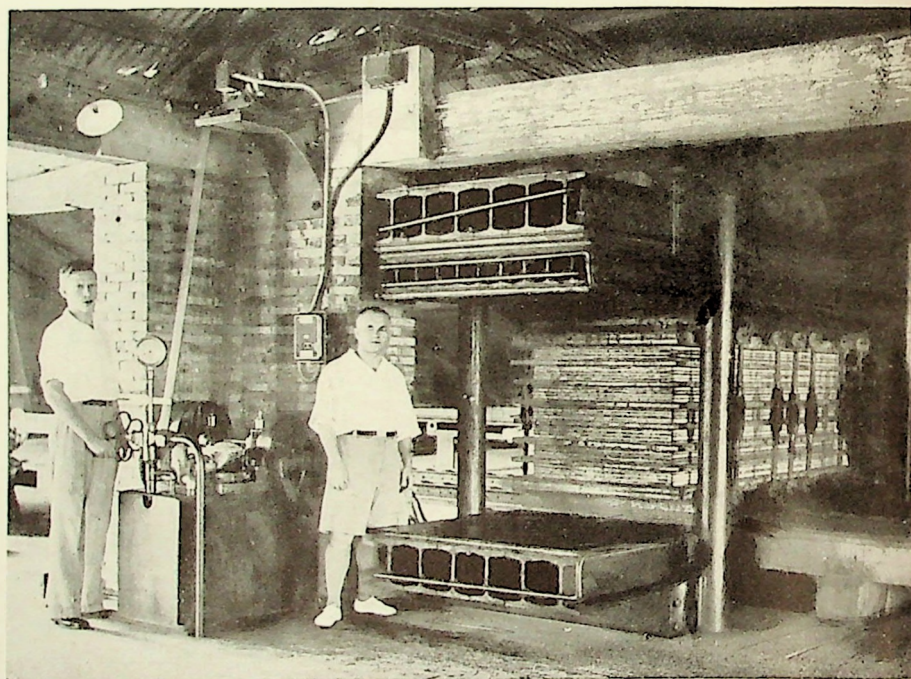
Eggs in the Shell being packed for Export at the "Cepco" Factory in Shanghai. Only the highest Quality of Eggs which have been thoroughly tested for Freshness are accepted.



Cases of "Cepco" Eggs ready for Export. Recently there has been much unfair and entirely unwarranted attacks made both in the Press and in Parliament in England against Chinese Eggs. Investigations have proved, however, that the Chinese Egg is a First Class Article and is handled for Export under thoroughly Sound and Hygienic Conditions. Photographs by Courtesy of the Bureau of Foreign Trade, Shanghai.



The fine new Building in which is located the Government Testing House of the Bureau of Foreign Trade of the Ministry of Industries.



The Hydraulic Press in the Government Testing House in Shanghai, where Products are thoroughly tested before they can be passed for Export.

WHAT CHINA HAS TO EXPORT, ACTUAL AND POTENTIAL

are the most important, the largest individual item being undressed goat skins, of which 6,263,541 pieces were exported in 1935. This trade is one that is capable of considerable expansion, especially if the quality of the products coming from the interior were to be improved as they undoubtedly could be.

OTHER ANIMAL PRODUCTS

Other animal products which are exported from China in considerable quantities are pigs' bristles and casings, sheep, goat and camel's wool, tallow and wax, feathers and certain fishery and sea products. Of these the trade in bristles is, perhaps, the most important, the value of this product exported from China in 1935 being \$16,224,805. This country, it is estimated, supplies some seventy-five per cent. of the world's demand for bristles, which are used in the manufacture of all kinds of brushes for every conceivable purpose. As only two-thirds of the production of pigs' bristles in China is exported, it follows that were the whole of it sent abroad this country could supply the entire requirements of the world. This is not to be wondered at, for China has the largest hog population in the world, and her pigs produce some of the best quality bristles procurable. The province of Szechuan is the main centre of the industry, which was first organized for export in 1890 by Mr. Archibald Little in Chung-king. Formerly Tientsin and then Hankow were the chief ports of export, but to-day Shanghai holds this position.

In 1935 the total value of sheep's wool exported from China was \$141,706,706, showing a marked increase over that of the immediately preceding years, though far from equalling that of the boom years of the trade during and previous to the World War. Camel and goat's wool falls far behind, though the export of both of these commodities is capable of considerable increase. Naturally the bulk of the sheep and goat's wool and all the camel's exported from this country come from the northern provinces, Inner Mongolia and Chinese Turkestan, and Tientsin is the leading place of export.

T'UNG YU OR WOOD OIL

The trees of China yield many valuable products besides wood and timber. In fact, it might be said that the kinds of trees in this country that do not produce good timber are more valuable than those that do. China, of course, has good timber trees, but nowhere in sufficient quantities to create an important logging industry, much less an export trade. Her total export of timber, wood and manufactured wooden articles in 1935 was valued at no more than \$1,917,243, and probably a considerable proportion of the wood from which the articles were made had been imported.

Of all the Chinese tree products the most important is the famous *t'ung yu*, or wood oil, derived from the nuts or seeds of the *t'ung* oil tree, which is cultivated extensively in the central and southern provinces. The oil forms one of China's most valuable exports, in 1935 being worth \$41,582,879, which represents an increase of \$15,366,196 over the figure for the preceding year. The export figures for 1936 are showing

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a further heavy increase over those of corresponding periods last year. In spite of this it is felt that the wood oil industry and trade could be improved by the introduction of up-to-date methods of extracting the oil, better means of transport, and, above all, more scientific ways of cultivating the trees. A warning may be offered China in this connection, for already in America and Africa successful experiments in planting tung oil trees have been carried on and extensive plantations established, and, if China does not look to her wood oil industry and make sure that only a high grade product is offered for export, she is liable in the not too distant future to lose her place in the world markets for this commodity.

Camphor is another of China's tree products that is exported regularly, though the yield is steadily decreasing owing to the fact that the supply of large camphor trees, that alone yield this useful commodity in paying quantities, is rapidly vanishing. The camphor tree grows in Central and South China as well as in Formosa, where the Japanese are busily exploiting the reserves that have accumulated through past centuries.

Other exports derived from trees in China are walnuts, chestnuts, apricot kernels (bitter almonds), insect wax and dried lichees. Of these the chestnuts and walnuts are mostly derived from the northern provinces of Hopei, Shantung and Shansi, the export value of walnuts running to well over two million dollars annually. The value of apricot kernels exported in 1935 was \$2,682,843.

Perhaps bamboo, of which the value of exports from China last year ran to \$2,543,409, should be classified under tree products. This is a commodity that is used in China to an unbelievably great extent and for innumerable purposes. Bamboos of a great many species grow everywhere throughout Central and Southern China and even in the high mountainous areas of the west, and if ever the Western World comes to use this product to any considerable extent, this country will be able to supply almost unlimited quantities.

TEXTILE FIBRES

Besides silk China products and exports large quantities of vegetable textile fibres, the most important of which are cotton and ramie, or China grass. Last year \$21,732,316 worth of raw cotton was exported, the increase over the value for 1934 being \$6,531,437. The value of ramie exported in 1935 was \$6,173,175, which was somewhat below the figure for the preceding year. Other textile fibres exported in 1935 were valued at \$14,706,706, making a total of \$42,612,197 for this class of product for the year. There is no doubt that with improved methods of cultivation China's production of these commodities could be greatly increased.

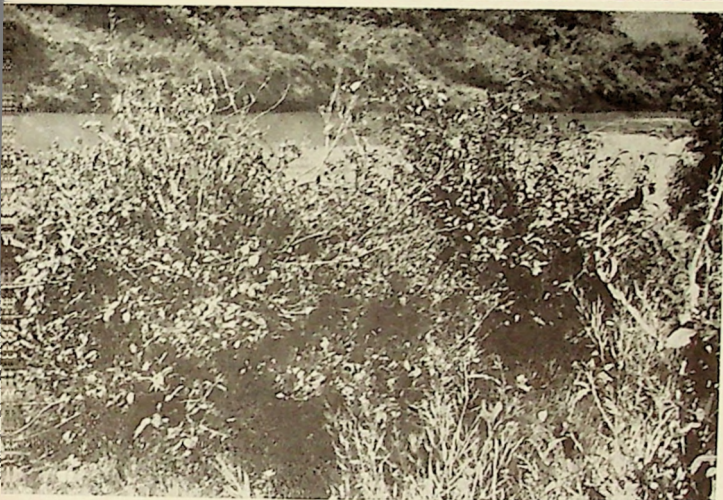
OTHER VEGETABLE PRODUCTS

Besides the foregoing China exports large quantities of cereals, ground nuts, tobacco, medicinal herbs, spices, seeds of all kinds and fresh dried and preserved fruits, to a total value of many tens of millions of

THE
CHINA TEA
INDUSTRY



Above is a typical Landscape
in the Chi-men, or Keemun,
Tea District of Anhwei Pro-
vince, famous for the Quali-
ty of its Black Tea. Photo-
graph by Courtesy of the
College of Agriculture and
Forestry of Nanking Univer-
sity.



Above are
some Tea
Bushes and
to the Right a
Tea Plantation
in the Lung-
pan District.
Photographs
by Courtesy of
the Foreign
Trade Bureau,
Shanghai.





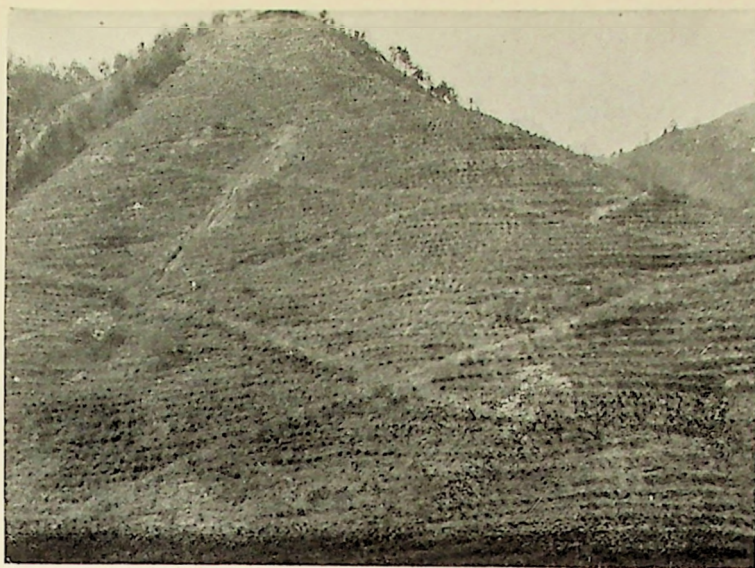
A Hillside with Tea Bushes growing in regular Rows in the Lung-pan District, Anhuei. Close-ups of the Shrubs are given in the Foreground.

The old House of the Cheng Chih Tea Company, now vacated for a new Building.



The new Home of the Cheng Chih Tea Company.

Photographs by Courtesy of the Bureau of Foreign Trade, Shanghai.



A Tea Plantation in the Huang-kang District, Anhuei, showing well the Way the Shrubs are planted over the Sides of Hill or Mountain.

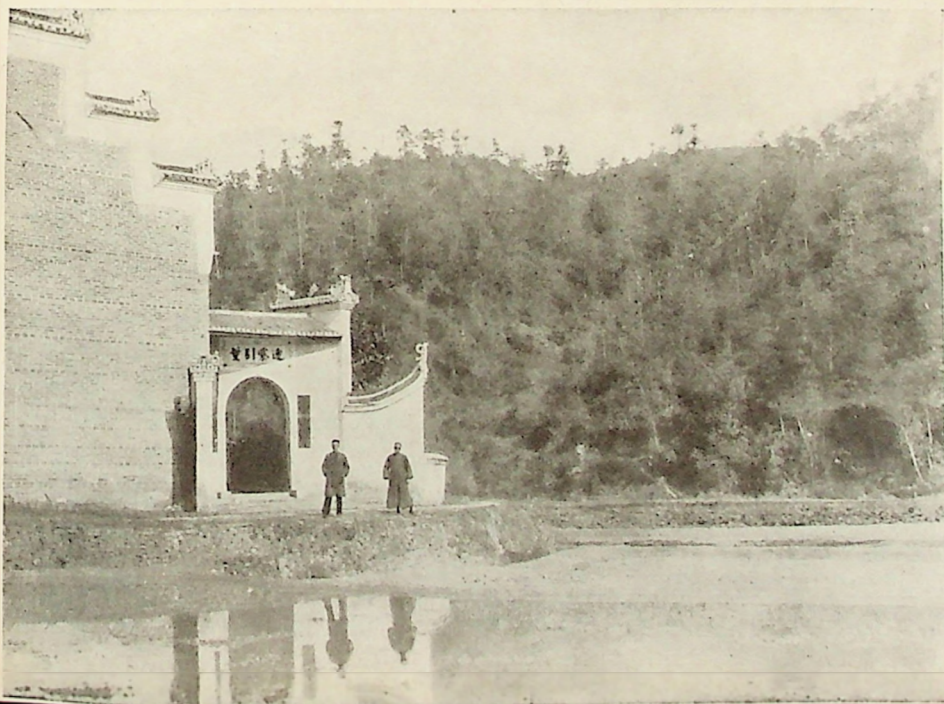


The Staff of the Keemun Tea Company in the beautiful Grounds of the Company's Plantation.



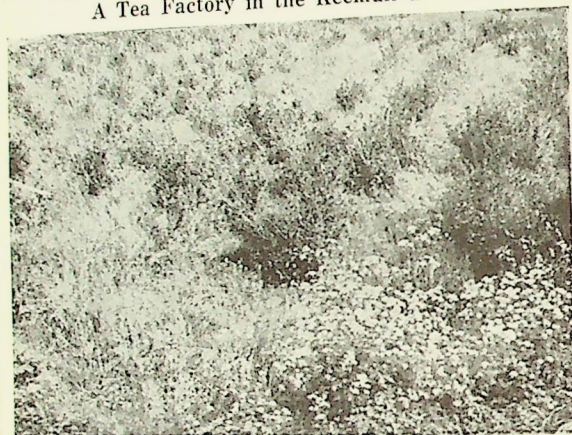
The Entrance to a Tea Factory in the Tea Growing District of Anhuei.

Photographs by Courtesy of the Bureau of Foreign Trade, Shanghai.





A Tea Factory in the Keemun Tea District, Anhwei.



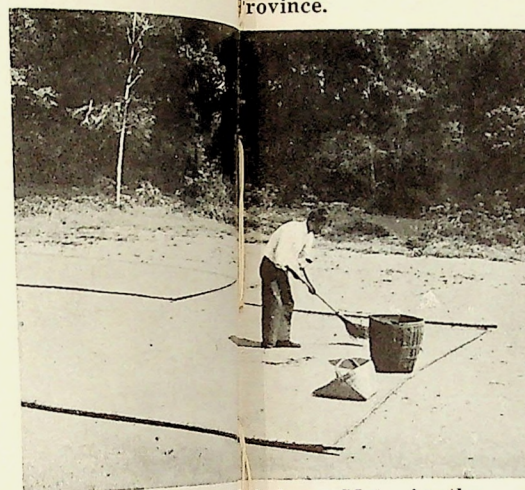
On the Left
are shown
Tea Bushes
with other
Crops growing
between them as a
Result of
the recent
low Prices
the Farmers
get for their
Tea.



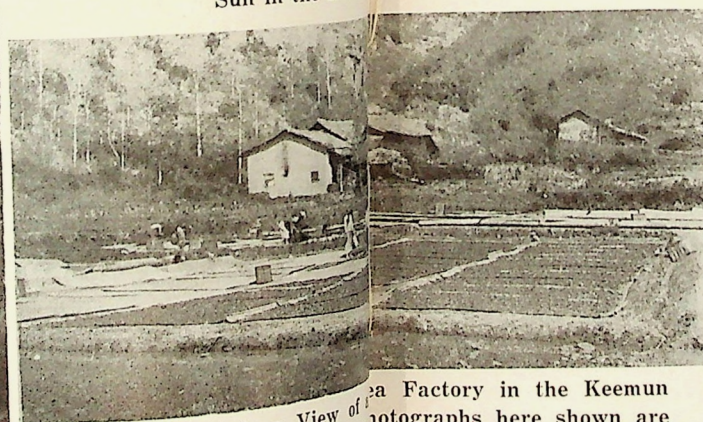
On the Left is a View of
Tea District of Anhwei. The
photographs here shown are
reign Trade, Shanghai, and
by Courtesy of the Bureau of
the College of Agriculture and
Forestry of Nanking University.



Picking Tea in the Keemun Tea District of Anhwei Province.



Tea Leaves being dried on Mats in the Sun in the Keemun Tea District of Anhwei.



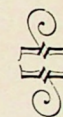
Girl Tea-pickers in the Keemun District, Anhwei.

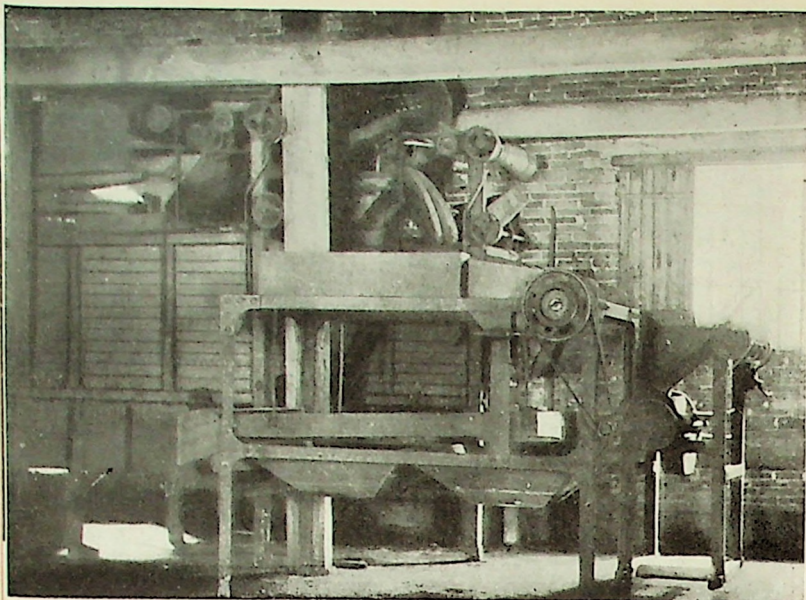


Roasting Tea in the Hsin-shui District of Kiangsi Province.



Roasting Tea at the Station of the Provincial Tea Improvement Society in the Keemun District, Anhwei.





Machinery for
rolling Tea
Leaves employed
in a Factory in
the Keemun Dis-
trict of Anhwei.



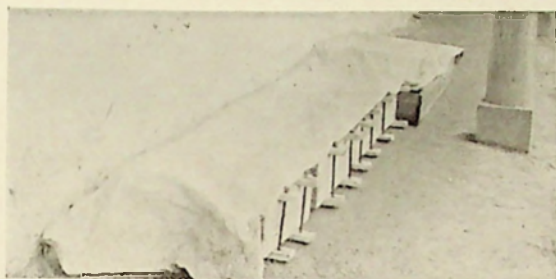
Photographs by Courtesy of
the Bureau of Foreign Trade,
Shanghai, and the College of
Agriculture and Forestry,
Nanking University.



Tea Leaves being
Dried in Baskets
preparatory to
Packing for
Transport to the
Coast.

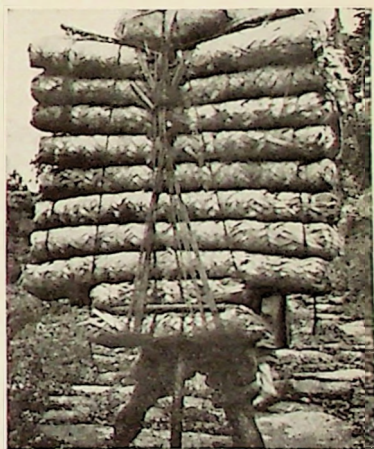


An Operative examining the Colour of Tea dried Indoors on Mats on well-ventilated Shelves in the Keemun District, Anhuei.



The Native Method of Maturing Tea is to cover it with a Cloth and leave it in the Sun. It may also be matured Indoors as shown on the Left.

Sunning the Lead Foil Cases before Packing the Tea in the Hsin-shui District of Kiangsi.



Above is a Load of Brick Tea on its way to Tibet, to the Left a Row of Boats carrying Tea down a River from the Keemun District, Anhuei.



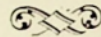


Enormous Quantities of Brick Tea are exported every Year from Szechuan or Sikkong into Tibet. Here are shown the carefully packed Loads ready to start on the

Backs of Coolies on the long Journey over Mountain Passes into Tibet.



Above is an Inn Yard full of Packages of Brick Tea for Tibet, while on the Right is shown a Load on a Coolie's Back weighing about 200 lbs. Photographs by Courtesy of F. Hardenbrook and Jack T. Young.



WHAT CHINA HAS TO EXPORT, ACTUAL AND POTENTIAL

dollars. The tobacco plant grows well in China, and there is no reason why the export value of \$9,051,579, which was last year's figure, should not be greatly increased. Sesamum seed showed an increase in export in 1935 of over three hundred per cent. in excess of the value for the preceding year, the figure being \$16,577,554. Ground nuts also showed a substantial increase, some \$19,601,750 worth being exported this year.

Of medicinal herbs licorice root is, perhaps, the most important to China as an export, the quantities sent abroad increasing year by year. This is derived from a leguminous bush that grows in wild places all over China, but especially in the more arid provinces of the north and north-west, and neighbouring Mongolia. Great quantities grow in the sandy Ordos Desert. The country produces about 5,000,000 piculs, or 666,500,000 lbs. annually, most of which, apparently, is consumed in the country itself. West China produces by far the greater part of the other medicinal herbs exported from China, some five to six million dollars' worth annually passing through Chung-king in Szechuan.

The value of cereals, including beans and peas, exported from China in 1935 was \$24,175,904, and there is no reason why, given better farming conditions and the necessary demand, this figure should not be increased very considerably.

MINING PRODUCTS

The potentialities of mining in China are very great, for as yet the mineral wealth of this country has barely been touched. It is true that a somewhat exaggerated idea of this exists, both in China and abroad, owing to the rather too optimistic estimates made by earlier explorers such as Baron von Richthofen, but the fact remains that throughout the vast territories of this country, ribbed with ore-rich mountain ranges, there are vast stores of valuable minerals awaiting exploitation. Even now China's exports in minerals amount in value to a very substantial figure, the total for 1935 being \$43,574,638. Tin constituted the most important of these, with an export value of \$20,381,104, while antimony yielded \$7,964,876 and wolfram, of which China has almost a world monopoly, \$6,698,145. When China's internal communications have been developed and improved sufficiently to ensure cheap transport from the interior provinces to the coast, this country should be able to export profitably large quantities of coal instead of importing this commodity, for her coal reserves are enormous. Incidentally, considerable interest has been aroused lately in regard to the possibilities of mineral oil production in China. Oil wells are reported to be in operation at Yen-ch'ang in North Shensi, Lung-li in Kueichou, Yu-men in Kansu, Ta-li-mu-ho in Sinkiang and Mao-ning and Tien-pei in Kuangtung, the total output as far back as 1931 being 458,496 barrels, or 18,256,832 gallons. The total oil deposits in China have been estimated at 3,700,000,000 barrels, or 155,400,000,000 gallons. An attempt is being made to raise capital for the exploitation of oil found in conjunction with the famous salt wells of Szechuan, where in some places natural gas emanating from the wells is used locally for fuel in boiling down the brine, which is pumped up from a depth of as much as 4,000 feet in some cases.

MANUFACTURED ARTICLES

So far the export of only the products of China's soil—animal, vegetable and mineral—has been discussed, all coming under the category of raw materials. With such industrious people as the Chinese it is only natural that there should be many manufactured articles for export, although it must be admitted that in this respect China has still a long way to go before she reaches what she is capable of producing for the world's needs.

At present there is an export from this country of yarn, thread and plaited and knitted goods, valued in 1935 at \$42,457,104. This figure shows a falling off of over twenty million dollars since 1933, and over ten million dollars since 1934; but the export trade in this direction is not only capable of recovery, but of considerable expansion. Other manufactures which are exported are piece goods, fabrics, porcelain, enamelled ware, glass ware, wooden articles, rattan furniture and leather. It is in her manufactures that the greatest potentialities for China as a selling country lie, for there is taking place a great development in this direction and, as already stated, it is only a matter of time for her to become one of the world's greatest manufacturing countries, possessing, as she does, vast reserves in raw materials and an enormous population of intelligent and industrious people.

WHAT CHINA IMPORTS

In spite of the fact that China is an agricultural country and has an enormous rural population, rice is the biggest individual item in the list of her imports. Indeed foodstuffs, consisting of rice, other cereals, flour, sugar, fish and other sea products, canned goods, groceries, fruit and vegetables, account for about twenty per cent. in value of the whole of China's imports. In 1935 this figure stood at \$201,345,456, of which more than half was accounted for by rice, the value of the latter brought into China during the year being \$135,917,318. Recently there has been an agitation in certain quarters to get the Government to prohibit Shanghai merchants from importing foreign rice, the reason advanced for this procedure being that the rice-growing areas in the provinces of Kiangsu and Chekiang within reach of this city can easily supply its demand for this staple. This may be true, but it does not alter the fact that, taking China as a whole, the quantity of rice produced in the country is not sufficient for her people's needs, and it may be suspected that the agitation for the prohibition of imported rice is actuated more by a desire on the part of those controlling the market for native rice to make enhanced profits than consideration for the farmers that produce it. Wheat comes next to rice in importance, some \$34,887,254 worth being imported into China last year, a further \$6,006,607 worth of flour also being brought in.

CHINA'S TREE PRODUCTS

Products from many Kinds of Trees are exported from China. One such is Camphor derived from the Tree of the same Name, a fine Example of which growing near Heng-yang in Southern Hunan is shown Below.



A fine old Chestnut Tree growing beside a Rock in the Mountains 4,000 Feet above Sea Level at Nan-k'ou, Fan-shang Hsien, Hopei, North China.



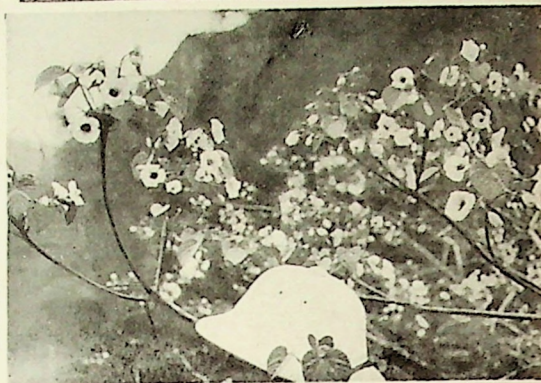
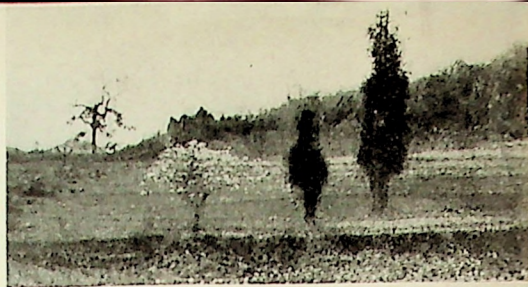
The dried Chestnuts are packed in large Baskets in the Fan-shang Hsien District of Hopei and then transported to the Market in Peiping by Camel, subsequently being re-shipped to Tientsin for Export.



Tung Oil, from which Varnish is made, is one of the most important Exports from the great Yangtze Basin and South China.



A Tung Oil Tree in Winter.

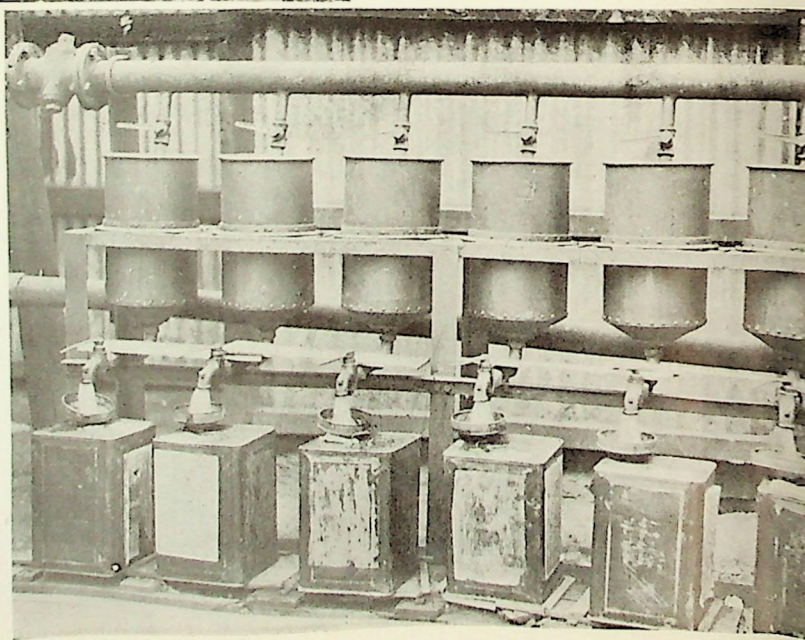


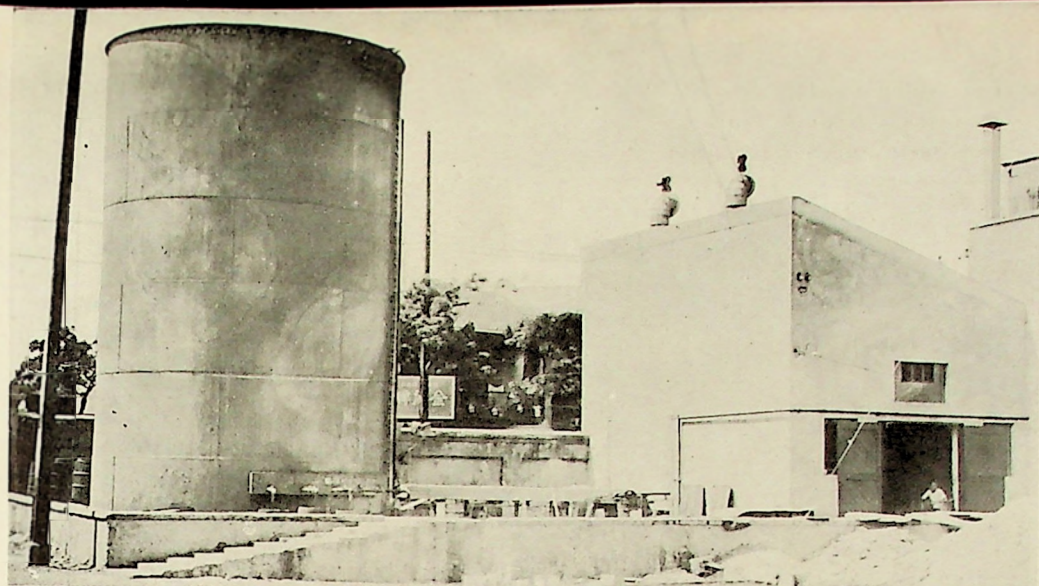
A Tung Oil Tree in full Bloom and the Blossoms shown close up in Pictures taken in the Ling-yuin Hsien District of Kuangsi. The Sun Helmet in the Foreground serves to give an Idea of the Size of the large White Flowers.



A native Press for extracting the Oil from the Tung Oil Nuts is shown above, on the Right Machinery used in the Refining of the Oil for Export.

Photographs by the Courtesy of the College of Agriculture and Forestry, Nanking University.

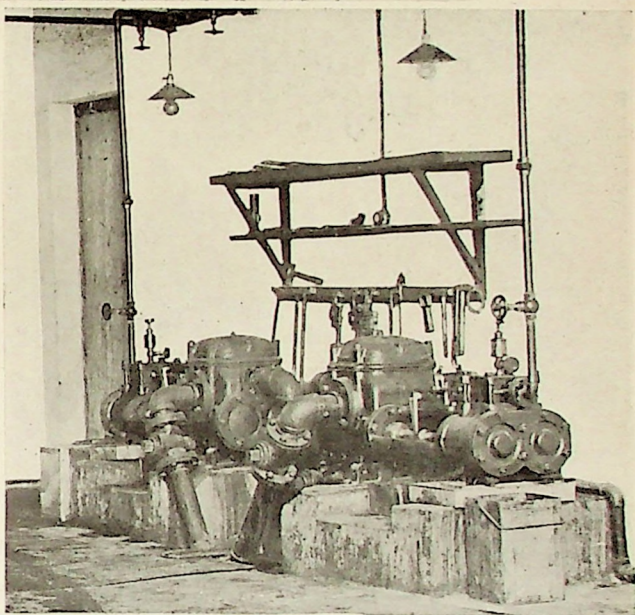




The Shing Tai T'ung Oil Mill.



A Drum of T'ung Yu, or Wood Oil,
ready for Export.



Tung Oil
Machinery
used in the
Process of
Refining.



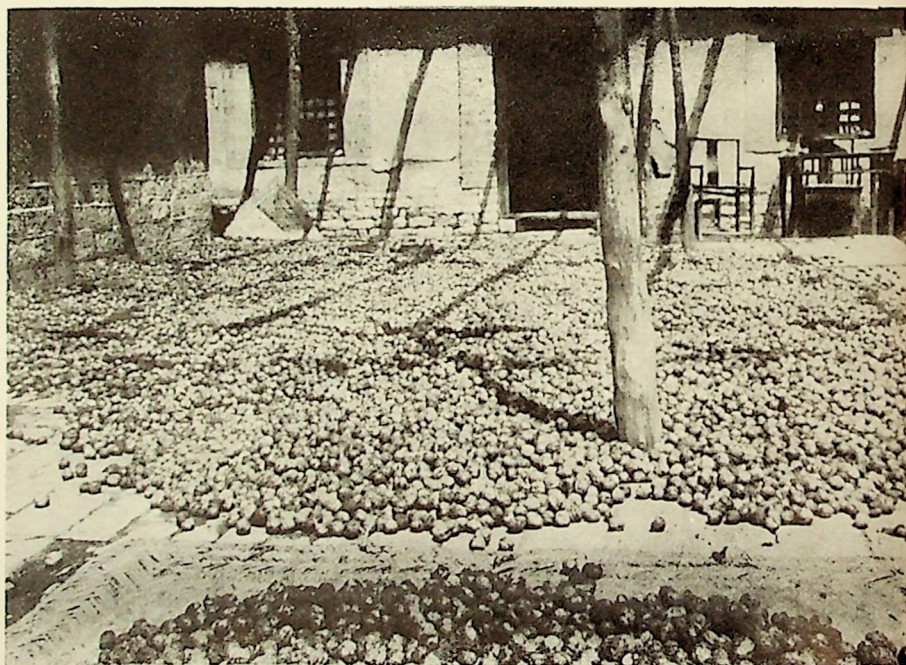
Photographs
by Courtesy
of the Bureau
of Foreign
Trade,
Shanghai.



Chinese Walnuts are extensively exported to foreign Lands, especially to the United States of America. Here is shown a magnificent Walnut Tree growing in a Field at Liuchia-tsuen, near Tien-chou in Shantung.

The total Value of Walnuts exported from China in 1933 was Customs Gold Units 2,177,864, or U.S.\$870,145, while that of Chestnuts was Gold Units 647,134, or U.S.\$258,853.

Photographs by
Courtesy of the
College of
Agriculture and
Forestry, Nan-
king Univer-
sity.



Walnuts spread on the Ground in the Sun to dry after the outer Hull has been removed before being shipped to the coast to be exported. The above Picture was taken at Tien-chou in Shantung.

WHAT CHINA IMPORTS

China's sugar imports in 1935 came to \$27,672,906, a figure some fourteen millions of dollars less than in 1933, and over four millions less than in 1934. It must be remembered that sugar is much more of a luxury to the Chinese than a necessity, and if and when this state of affairs is reversed, China would at once become a huge buyer of sugar. Her supplies of both sugar and rice come from the Indo-Malayan region generally, while her wheat and flour come from Canada and the United States.

China also imports a certain quantity of fish from the two last named countries, but her main imports in this direction come from North Japan and Eastern Siberia, and consists of salted salmon of the same species that supply the great salmon-canning industry of the Pacific coast of North America. Other sea products are trepang, or *bêche-de-mer*, sharks' fins, dried cuttle fish and dried seaweeds, most of which come from tropical regions, either direct or by way of Japan. The total value of fish and sea products imported into China in 1935 was \$19,028,281. Other animal products, canned goods and groceries generally came to \$11,778,208. Fruits and vegetables were imported to the value of \$6,948,743. These come from tropical countries, Australia, New Zealand and North America, the last named developing an increasingly important cold-storage service for the importation of fresh fruits, vegetables, fish and meat.

Next in importance to food stuffs in China's imports comes a class of goods which includes candles, soap, oils, fats, wax, gums and resins, amounting in the aggregate to \$101,696,701 last year. Metals and ores follow with \$87,442,948 as the consumption for 1935, while machinery tools form a very large item, the value of last year's imports in this line being \$65,853,248, with miscellaneous metal manufactures running to \$34,805,947.

Dyes, pigments, paints, varnishes, chemicals, pharmaceuticals, medicines and spices were imported into China to a total value of \$83,774,206.

Very considerable quantities of textiles and fibres are imported into the country, including cotton, wool, flax, ramie, hemp, jute, silk, rayon and articles made from them, the value in 1935 being \$110,305,467, raw cotton and cotton goods taking the lead with \$68,679,626.

China imports a great deal of timber, there being a definite shortage of this important building material in the country. Most of the timber brought in comes from Canada and the United States, but such classes as teak and hardwoods generally come from Siam, the Philippines and other places in Malaya, the total value of imports in 1935 being \$34,805,947. To this must be added \$7,541,582 worth of wood, bamboo, rattan, coir, straw and manufactures from these materials. In 1935 China also imported tobacco to the extent of \$11,300,883. The import of wood pulp, paper and paper products, including printed matter of all kinds, amounted to \$53,124,800.

Coal, fuel, pitch and tar imported into this country are given in the Customs Report for 1935 as valued at \$9,199,084. This apparently does not include petroleum products, the value of imports of which is not

given in the report, but the quantities of which brought in last year were as follows: kerosene oil 386,798,455 litres; gasoline, naphtha and benzine 155,188,431 litres; liquid fuel 398,169 metric tons; and lubricating oil 39,309,545 litres. In connection with these items it is interesting to note that vehicles and vessels to the value of \$30,584,591 were imported into this country during 1935. This is a class of goods the importation of which will inevitably increase as China's development proceeds, since she needs them more almost than anything else.

Porcelain, enamelled ware and glass accounted for \$5,762,369, stone, earthen and their manufactures for another \$4,736,125. Leather, hides and other related animal substances were imported to the tune of \$4,530,345; while wines, spirits, beer and table waters come at the bottom of the list of imports with a value of \$2,965,108 brought in last year.

Some \$69,504,357 worth of general sundries, which include a host of articles of all kinds, far too numerous to give in detail, bring the value of China's imports for 1935 to a total of \$919,211,322.

CHINA'S TRADE BALANCE: IMPORTS V. EXPORTS

The excess of imports over exports in China's foreign trade in 1935 was in round figures \$343,000,000. In 1934 it was \$495,000,000 and in 1933 it was \$733,000,000. On the face of it this looks like a distinctly favourable state of affairs, that is to say, if the generally accepted theory that an excess of exports over imports is desirable. It shows a steady decrease in what is known as an adverse trade balance. But an examination of China's trade returns, as issued by the Inspector-General of Customs in his latest report, reveals the fact that during the past three years there has also been a steady decrease in this country's imports, the figures being \$1,345,000,000 for 1933, \$1,030,000,000 for 1934 and \$919,000,000 for 1935. Thus the reduction in the adverse trade balance is not as favourable as it would at first seem. However, it must be noted that the value of China's exports in 1935, amounting to \$576,000,000, actually exceeded that of the preceding year by \$41,000,000, which is a handsome increase and suggests that the depression through which China has been passing during the past four years, as a result of calamitous floods and famines and the effects of world depression, is lifting.

The disquieting feature of China's overseas trade to-day is the steady falling off of imports, for this indicates that the buying power of the Chinese people is on the wane. This is a serious matter, for buying and selling go hand in hand, and, if China ceases to buy foreign goods, she will soon find herself in no position to sell in the world's markets. Trade, after all, is really a matter of the exchange of goods, and money only enters into the transaction in order to make it less cumbersome.

Thus there is little advantage to a country in a reduced adverse trade balance if this has come about by a reduction in imports. The

CHINA'S TRADE BALANCE: IMPORTS V. EXPORTS

more a country buys the better off she is, for she has increased her actual possessions which alone constitute true wealth. The more she sells, the more she is able to buy, and therefore the richer she becomes in reality.

Of course, it will be readily admitted that if a country continues to buy more than she sells she will be approaching bankruptcy, as far as money is concerned, so that an ideal state of affairs, and one to attain which every country should strive, is an exact balancing of import with exports.

For a long time China's imports have exceeded her exports, and it might well be asked whether she is not, therefore, on the verge of bankruptcy. The answer, however, is in the negative, due to the operation of certain factors which offset or counterbalance the excess of imports over exports. Such assets, however, are mostly hidden and not easily discerned, but they are there. As an example the dividends of the various rubber companies operated from Shanghai may be taken. There are some thirty-five such companies, whose head offices are in Shanghai, and the bulk of the shares of which are held in China. Even in times like the present, when the price of rubber is not too good, these companies pay out in annual dividends something like \$4,000,000. This money did not originate in China, but came in from abroad, and so offsets an equivalent amount of money paid out for goods coming into the country. In good years these rubber share dividends may easily amount to \$8,000,000 or even \$10,000,000.

Another source of incoming funds is to be found in the money overseas Chinese send back to their native land. How much this is it is impossible to say, but recently it was announced that overseas Chinese from Amoy had during 1935 sent \$11,000,000 to the banks there, a sum which exactly counterbalanced the port's adverse trade balance for the year.

The funds sent to China from foreign lands for missionary work constitute yet another source of income to China, as also does the money spent by foreign visitors. The last, indeed, may become an extremely important item in China's trade balance account. In some countries, such as Switzerland, the amount of money brought in by tourists is enormous. Japan receives a very handsome income from her American visitors every year. China's income from this source is not nearly as large as it might be, and undoubtedly will be when the many beautiful places and historical sites in this country become better known to the world at large.

The exact total of imports into China last year was valued at \$919,211,322, the exports at \$575,809,060, the difference being \$434,402,262, and the grand total of this country's trade for the year \$1,495,020,382.

FINANCING CHINA'S OVERSEAS TRADE

BY

F. GREGORY

The average shopper in Shanghai, or in any other city in the Orient for that matter, when making purchases of imported goods gives little thought to the thousand and one details that have been attended to before the required articles can reach the merchant's shop.

The work put in by the overseas manufacturer, the bank, the exporter, the insurance company, the packer, the shipping company, the Customs authorities, the importer and several others must all be taken into account.

Yet, in spite of the fact that all these details are in excess of the routine through which the goods pass in the trade in the country of manufacture, the shopper is often heard disputing their price on the grounds that it is so much higher here than it is in the homeland.

The financing of imported goods alone has brought into operation complicated and intricate machinery, and the purpose of this article is to give a simple explanation of the facilities offered by the banks to merchants, as well as to show how the buyer can, if he wishes, use methods of paying for his imports other than the usual one.

BANKERS CREDITS. This is where the buyer who does not possess an accurate knowledge of the terms used finds himself in a maze of Documentary Credits, Bills of Exchange, Demand Drafts, Telegraphic Transfer, D/A, D/P, and so on and so forth. Lacking the necessary knowledge he has to employ an expert in order to find the quickest and best way out of his difficulties.

A short explanation of these terms may prove interesting to the uninitiated and will demonstrate their uses to the importer and exporter.

DOCUMENTARY CREDITS. In order to avoid loss of interest and the possibility of non-payment the overseas manufacturer requires payment as soon as he ships his goods to the buyer in China. This is a happy state of affairs that is not always realized, for it is natural that the buyer of the goods has no desire to pay until he actually sees the consignment, or has some control over it. This is the phase at which the system of Bank Documentary Credit comes into operation.

Documentary Credits issued by a bank are made either *Unconfirmed* or *Confirmed*, according to the stipulations of the contracting parties. The Unconfirmed is, as its title implies, subject to cancellation or withdrawal by the party who is liable to make the payment. This type is not in favour with the manufacturer, who prefers the Confirmed Credit, which carries the issuing bank's guarantee of payment and can only be cancelled by consent of the manufacturer himself.

Payment to the satisfaction of both the overseas manufacturer and the buyer under this system of Documentary Credit comes about in

the following manner. The manufacturer, having completed the order, insured and packed the goods as instructed, and having despatched the consignment to the outgoing steamer, receives, after due formalities, a *Bill of Lading*.

A Bill of Lading is a full and detailed document, descriptive of the cargo that has been received on board, a proof of ownership, and a record of the freight contract.

Once in possession of this Bill the overseas manufacturer presents it together with the invoices of the goods shipped to the contracting bank, where, on proof that all papers are in order, he receives full payment. The responsibility of the goods, although they have not yet left the exporting country, actually passes into the hands of the buyer from this moment.

The Bill of Lading is then forwarded to the bank at the port of destination. This Bill, as proof of ownership of the goods, is handed over to the buyer on receipt of his payment. With this Bill, and with this Bill only, is he entitled to claim the goods when the steamer arrives. Should the buyer for any reason decline to pay, the bank is entitled to have the goods unloaded and disposed of, any loss being made good by the original buyer.

DRAFT TERMS. Under this form of payment more latitude is allowed by the manufacturer to the buyer. This can be arranged by what is known in bank parlance as a *Bill of Exchange*. Terms are agreed between the contracting parties, and the overseas manufacturer "draws" on his buyer. The working of this system is as follows:

The manufacturer, once again having prepared the goods as ordered, hands over the Bill of Lading and all documents relative to the shipment to the bank. From there they are forwarded to the Bank at the final destination. On arrival the bank presents the Bill of the buyer who writes "Accepted" and his signature across the face of the document. He is now legally bound to meet the payment when the time of maturity arrives. This may be 30, 60, 90 or 120 days after sight, that is, after he has "sighted" and "accepted" the Bill.

Various terms are used when making out a Bill of Exchange, which carry informative instruction to the Bank at the port of destination. *D/A* means that the Bank surrenders all documents of the transaction, Bill of Lading et cetera to the buyer when he "accepts" the Bill. *D/P* means that the documents are only handed over when the buyer makes the payment. *Demand Draft* means a draft which must be paid on demand, i.e. on sight. *Telegraphic Transfer* means that the buyer pays the necessary amount to settle the transaction to his bank, whence the amount of the value received is cabled to the branch of the bank in the country from which the goods are to come, and the manufacturer is paid when he presents the proof of shipment. In this transaction the buyer must, of course, pay for the cable and the usual bank commission.

These methods of trading through a bank are usually termed *Direct*.

A very large percentage of China's trade is operated through the *Indirect* method through the organisation of the importing houses or commission buyers in the country from which the goods originate. The *modus operandi* is as follows:

The retailer or buyer informs one of the local importing houses that he requires certain goods. The importing house, firstly being satisfied that the credit of its client is sound, makes out a form of contract, stating rate of exchange, buying commission, terms of payment et cetera, which on being signed by the buyer forms the basis of the transaction. The buyer thus becomes financially responsible to the importing house. The importing house must then forward this request for goods, which is now known as an *Indent*, to the correspondent through whom it deals, let us say, in England. This may be the English branch of the said importing house, an exporting firm known as a confirming house, or a commission buyer. With the forwarding of the Indent the importing house guarantees payment for the required goods to this new source of responsibility. It is now the duty of the overseas exporter or Confirming House to place the Indent with the manufacturer with full details as to packing, insurance, shipping et cetera, and to guarantee payment.

From the financial standpoint transactions carried out by this method practically resolve themselves into domestic trade in that the buyer in China pays the Import House in China, and the English exporter pays the English manufacturer; the payment between the importer and the exporter being purely a matter of arrangement, either of book entries or direct payment.

EXCHANGE. No account has been taken in these explanations of the difficulties of exchange rates. The buyer has to fix his selling price in local dollars, yet in the majority of cases the cost price of imported goods is quoted in sterling, gold dollars or some other foreign currency. At the time of buying the exchange rate may be favourable, and the buyer, if he is a wise man, will "fix" the rate with the Import House through whom he is dealing, or else arrange his Bank Credit accordingly. In some cases this is not done, and by the time the goods arrive the rate may have dropped considerably and the buyer is faced with no alternative but to sell the articles to his customers at a price in excess of the estimate he made at the time of ordering.

As a concluding note a word in appreciation of the Chinese merchants will be most fitting.

Trade between Western countries and China has been in operation for over three hundred years, and during all this time the Chinese merchants have set a standard of integrity, honour and fair dealing that has been looked up to with admiration by all who have had the pleasure of sharing in their transactions.

Affairs far out of the control of the merchant classes have caused many upsets during recent years, but it is safe to predict that, given a spell of settled exchange and non-interference from international sources, the Chinese merchant will be one of the main factors in once more establishing the credit of his country overseas.

THE KIANGSU HOG INDUSTRY¹

BY

J. LEWIS, M. R. San. I.

1. INTRODUCTION

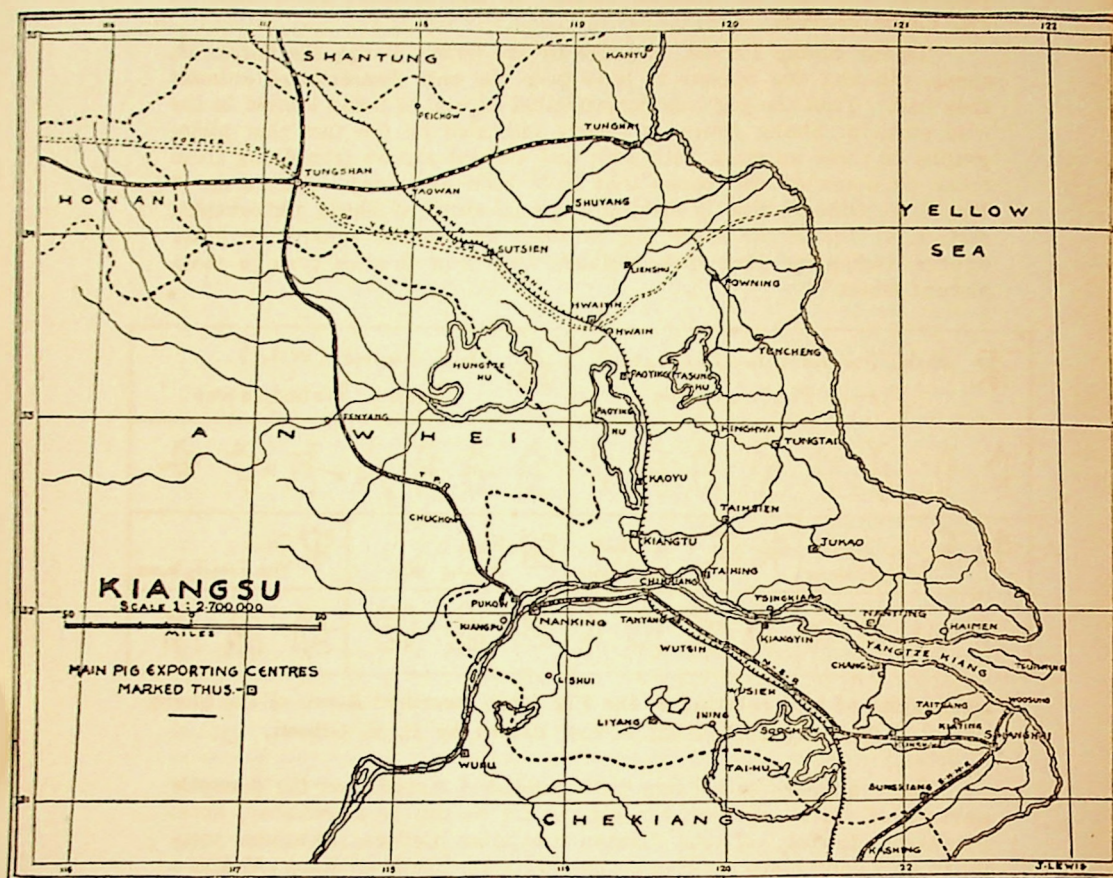
The object of this article is to give a brief outline of the Kiangsu hog industry and its significance in relation to the Shanghai market. Pork forms a not inconsiderable part of the diet of this city's three and a half million inhabitants, and it is considered desirable that something should be known of the manner in which the hog is raised, fed, housed, transported and finally prepared for the local market. With these objects in view, I proceeded to some of the Kang-pei country, around Nan-tung and Ju-kao, and also the districts of Sung-kiang and Wu-sieh, where I visited farms and pig hongs, and spoke to farmers, dealers, butchers and others interested in the trade. I also visited a number of piggeries on the outskirts of Shanghai, the hongs at Woo-sung, Nan-tao and Yang-ching, the French Municipal Abattoir, and several pig slaughterhouses in native territory. It is realized that much of the material here presented is unavoidably incomplete, and that the subject requires additional investigation farther afield. The hog as it is raised in this province appears to be a hardy animal, not much prone to disease. It is estimated that five million hogs are raised annually, of which Shanghai takes more than one fifth, yet pork is, relatively speaking, an expensive article of diet for the majority of the people. With the application of improved methods of breeding, feeding, housing and transportation, and adequate veterinary supervision the industry is undoubtedly capable of great development, providing at one and the same time a cheap and better grade of pork and a surplus for the export field.

Kiangsu, with its area of 38,000 square miles, is, next to Chekiang, the smallest of China's provinces. Extremely fertile, the province is served by waterways and lakes to such a degree that it is considered the best watered in China.

The population, according to the Postal Service estimate of 1926, is stated to be thirty-four millions in round figures, giving a density of 896 individuals to each square mile. This is nowhere exceeded in China, and is approached only in Shantung and Chekiang.

1. The author is indebted to the Shanghai Municipal Council and the Commissioner of Public Health for permission to publish this report. In this connection it is desired to record appreciation of the interest and facilities extended to him by Dr. J. H. Jordan, Commissioner, Dr. H. Pedersen, Veterinary Surgeon, and Dr. Shupeu Shu, Assistant Veterinary Surgeon, without whose help this survey could not have been so readily made.

Thanks are also due to Dr. S. Y. Chen of the Ministry of Industry, Dr. C. C. Wang, Veterinary Surgeon of the Shanghai City Government, Mr. J. Delga and Mr. A. Vachey of the French Municipal Council, Health Department, the Directors of the China Ham Manufacturing Company and to other gentlemen for their valuable and courteous assistance.



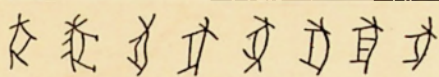
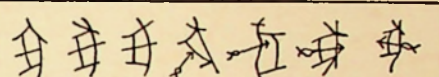
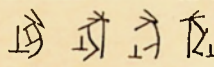
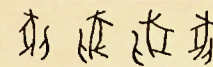
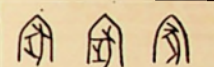
North of the Yangtze the district known as Kiang-peh is given over mainly to the cultivation of cereals, groundnuts, vegetables and fruit, the southern portion extensively to rice, silk and cotton production. Large numbers of food animals, notably pigs, are raised in every district of the province, but it may be expected that hogs predominate north of the river, where there is an abundance of foodstuffs which may be utilized for animal sustenance.

The pig in China has apparently been regarded as a domestic animal for centuries, if we infer correctly from the ideographic character for home 家, *chia*, which shows a pig under a roof. More definite light is thrown on the subject by recent excavations of inscribed bones of the Shang Dynasty (1776-1122 B.C.), from which it is clear that the pig was already domesticated in those early times. I am indebted to Mr. Arthur de C. Sowerby, for permission to reproduce some of the Oracle Bone characters of that period, and to quote from his article "The

THE KIANGSU HOG INDUSTRY

Domestic Animals of Ancient China," in the October, 1935, issue of *The China Journal*.

"In the Shang Period, to judge by the Oracle Bones, the horse, ox, sheep, pig and dog appear to have been the only domesticated animals they had. That the pig was domesticated as well as being hunted in the wild state in Shang times, is clearly indicated by the fact that pictographs of these animals, both with and without arrows transfixing them occur on some of the bones that have been excavated. According to Mr. H. E. Gibson, who is making a special study of Shang pictographs, certain of the latter show pig emblems enclosed in squares or other figures, indicating that these animals were kept in sties even in those distant times."

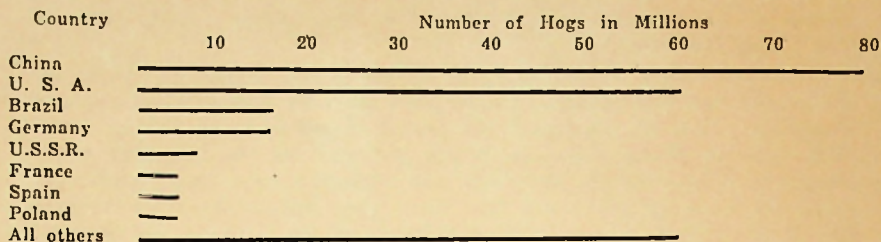
 Shih, Swine. (Domesticated) Shang Pictographs		 Chih, Swine. (Wild) Shang Pictographs	
			
 Mu Shih (Male) Swine	 Pin Shih (Female) Swine	 Hun A pig sty	 Chia The family, home.
			

Pictographs of and relating to the Pig from Inscribed Bones of the Shang Dynasty (1776-1122 B. C.), drawn by H. E. Gibson.

There appears to be very little published material on the domestic animals of China, and on the pig, as far as can be ascertained, none. Professor Levine, of the Canton Christian College, mentions some illustrated pamphlets, written by two brothers, Yue Poon Hang (喻本亨) and Yue Poon Yuen (喻本元), who lived during the Ming Dynasty, and who are said to have been experienced veterinarians. The work deals mostly with the horse, the pig apparently receiving no mention. It is noteworthy that early foreign travellers in this country, in whose writings there is a wealth of detail, studiously avoid mention of the hog, an omission which, it is surmised, is due to no other reason than a desire to consider the susceptibilities of their readers. However, it is meant that this much maligned animal, which since early times has played such an important rôle in the economic life of the people, and whose numbers to-day run into millions, should be given its rightful place.

Authorities differ on the hog population of China, figures of from eighty to a hundred millions being quoted. Probably the real figure is somewhere between these estimates. The following table, showing the distribution of the world's hog population, is of interest, since it indicates China's contribution, which is far in the lead.

THE CHINA JOURNAL



Total 250,000,000

A more recent estimate by an authority in the Encyclopaedia Britannica (1930) gives the world hog population as 200,000,000 in round figures.

The number of hogs raised in Kiangsu, according to latest information (1933) published by the Ministry of Industry, is shown as 4,130,000. There is reason to believe, however, that the actual number is considerably in excess of this, and that the figure of five millions is more likely to be the correct one.

At an average of \$16 a live animal this production represents a value of \$80,000,000. The following table, compiled from information published by the Ministry of Industry, shows the most important pig raising districts in the province and the number of animals raised in 1933.

<i>District</i>	<i>Production</i>	<i>District</i>	<i>Production</i>
*Fou-ning	500,000	*Lien-shu	75,000
*Tai-hsing	480,000	Kang-yu	75,000
*Ju-kao	345,000	*Huai-in	70,000
*Tung-tai	300,000	*Li-yang	66,000
Tsing-kiang	196,000	*Hua-yin	60,000
*Su-chien	150,000	Kun-shan	60,000
*Yen-cheng	120,000	*Tan-yang	56,000
*Wu-sieh	118,000	*Sung-kiang	50,000
Tsing-pu	114,000	Kiang-pu	50,000
Wu-kiang	110,000	Chu-yang	46,000
*Kao-yu	100,000	I-hsing	45,000
Kiang-tu	98,000	Kia-ting	43,000
*Pao-ying	85,000	*Tai-hsien	40,000
*Shu-yang	85,000	*Ssu-yang	40,000
Tai-tsang	80,000	*Chin-kiang	40,000

Fully half of these animals are exported from the places where they were raised, the majority of them being destined for Shanghai. Thus Fou-ning and Ju-kao send practically the whole of their production to this City, while Tai-hsing and Tung-tai about half their available supplies.

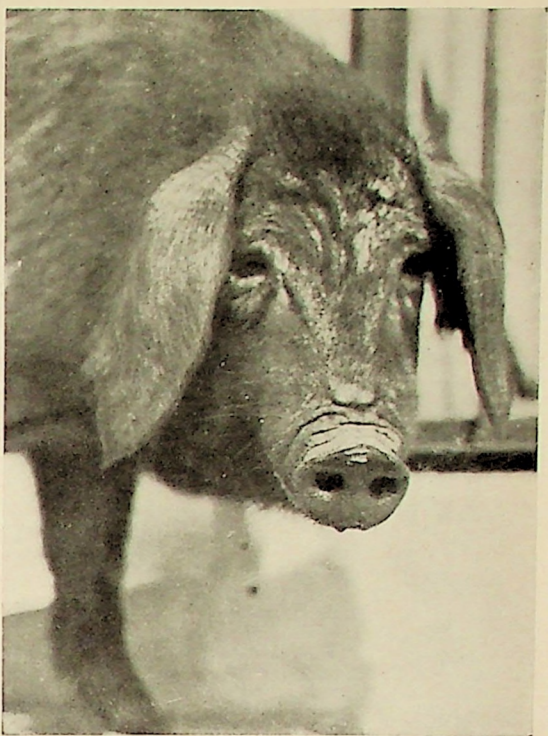
There do not appear to be any large farms devoted to the raising of hogs exclusively, although further north in the region of Huai-yin

*Centres exporting to Shanghai.

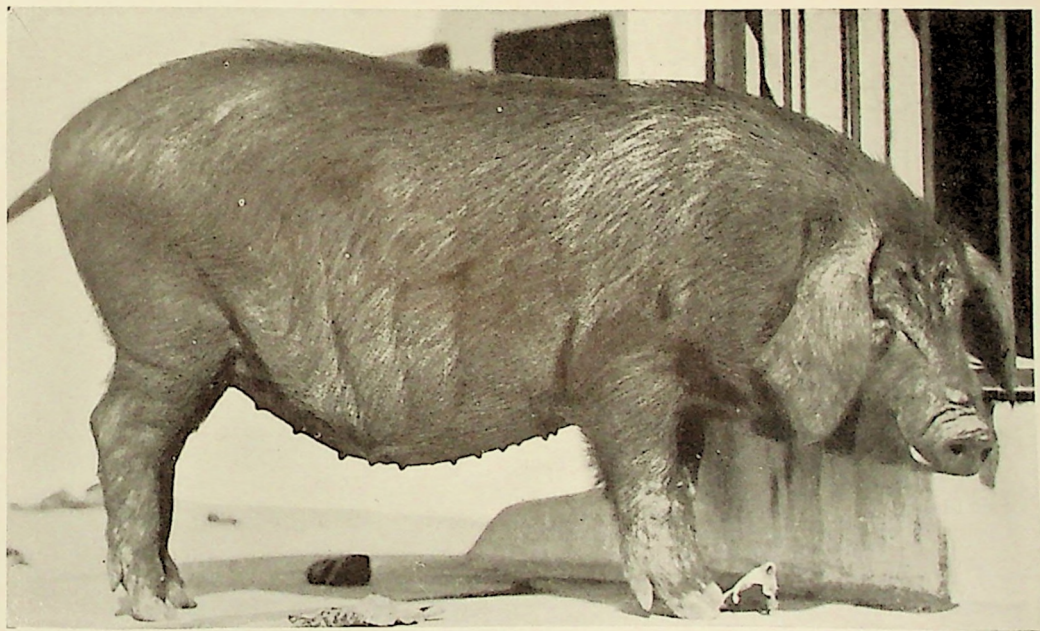
THE HOG INDUSTRY OF KIANGSU



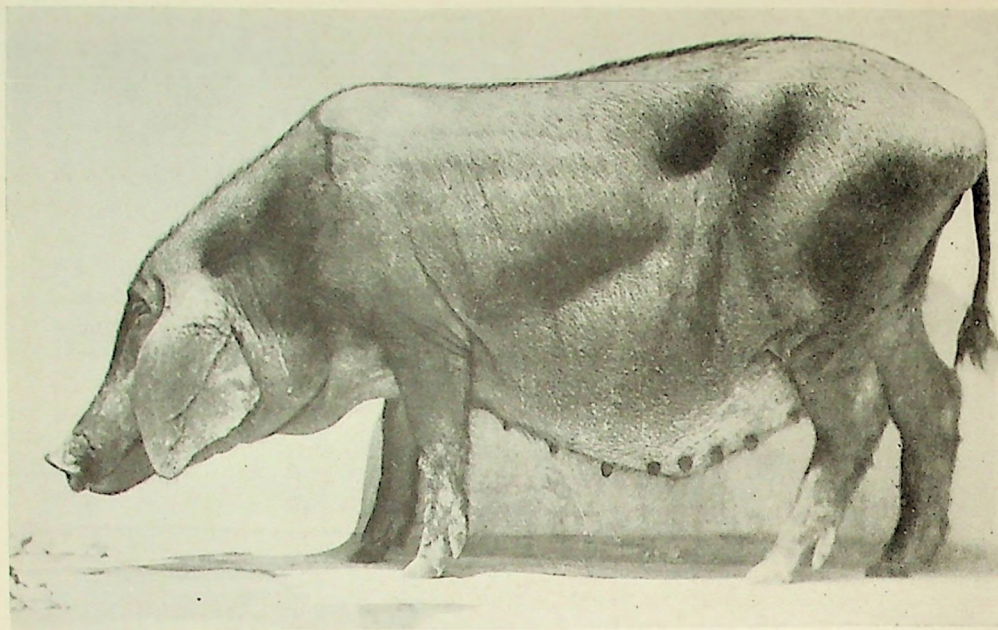
China raises more Hogs than any other Country in the World, her Annual Production running into many Tens of Millions. The Hog Industry in the Province of Kiangsu is one of the most important in the Country.



The Head of a Kang-pei Hog showing well the wrinkled Face typical of the Chinese Black Pig.



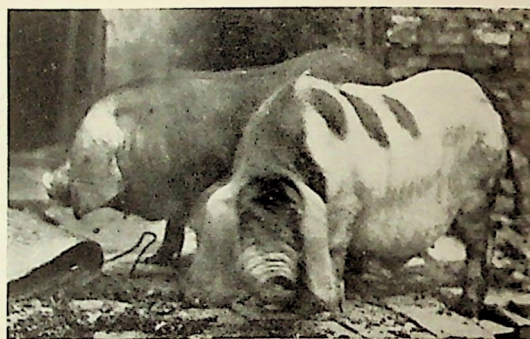
A typical Specimen of the Hog that hales from Kang-pei, or Kiang-pei, meaning North of the Yangtze River, in Kiangsu Province. Note the sway Back, long Ears and wrinkled Face.



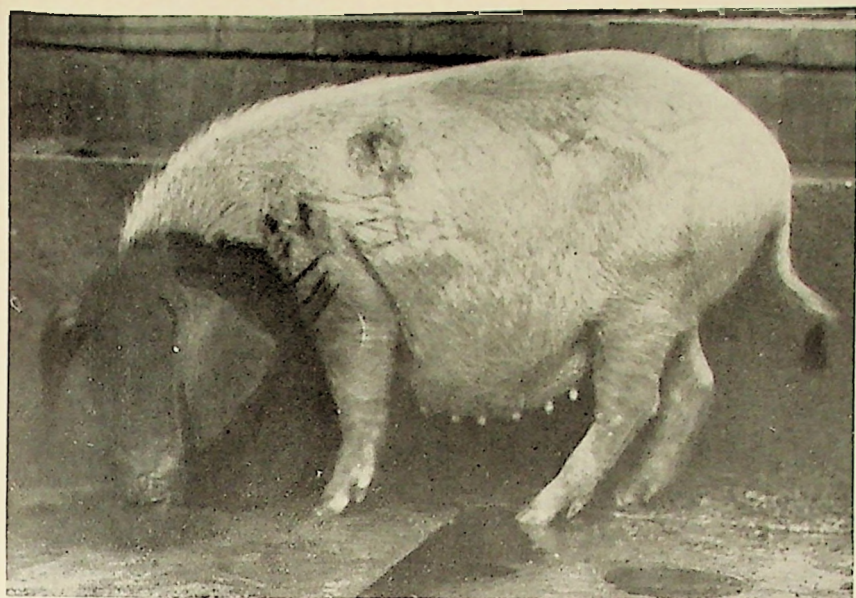
Another Example of the Kang-pei or Tai-hsing Hog, a large coarse-bristled Type found in the Yangtze Valley Area of Kiangsu. The Hai-chou Variety is found in the North and the Wu-sih Variety in the South of the Province.



Young Pigs on Sale at the Market at Ju-kao which is a regular Hog Fair.

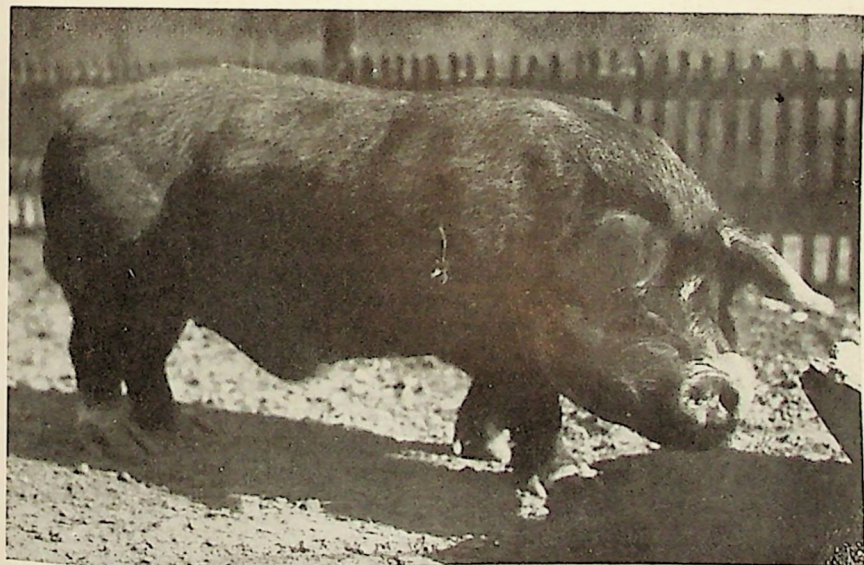
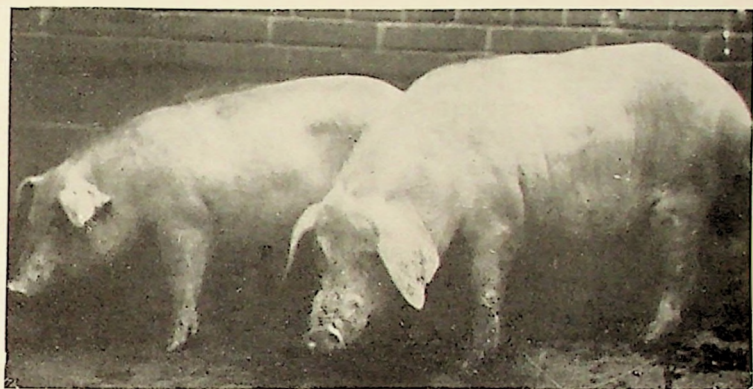


Black and White Hogs from Sung-kiang, not far from Shanghai. These Pigs have a Strain of the European Animal in them, as indicated by the white colouring and general Shape, but the long hanging Ears and wrinkled Face of the Chinese Domestic Pig is very pronounced.

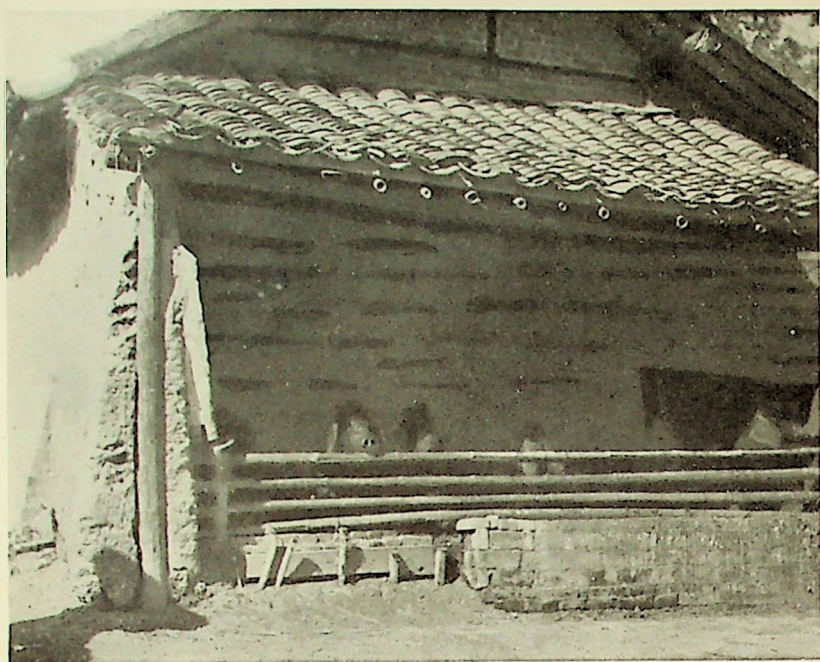


A Black and White Hog as seen in a Shanghai Slaughterhouse. Obviously there is a considerable Strain of Foreign Blood in this Animal.

White Hogs seen at the Municipal Slaughterhouse in the International Settlement, Shanghai. These have been bred from imported Animals.



An imported Berkshire Boar at Nan-tung Agricultural College.



A typical Hog Pen at Ju-kao where large Numbers of these Animals are bred for the Shanghai Market. On the whole the Accommodation of Pigs in Kiangsu Province is good and fairly Hygienic.



Unloading Pigs from a native Barge from Poo-tung, across the Whangpoo River from Shanghai. The rough Handling they receive often results in Injuries to the wretched Animals.

THE KIANGSU HOG INDUSTRY

and Hai-chou some may be found, each raising from forty to a hundred head. It is evident, therefore, that the industry is dependent upon numerous small farmers scattered throughout the country, to whom the breeding of several pigs is an important side line.

The type of animal most frequently seen in the province is known as the native black pig. As far as can be ascertained this hog is indigenous to the country, and, since the type is by no means peculiar to the province, but is common to many others, it might, perhaps, be more accurately described as the China black pig.

There are several varieties. One investigator mentions three, namely, those of Tai-hsing, Wu-sieh and Hai-chou, esteemed in this order, although locally the Wu-sieh hog would appear to take first place. Geographically, these varieties are located in the middle Yangtze area and the southern and northern parts of the province, and, although the animals present certain differences in characteristics, these are not always clearly defined. It is likely that such as exist are due entirely to feeding and environment. All three varieties, as well as others, are seen locally.

The Tai-hsing or Kang-pei hog, which predominates, has long pendulous ears, long snout, lean body with sagging abdomen, prominent spine, lean hams, and bristles long and coarse. The skin after dressing is dull white, coarse and thick. The carcass invariably exhibits a good covering of abdominal or leaf fat.

The Wu-sieh hog, as seen locally, is generally a smaller animal with the abdominal and spinal features of the Kang-pei hog less pronounced. Its bristles are finer and not so coarse. When dressed the skin is yellowish white and finer grained. Its flesh is considered more tender and palatable than Kang-pei pork. Leaf fat is not so plentiful. Both these varieties are for the most part pen fed, the Wu-sieh animal almost entirely so.

The Hai-chou hog, sometimes called the Shantung or Huai-tze (淮猪), is a well developed, large-boned animal, semi-wild, being in most cases a forager. Its snout is less prominent and its bristles are longer and coarser than those of the Kang-pei hog. The skin after dressing is coarse, pitted and thick. Carcasses usually present an abundance of fat, while the musculature is considered tough, and, accordingly, is the least esteemed.

The white pig, of foreign origin, which is raised in the environs of Shanghai, mainly for foreign consumption, does not exhibit the objectionable features of the Kang-pei hog. It is a more compact animal, with rounded back and well developed hams. Its bristles are shorter and finer. The animal fattens evenly, seldom exhibiting the thick covering of leaf fat seen so often in the Kang-pei pig. The skin, after dressing, is yellowish white, and fine grained.

There is also a black and white variety, seen occasionally at the local slaughterhouses, similar in characteristics to the Kang-pei hog, and which I am informed is commonly found in the districts around Hangchow.

2. BREEDING

It is unnecessary to make other than a cursory investigation to reveal the fact that the vast majority of Chinese hog breeders are sadly ignorant of what the subject implies.

A sow, which may farrow twice yearly, will be permitted to litter time and again until she is worn out and no longer thrifty. The question of getting the animal in a good marketable condition before she has developed into a bag of bones, does not arise, since animals of this type are considerably in demand and obtain good prices.

Litters vary in number from one to twenty, but average about twelve. It is customary to castrate both sexes when animals are seven weeks old or even earlier. No special aseptic precautions appear to be taken in the operation, which is carried out by a villager of some standing skilled in the art. This practitioner, invariably accompanied by an apprentice, usually attends the village or city market place or temple on certain days of the month, and, judging from reports, the operation is carried out with remarkably few complications. From personal observation it is apparent that these practitioners are thoroughly efficient in their work. Functioning single handed, the operator, seated on a stool, secures the animal on the floor by placing one foot on its head and the other on its tail. Castration is the work of a few seconds and presents no difficulty. Spaying takes somewhat longer, but is done no less efficiently. Locating the approximate position of the ovary with the thumb, an incision about an inch long is made with the scalpel into the abdominal cavity. The other hooked end of the instrument is then quickly inserted, the uterus with both ovaries gently pulled out, and severed from their attachments. It is noteworthy that the operator functions with unfailing accuracy and skill, with apparent little discomfort to the animal and the minimum shedding of blood.

In regard to the male, the prevalent idea is that any animal is good enough for breeding, consequently it often happens that the poorest specimen is reserved for this purpose. At several farms I visited in Ju-kao, and the outlying districts of Shanghai, no boar was in evidence, and I learnt that it was customary for some impoverished low class villager to maintain such an animal, and hire it out as its services are required for a very small fee. At a farm on the outskirts of Sung-kiang I was fortunate in meeting a villager who owned a boar, and was invited to accompany him on his rounds for the day. The animal, a lean wasted looking specimen, apparently typical of others in service, was secured by a chain and travelled from one farm to another. Frequently such journeys cover twenty to thirty *li* a day.

At Ju-kao I also visited a young pig market, where daily a thousand or more weaned pigs of from five to seven weeks old are on sale. This market is, as a matter of fact, a feature of other cities, indicating that the practice of selling off young stock rather than bearing the expense of raising them is fairly wide spread. These animals were for the most part thin stunted creatures, giving promise of becoming "razor backs" like their progenitors. Ordinarily they are disposed of in litters, being marketed in this manner at about \$1 a head.

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Sows in pig are frequently brought to the local slaughterhouses, and occasionally, to my knowledge, have littered just prior to slaughter. It is difficult to believe that such cases are entirely accidental, for sows are knowingly sold in this condition, because of financial stringency or because of the animal's showing signs of some temporary indisposition. Further, it is by no means uncommon to observe daily at one of the slaughterhouses, fifty or more fetuses, in various stages of development. It is conditions such as these which in the aggregate mean a heavy potential loss to the industry it can ill afford.

In the pens training of the young in clean habits is taken up at an early stage. They are taught to use a corner of the sty for defecation and urinating, any infraction being corrected by the bamboo. I have seen animals of little more than two months already accustomed to the habit, indicating that much may be done by intelligent handling.

3. FEEDING

The nature of the country, with its innumerable small holdings or farms, their owners all intent on getting the maximum out of the soil, precludes anything but pen feeding for the bulk of the hog population. Except on rare occasions, therefore, and in certain districts, notably those of Huai-yin and Hai-chou, the hog is not permitted to forage for itself. In the mind of the average farmer the hog is probably visualized as a machine or converter, into which he puts so much raw or waste material, receiving in turn the manure or fertiliser, which is indispensable to the realization of his crops. The nature of the animals food and its development is, therefore, of secondary consideration, and provided he can successfully carry on this cycle until the animal is mature enough to be sold, he is apparently well content.

The farmer's first problem, therefore, is to realize a full crop, and, although large quantities of cereals, legumes and vegetables are raised, these are seldom fed direct to the pigs. It is largely the by-products which make up the diet of the animals. Accordingly we find bran, bean cake, bean grounds, spent rice and coarse vegetables entering largely into their diet. These are supplemented by barley, rye, potatoes and maize when a surplus is available, and grass and green vegetables during the warm weather. The food is prepared in the form of a swill, usually a cereal and some bran being mixed in hot water, and some chopped vegetable added. Since the average farmer has but a hazy idea of balanced rations, seasonal feeding and the like, the food, as may be expected, lacks body building power and varies considerably in composition, depending on what is available. Whatever it is that goes into the trough, it is invariably in the form of a thoroughly wet swill, fed to the animals three times daily, when they are allowed to consume all they can hold. It is surmised that the unsatisfying nature of this food, and, perhaps, irregular feeding, in time causes a permanent enlargement of the belly, with a resultant sagging in the back, which is so characteristic of the Kang-pei hog. In the white animal, raised in the outskirts of Shanghai, this defect is not so marked. Possibly this is due to the fact that their food has more "body," and that feeding but twice

daily is the rule. The Wu-sieh hog, which is fed mostly on bean cake, barley, spent rice and bran, would appear to produce the best pork, according to local opinion.

It is here evident that the native hog is by no means the scavenger that is conjured up in the lay mind, and is in fact a cleaner feeder than the hog in some Western countries. The swill fed to white pigs, and which is collected from restaurants, eating houses and better class dwellings in the Settlement and elsewhere, is, perhaps, the nearest approach to garbage food, but it should be remembered that for the majority of animals this food is not available, the thriftiness or parsimony of the Chinese leaving little or nothing to waste. One undesirable feature in connection with this swill is that it is frequently stored in tubs for varying periods, and soon becomes sour and putrid. Local breeders admit that, given in this condition, the food may give rise to digestive disturbances unless fresh green vegetables are added. It is said that here and there one may see village pigs foraging on garbage. I observed such an occurrence in Ju-kao on one occasion, but the circumstances led me to believe that this was an exceptional case.

Of relative interest in regard to the feeding of hogs with garbage, we may refer to conditions in certain parts of the United States. It has been estimated by the Department of Agriculture that the garbage of more than eight million people is fed to hogs, and further, expressed in terms of food value, that 50 lbs. of garbage will produce 1 lb. of pork. Whatever the merits or demerits of the feeding as practised in this Kiangsu Province, it is noteworthy that the Ministry of Industry, and educational bodies generally, are now devoting attention to this and other matters relating to improvement of the stock.

4. HOUSING

The manner in which animals are housed is by no means uniform. It varies considerably in different parts of the province. It would seem, however, that, whatever the methods adopted, they are taken primarily for conserving the excrement and less for the bodily comfort and well being of the animal.

Around Ju-kao and Nan-tung we commonly find pens, laid with a floor slightly above ground level, of close fitting brick, and suitably drained to an outside *kong*, where all manure is collected. Walls on three sides are also of brick, to a height of three feet. A trough of similar material laid V-shape completes a fairly sanitary arrangement. This type of pen is, I am informed, common to Kang-pei districts in general, but further north, near the Shantung border, housing methods are of a different order. There, it is said, animals are kept in pits in communication with the dwelling, and into which all domestic filth is deposited on one side, and allowed to accumulate with the animal excrement on the other. Animals may either be kept in separate buildings, or, as frequently happens, they may be housed with the family under a common roof.

In southern districts, such as Sung-kiang and Wu-sieh, the arrangement does not differ very much from the practice north of the river.

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Here pens are usually constructed of bamboo and mud, the floor is likewise of mud and is undrained. Straw and other fine ash is deposited on the floor from time to time, and allowed to mix with the droppings, while several times yearly the upper few inches of this accumulated filth is removed and used as fertilizer. On the borders of the International Settlement of Shanghai pens are in no better shape, except that floors may consist of a few planks or stone slabs, loosely laid.

The interior of the pens, and the troughs are seldom if ever washed or scoured. Animals are, as a rule, not bedded except in cold weather, or in the case of a sow which is about to farrow. Little or no attention is paid to lighting or ventilation. It is in such surroundings that hogs are confined, in most cases never leaving the pens until ready for the market. One observes, however, that animals which do not thrive or are ailing are removed early and isolated in the belief that by not doing so the other animals will suffer likewise.

5. TRANSPORTATION

Hogs are shipped from farms to the distributing centres in various ways. They may reach the market by boat, on wheelbarrows secured in baskets, or trussed up on bamboo poles. Over short distances, and where other forms of transport are impracticable, they are driven on the hoof, frequently, however, suffering bruises or contusions to the lower extremities, where passage has been over a hard or difficult road. To more distant places such matters as comfortable and speedy transport, feeding, watering and bedding en route receive scant attention, with the result that the industry sustains considerable loss.

The northern centres, served by numerous waterways, including the Grand Canal, favours transportation by junk and launch to the Yangtze, and thence to the Hongs at Woo-sung, Si-ka-pang (Nan-tao), and Yang-ching (Poo-tung), which places daily receive in the order named the bulk of supplies intended for the Shanghai market. The ships of the Tah Tah Steamship Company also transport a considerable number of livestock from Lower Yangtze ports, unloading at the Nan-tao wharves.

From southern points junk, rail and motor transport is utilized. From Sung-kiang and district animals are transported by truck to Ming-hong, while from Wu-sieh, Tan-yang and Chinkiang animals come either by rail to the Markham Road Junction, or by boat, when unloading is done directly in front of the two western slaughterhouses on the Soochow Creek. From Woo-sung, Si-ka-pang, Ming-hong, Markham Road Junction, and Antung Road Jetty, the latter being the unloading point of Yang-ching animals, transport to Settlement and other slaughterhouses is done almost entirely by truck.

The journey from Lower Yangtze ports to Shanghai may occupy from twelve to thirty-six hours by junk, and in the case of steamer about eight to twelve hours; from Wu-sieh by boat or junk twelve to forty-eight hours. The boats used in this traffic are those commonly maintained for the transport of ordure, and vegetable and other produce. As far as I could ascertain, the animals are fed but sparingly *en route* and seldom watered. In boats animals are crowded together without

any regard to individual requirements, with little or no protection from the elements, and a complete lack of suitable bedding. On trucks hogs fare no better, and not infrequently the vehicles are grossly overloaded, with the result that mortality at times is very high. Everywhere animals are prodded beaten and mishandled in other ways, resulting in bruising and fractures, while considerable loss is also occasioned by shrinkage, since animals arrive in poor condition, and are imperfectly rested before slaughter.

The following table clearly illustrates losses sustained in terms of animals received dead over a period of three years at private pig slaughterhouses in the International Settlement, losses directly due to overloading of trucks and boats, and, therefore, avoidable. It should be noted that the bulk of these losses took place in the hot months, and that the figures do not include the French Concession and Shanghai City Government slaughter houses.

Year	1933	1934	1935
Total Kill	466,029	530,777	602,899
Rejections All Causes	906	1288	606
Dead Carcasses Only	318	722	210
Percentage	35	56.06	34.65

We have seen that Shanghai is dependent for its hog supplies on daily arrivals at Woo-sung and other points, and that these places hold no reserves. Should supplies be interrupted, a contingency by no means remote, when we consider weather disturbances, possible civil strife and quarantine requirements, the city must face an immediate shortage. This deficiency cannot immediately be met, since Chekiang centres, the nearest available points, do not offer a surplus, that province as a whole producing but half of the Kiangsu quota. Normally Shanghai imports a very small numbers of pigs from Chekiang, estimated at 150,000 annually from such points as Huang-yen, Wen-ling, Hsien-chu, Yung-chia, Pin-yang and Yu-huan.

6. MARKETING

Hogs as marketed in Kiangsu are comparatively small animals, and seldom approach in size and weight those seen in Western countries. At about six months of age, and averaging one hundred catties (=133 lbs.) in weight, hogs are considered mature and ready for the

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market. No doubt the economic factor is the main cause for early disposal, since most breeders lead a hand to mouth existence, making quick sales a necessity.

Farmers ordinarily sell their pigs to local dealers, who in turn ship to the larger cities, where there are a number of Honggs or Commission Houses, through which sales are made to the butchers. Occasionally, however, dealers from the larger cities, sometimes coming from Ningpo and Hangchow, visit the farms and make purchases direct. The prices paid to farmers are said to range from \$8 to \$12 per picul (100 catties), depending on variety of animal, condition and other factors. There are in all twenty-four Honggs established locally, twelve at Woo-sung, nine at Si-ka-pang and three at Yang-ching.

The number of hogs which are marketed daily at the Honggs does not as a rule vary very much, provided transportation facilities are normal. There are, however, times of plenty, which are dependent primarily on the breeding season. An analysis of the figures shows that the peak in supplies is attained in January and September of each year, in the former month because of the incidence of the New Year Festival, and in the latter by virtue of the marketing of the spring crop. August and September are similarly heavy months, while July registers the lowest in the year.

At Woo-sung the Shanghai City Government maintains an Inspection Station for the ante-mortem examination of all animals arriving from lower Yangtze ports, while at other places officers of the Public Safety Bureau carry out this function. Further, at Woo-sung the City Government has set aside an area of newly raised land outside the confines of the city for the centralization of the pig honggs, the new location being now in use. It is intended also to abolish the honggs at Yang-ching, and possibly those at Si-ka-pang, and to establish a new market at some convenient point on the Shanghai side of the river, within easy access of the new Civic Centre of Greater Shanghai and the International Settlement.

At the local honggs the live animal fetches at present from \$16 to \$24 per picul, prices fluctuating according to supplies available and the demand for pork. The rate of \$16 per picul is, however, the basis of all transactions, and this rate, it appears, never varies. The actual procedure of sale is somewhat complicated, different methods being in vogue.

Thus for small animals of 50 catties or so it is customary to assess each catty as 1.3 or 1.4, which are the figures prevailing to-day, so that an animal of say 50 catties becomes 65 or 70, and at \$16 per picul sells for \$10.40 or \$11.20.

In the case of larger animals it is customary to assess the weight in what it actually is by from 10 to 30 catties, sometimes even more, this impost varying frequently, sometimes even from day to day.

Butchers sometimes purchase animals direct from breeders in Wusieh, Soochow or Kun-shan according to the dressed weight of carcass at prices previously agreed upon. The price ruling to-day, is about 24 cents per catty for the carcass minus head, pluck and entrails.

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From the foregoing it is clear that live animals are to-day at a premium. This, however, has not always been the case, and comparatively recently, that is to say, towards the latter part of 1934 and early in 1935, at which times the hongs were overstocked, conditions were decidedly the reverse. The buyer then reaped the benefit in that he was able to purchase at from \$8 to \$12 per picul.

The high cost of animals today causes the buyer much concern, since retail prices remain fairly constant. It is conditions such as these, which if protracted or aggravated to any marked degree, cause severe undercutting and consequent ill feeling between shop keepers the revoking of contracts between pork dealers and restaurants and the like, and, from time to time, the closing down of businesses in the face of continued losses.

The table below shows the prevailing prices of pork and offal in the International Settlement shops, the figures having varied but slightly in the last few years:

RETAIL PRICES OF PORK AND OFFAL

<i>Carcass</i>	Belly	20 cents per catty
	Shoulder	28 " " "
	Loin	30 " " "
	Ham	30 " " "
	Fillet	35 " " "
	Feet	16 " " "
<i>Offal</i>	Head (Whole)	7 " " "
	Head (Parts)	
	Brain	2 " each
	Tongue	10 " "
	Cheek and Jaw	10 cents per catty
	Liver	20 " " "
	Lungs and Hearts (Whole)	12 cents
	Kidneys	20 cents pair
	Intestine, Large	15 cents per piece
	" Small	28-30 cts. " "
	Omentum	20 cents per catty
	Leaf Fat	25 " " "
	Mesenteric Fat	25 " " "
	Other Fat	22 " " "
	Stomach	20 cents each
	Diaphragm	16 " catty
	Bladder	2 " each
	Uterus	60 " "
	Spinal Cord	2 coppers each
	Skin, Dried	25 cents per catty

All parts of the hog, including the offal, are eaten or put to some industrial use. Some organs are consumed as delicacies, while others are considered to have therapeutic or curative properties. Thus there is a belief amongst those afflicted with rupture that a pig's testicle, which

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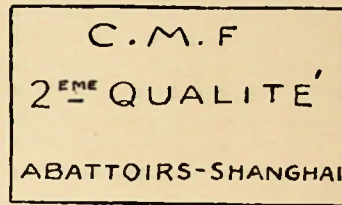
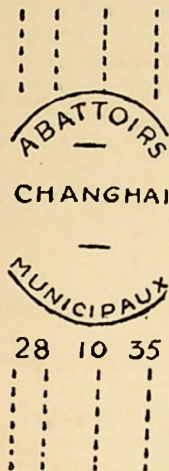
ABATTOIR MARKS IN THE SHANGHAI AREA

First Quality

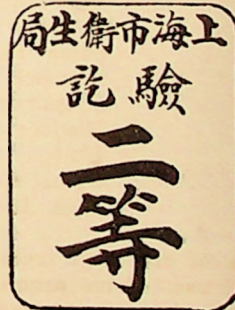
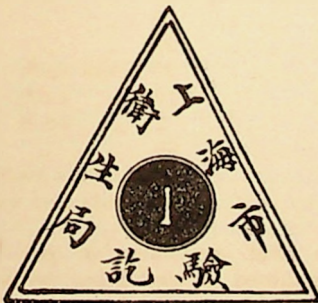
Second Quality



International Settlement (S.M.C.)



French Concession (C.M.F.)



City Government of Greater Shanghai

has become indrawn or "hidden" in the operation of castration, is, if eaten, a remedy for this complaint. Similarly there is a belief amongst certain natives afflicted with venereal diseases that the spinal cord prepared with *lung ngan* or "dragon eyes," a small fruit from South China, will cure these complaints and that this preparation has also tonic properties, rivalling those of *ginseng*. Amongst nursing mothers it is believed that the sows' ovaries will increase the flow of milk. It is also believed that these organs will bring about conception in the barren. The uterus is usually sought after by the Cantonese, amongst whom it is considered a delicacy.

7. CONDITIONS OF SLAUGHTER

Beside the Municipal Abattoir, where about a hundred and fifty white pigs are killed daily for foreign consumption, there are in Shanghai five pig slaughterhouses in the International Settlement, four private and one Municipal, the Municipal Abattoir in the French Concession, and several private slaughterhouses in the area controlled by the Shanghai City Government, where daily between the hours of midnight and 6 a.m., three thousand pigs are slaughtered for local consumption.

Night slaughter is customary in other cities, apparently for no other reasons than to place meat on the markets in as fresh a condition as possible and to minimize loss. Pork in common with other meats decomposes rapidly in warm weather, and lack of cooling or refrigeration facilities would appear to be the chief obstacle in obtaining slaughter during the day, with undoubted benefit to the personnel engaged in these operations, who probably do not number less than fifteen hundred.

The following table indicates the magnitude of pig slaughter in Shanghai, and the distribution of the kill.

KILL IN 1934

Unit	Number of Pigs Slaughtered
Shanghai Municipal Council	618,545
French Municipal Council	230,394
Shanghai City Government	384,131
Total for the year	1,233,070

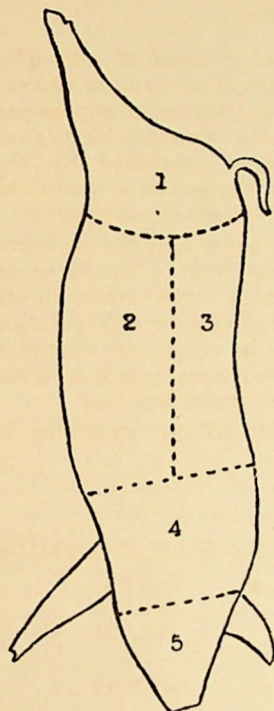
These figures include the kill in outlying districts, such as Woo-sung, Kao-chiao, Chen-ju and Yang-ching. Estimating the annual kill for the Nan-tao and Cha-pei areas at 280,000, we obtain an average daily kill of 3,100 for the whole Shanghai area, or 1,128,939 for the year.

The conditions under which animals are slaughtered and subsequently dressed and inspected at the private pig slaughterhouses are by no means satisfactory, yet, as far as the International Settlement slaughterhouses are concerned, there has been considerable improvement since 1928, when compulsory inspection was enforced by the Municipal Council. The slaughterhouses as then licensed were all housed in rather old and unsuitable buildings in residential areas, were badly ventilated,

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poorly drained, and ill lit, while in many cases butchers and their families lived in lofts on the premises. To-day, while inherent defects remain, lighting ventilation, drainage, paving and the like have been improved, lofts removed, and mechanical and compressed air for inflation of carcasses provided. However, with an increase in kill of fifty per cent. over the figures for 1928, congestion is evident everywhere, clearly indicating the need for modern up-to-date premises.

Locally carcasses are dressed in either one of two methods, namely, the carcass entire with head and pluck (Shanghai method) or carcass split (Soochow style).



PRODUCTS FROM AVERAGE KANGPEI HOG OF 101
CATTIES (134.3 lbs.) LIVE WEIGHT
SHOWING LOCAL CUTS.

	lbs.	%
1. Hams	25.46	18.95
2. Bellies	16.64	12.39
3. Loins	12.85	9.57
4. Shoulders	32.33	24.09
5. Head, including Tongue and Brain	8.71	6.48
Leaf Fat (Lard)	4.88	3.63
Pluck and Kidneys	6.83	5.09
Yield, Dressed ...	107.70	80.20
 Stomach, Intestines, Mesentery, Genitals, etc.		
Blood	19.35	14.40
Bristles, Hair, Hooves, etc.	5.00	3.73
	2.25	1.67
Live Weight	134.30	100.00

Carcass inspection in the three Shanghai areas is under veterinary supervision. In the Settlement slaughterhouses qualified meat and food Inspectors carry out this duty, all meat fit for consumption being stamped 1st or 2nd quality. Rejected carcasses are surrendered, boiled down in a digester, and the owner compensated at certain fixed rates.

In the preparation of carcasses for the market there is a good deal of malpractice, such as watering of meat. The method followed is that of forcing water into the *vena cava* after the animal has been bled and scraped, the water following the course of circulation, and adding several pounds to the weight of the carcass. This practise appears to be common in other cities, it being said that in Canton it is difficult to

obtain meat which has not been so treated. Where there is lack of water under pressure difficulties arise in the carrying out of this irregularity, which is overcome to a certain extent by using the specially prepared bladder of another animal. This has been observed at a slaughterhouse in Sung-kiang. Carcasses are, however, sometimes watered for another reason, namely to destroy evidence of ill bleeding.

8. DISEASE

It would appear from information available that the native hog is inherently a robust animal, little given to the diseases common in other countries. Unfortunately, however, for various reasons information under this head is unavoidably incomplete, since we have no means of judging under present conditions the nature and incidence of disease in interior points. There is again the time factor in transportation, numbers of animals dying *en route* to the market. Further there is the disposal of sick or ailing animals on farms and in other places to take into account, and interprovincial traffic in livestock. We can, however, appraise the situation fairly accurately in regard to the more important diseases affecting these animals from records secured at the local slaughterhouses. Statistics show that in 1934 some 848,939 carcasses were inspected at establishments in the International Settlement and French Concession Municipalities, and that 4,244 were condemned for all causes. Information regarding rejections in the Shanghai City Government area are not available, but, estimating this figure in proportion, we obtain a total of 6557 for the whole Shanghai kill of 1,128,939 or .581 per cent. This figure is relatively low, and, assuming it is a true index of conditions existing in the province as a whole, the matter need not occasion undue concern.

SWINE FEVER OR HOG CHOLERA. This disease is undoubtedly the most serious from breeders point of view, and involves a high mortality. It is most commonly seen amongst local or white pigs, young animals being more frequently affected. Most prevalent in the spring months, the disease spreads with great rapidity, sometimes wiping out entire litters. Sows of more than three years of age seldom get the disease, and, as one investigator puts it, "the keeping of these animals to an extreme age, or until they become sterile, is probably the salvation of the hog industry in China." As a further indication of the destructive effect of this malady, we may mention that amongst 980 carcasses condemned at the Municipal Abattoir in 1934, no fewer than 634 were condemned for this cause alone. The disease, intestinal in origin, is well recognised by breeders, who know by experience that it is highly communicable, and that there is no known cure. Sick animals are isolated and slaughtered early to prevent them dying, it being said in this connection that the meat of such animals is usually salted down and subsequently marketed. It is difficult to say whether pigs of the black variety are more resistant to the disease, since they come from considerable distances. It would appear, however, that they are equally susceptible. In this respect the breeder of the white animal has an advantage, since he is able to consign animals to the local slaughterhouses

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at the first signs of indisposition. Insanitary pens and sour or semi-putrid food are probably the chief factors favouring an outbreak and spread of the disease.

TUBERCULOSIS. This disease, common in Western countries, is rarely seen in the generalized stage amongst native hogs. The disease appears to be confined to the head or submaxillary glands, where it is fairly common in the calcified and caseous stages.

Whether native hogs are naturally resistant is not known, since feeding with infected milk refuse, recognised as the most potent factor in the propagation of the disease in Western countries, is not practised here.

PARASITES. *Trichina spiralis*. There is no record of this parasite ever having been found locally, amongst several thousand examined specimens. The disease has, however, been demonstrated in Manchuria and in other parts of China, which would indicate the need for a careful check from time to time.

Cysticercus cellulosae. This parasite, which in common with the one mentioned above inhabits the musculature of the pig, gives rise to a condition known as "Measy pork." It has never been demonstrated locally, but there is a possibility of its introduction from Harbin, and northern points on the Kiangsu-Shantung border, where it is known to be prevalent.

Cysticercus tenuicollis. This is very common, the germ inhabiting the liver for the most part, the pleura and peritoneum less so.

Echinococcus polymorphus. This is less frequently found in the internal organs. The common round worm is, however, extremely prevalent in the intestinal tract. These parasites are relatively unimportant, interfering but slightly with the animal's nutrition.

Other diseases, such as pneumonia, jaundice, lymphadenitis, septicaemia and the like, are seen occasionally, but at no time in the past to such an extent, as to constitute a problem.

9. HAM CURING

This industry is probably only second in importance to that of the fresh product. Ju-kao, where there are several factories, occupies the leading position in the trade, followed by Tai-hsing and Kiang-tu.

The China Ham Manufacturing Company, at Jukao, which I visited recently by courtesy of the Management, appears to be the only firm run on modern lines. The factory, a brick and concrete structure, occupies extensive grounds outside the city, and comprises lairages, slaughter hall, processing and by-products houses, and administration buildings. Located on the banks of a canal and in communication with Nan-tung by road, the factory commands a most suitable position, favouring the transport of animals from the surrounding country and the shipment of the finished product.

The company, which enjoys a fine reputation, is undoubtedly the largest buyer of live animals in the district. Purchases are made direct

from breeders, animals averaging 100 catties in weight. After slaughter carcasses are inspected by a veterinarian appointed by the Ministry of Industry. Each carcass furnishes two hams of 7 or 8 catties each and about 3 catties of lard, the remainder being salted down. Most of this firm's product is exported, being shipped to Shanghai in the first instance for repacking and labelling, and then consigned to the Philippines, Hongkong and Singapore.

Hams and salted and dried pork from other firms in Ju-kao, and similar products from Tai-hsing and Kiang-tu are plentiful locally, all being shipped here by steamer *via* Nan-tung, Hankow, Tientsin and Canton are also supplied.

The extent of this industry may be judged from the output in 1931. Thus Ju-kao prepared 500,000, Tai-hsing 100,000, Kiang-tu 30,000 and other cities 250,000, giving a total for the province of 800,000. It is stated that in a good season, when animals are cheap, output may be almost doubled.

While Kang-pei hams predominate on the Shanghai market, they are not to be compared with the Chekiang products of Kin-hua and Lan-chi. The Tsiang ham (蔣腿) of the former city is probably the finest produced and is considered by some to be superior even to the famous Yunnan variety. The Kang-pei ham, selling for about \$3, will, however, continue to hold its own, since the Kin-hua and Yunnan products, costing about three times as much, can only be indulged in by the well-to-do.

10. BY-PRODUCTS

BRISTLES. Although hogs are raised in great numbers throughout Kiangsu, their bristles are considered of inferior quality, not to be compared with the product in the colder regions of Siberia and Manchuria. It is customary in this province, and indeed elsewhere in China, to market hogs while still in the stage of development, consequently bristles never attain the length or texture seen in the north. The local trade in this product is, therefore, unimportant, and will probably remain so. It may be noted, however, that breeders in Chung-king, Szechuan, are raising hogs specially for their bristles, and that the industry is rapidly gaining in importance.

Locally the products of Tung-hai, Kao-yu, Pi-hsien and Nanking are the most in demand, Ju-kao supplying the largest amount.

The average hog produces about half a pound of spinal bristles and a quarter of a pound of the side variety, the former commanding much higher prices. Bristles average about two inches in length. Dealers go about the country districts buying up small quantities, others visiting the Shanghai slaughterhouses for this purpose. Prices range from 10 cents to 60 cents per catty and up to \$1.60 for the better spinal variety. The product is collected by the exporting hong, either in Shanghai or Nanking, sorted according to length, colour and quality, tied into bundles and usually disinfected. Thereafter they are ready for export to Japan, the United States or Europe.

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Bristle finds a variety of uses. To mention but a few, the finest quality has a ready market for toilet brushes of all kinds, while the inferior grades are utilized in the manufacture of paint brushes, matting, carpets, felt hats and thread in the shoe trade.

CASINGS. This commodity occupies a leading position in the hog by-products industry. Formerly consumed as food within the country, this product owes its origin as an article of export, it is said, to a foreign resident of Peking, who some time ago preserved and exported a sample lot as an experiment. It found a good market and since then its exportation has become firmly established.

Shanghai is the centre of this industry, a number of factories functioning locally, mostly foreign owned. The most important of these is a well known foreign concern, which receives daily at its Pootung factory about two thousand sets of small fresh intestines from local slaughterhouses. Almost the entire output of this city's daily kill of three thousand hogs goes to local casing factories, in addition to which plentiful supplies of the salted variety are imported from Ju-kao, Taihsing, Nanking, Chinkiang, Kiang-yu and Wu-hsieh, and from outside the province from Hangchow, Ningpo, Wenchow, Lan-chi (Chekiang), Wu-hu, An-king, Peng-pu (Anhwei), Kiukiang (Kiangsi) and Chungking (Szechuan).

Fresh intestines after delivery at factories are soaked in water for twenty-four hours, then scraped of any superfluous mucous, rinsed and again left in water for another day. Thereafter they turn milky in colour and are ready for salting. The salted variety is treated in a similar manner to ensure a standard well-keeping product. On an average a set of fresh intestines will sell for 25 cents, the salted variety for somewhat less.

The product is graded according to diameter, and valued in accordance with the following table, the smallest commanding the highest prices:

Grade 1.....	24 to 26 mm.
„ 2.....	26 „ 28 „
„ 3.....	29 „ 30 „
„ 4.....	31 „ 32 „
„ 5.....	33 „ 34 „
„ 6.....	35 „ 36 „
„ 7.....	37 and over

After processing the casings are packed in barrels, wax coated inside, and lined with clean cloth. Each barrel contains about 2,500 bundles (each of 13½ yards), packed in refined salt, with some concentrated brine solution added.

Sun-dried intestines are packed a thousand rings to the case, which is tin-lined. I have seen nothing of this variety, and assume it is not commonly prepared in Shanghai, although this method appears to be used exclusively for the product from oxen.

Casings are inspected by the Bureau of Inspection and Testing of Commercial Commodities (Ministry of Industries) prior to shipment.

Most of the product is exported to France, Germany, England and the United States of America.

LARD. Although most of the hogs from Kiangsu are of the good lard-producing type, practically all of this fat finds a ready market for domestic consumption. Lard, as is well known, is highly esteemed in the native kitchen, and, since there has been little demand from abroad for this commodity, there has been no incentive to wean consumers from its use and direct them to vegetable substitutes.

Lard has been shipped abroad in small quantities, but it is said that the native product does not keep well, owing to faulty preparation.

It should be noted that the industry is centered in the United States, from where enormous quantities are exported to all parts of the world.

The amount of lard exported from China in 1934 amounted to 11,949 quintals valued at \$533,814. The Kiangsu contribution to this output must have been insignificant.

MISCELLANEOUS. These Notes would not be complete, without reference to certain other minor trades in connection with the hog raising industry, such as that in pig's blood, and the manufacture of dried meat.

In regard to the former, a certain amount is consumed as food by the poorer classes, the blood being cooked with a little salt and then cut up into cakes. These are sold for a few coppers apiece, being somewhat cheaper in the summer, owing to a decrease in the demand. Some of the pig's blood is utilized in the paint and varnish trade. A very small proportion is used by dealers in market produce for the irregular practise of freshening up the gills of stale fish, a detail which is mentioned here simply to indicate the resourcefulness of the native. Finally, it is put to the more practical use of prolonging the life of fish nets, a process which I was fortunate in witnessing recently in the neighbourhood of Sung-kiang. It should be mentioned also, that, experimentally, some has been dried, with apparently satisfactory results.

In regard to dessicated meat, there is a regular demand for lean carcasses with the very minimum of fat for the preparation of this product. The article finds a ready sale, particularly amongst invalids and those in delicate health. The process consists in cutting up the meat very fine and boiling it until most of the water has been evaporated and it becomes tender. After preliminary drying, the meat is rolled on a specially prepared wooden surface to facilitate the separation of the fibres, which are then finally dried in an oven or in the sun.

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

Hayes to do Agricultural Research Work in China: Dr. H. K. Hayes, the American agricultural expert and Professor of Agronomy and Plant Genetics at the University of Minnesota, arrived in China last month and at the invitation of the National Government is conducting a tour of the country to study the agricultural problems relative to rural reforms and the increase of crop production. Being mainly interested in plant-breeding, Dr. Hayes will make a special study of the cultivation of rice, wheat, tobacco, cotton and the like.

Shensi Plans Cotton Improvement: According to a *Central News* despatch, the Shensi Provincial Government has distributed more than 5,000 catties of improved cotton seeds among the farmers of Southern Shensi to impress upon them the advantages and importance of using good seeds.

A Proposal for Farm Relief: Another report from the *Central News Agency* states that Mr. Sun Fo, President of the Executive Yuan, is planning to submit to the Standing Committee of the Na-

tional Economic Council, of which he is a member, a solution to provide relief for farmers. Believing that the present condition of rural bankruptcy is due to lack of funds, backward farming methods and insufficient areas for farming, Mr. Sun has the conviction that the Government can solve these problems by establishing spring rural credit, rural productive and rural consumptive co-operatives. He has appointed a committee of experts to study the subject of rural rehabilitation along these lines.

Barren Waste Lands Become Farmer's Haven: The dream of the Suiyuan authorities to turn the waste lands of the Hotao Plain into richly cultivated fields has at last come true. For years they had dwelt upon the possibility of reclaiming these vast tracts of barren land, but the task seemed almost impossible until it was undertaken by General Wang Ching-kuo's troops, who in a few years' time converted the Hotao Plain into fertile fields and pastures. The project, which cost approximately \$400,000, will soon pay for itself in agricultural produce.

AVIATION

Chiang Disapproves Compulsory Birthday Contributions: The campaign to raise funds to purchase aeroplanes in honour of his birthday has evoked little enthusiasm from Generalissimo Chiang Kai-shek, who prefers to celebrate the occasion in his own quiet manner and without fuss and bother. Though the Generalissimo has not expressed himself very strongly on the subject since the 'planes are to be presented to the National Government in his name and not to him personally, he was obviously aroused by various reports that in several instances compulsory contributions had been enforced. This procedure he is understood to have deplored.

Aeroplane Factory Project Revealed: The importance of aerial defense is emphasized in a report that the Kuangtung provincial authorities are planning to open another aeroplane factory, two

having already been completed in the Chu-kiang and Ching-yuan districts. It is estimated that when the third factory is completed ten aeroplane bodies can be produced daily, the motors being imported from America and Europe.

Ningshia-Paotou Air Service Increased: The traffic both in air mail and passenger service on the Ningshia-Paotou section of the Lanchow-Paotou Airway has been so heavy that besides the regular weekly roundtrip a special service has been added on Thursdays.

Through Traffic by Land and Air: The Eurasia Aviation Corporation and the Shanghai-Nanking and Shanghai-Hangchow-Ningpo Railway have concluded negotiations for the inauguration of a land and air through traffic. With Nanking and Shanghai as the two main junction stations, the railway stations

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to be included in the itinerary are: Shanghai, Soochow, Wu-sih, Chang-chou, Chin-kiang, Kia-hsing, and Hangchow;

the aviation stations: Shanghai, Nanking, Cheng-chou, Si-an, Cheng-tu, Kun-ming, Peiping, Lan-chou, Ninghsia and Pao-t'ou.

BUILDING AND CONSTRUCTION

Plans for Customs Reception Building Approved: The construction of a new Customs Reception Building with all modern improvements and adequate facilities for the reception of passengers disembarking on Shanghai's shores is being realised with the final approval of

Customs authorities of the architectural drawings upon which the actual construction will be based. The proposed building, which will cost more than \$360,000, will be erected at a site just north of the present Customs shed on the Bund.

COMMERCE

New Liaison Officer for Foreign Trade Bureau: The Bureau of Foreign Trade has given out instructions that hereafter all letters requesting information on Chinese products, manufactures and so forth should be directed to the "Trade Promotion Department," to which the Bureau has appointed Mr. T. H. Hwang as liaison officer. This new department has been created to establish closer relations between the Bureau and foreign organizations and also to help Chinese merchants to increase their trade abroad.

A "Made-in-China" Movement: At a conference of the Bureau of Foreign Trade held in Shanghai last month, which was attended by prominent Chinese merchants and manufacturers, methods of increasing China's international trade were discussed, interest being centred on the establishment of native goods exhibitions abroad and the encouragement of foreign merchants to buy Chinese-made goods directly from Chinese manufacturers. Relative to this, information has just been received by the Ministry of Industries that the Chinese in Vancouver, Canada, are making preparations for an exhibition of Chinese products, including objects of art. It is to be hoped that other enthusiastic overseas groups will follow the example of the Vancouver Chinese and that the Bureau of Foreign Trade will come to some definite decisions regarding the establishment of trade exhibition bureaux in overseas countries.

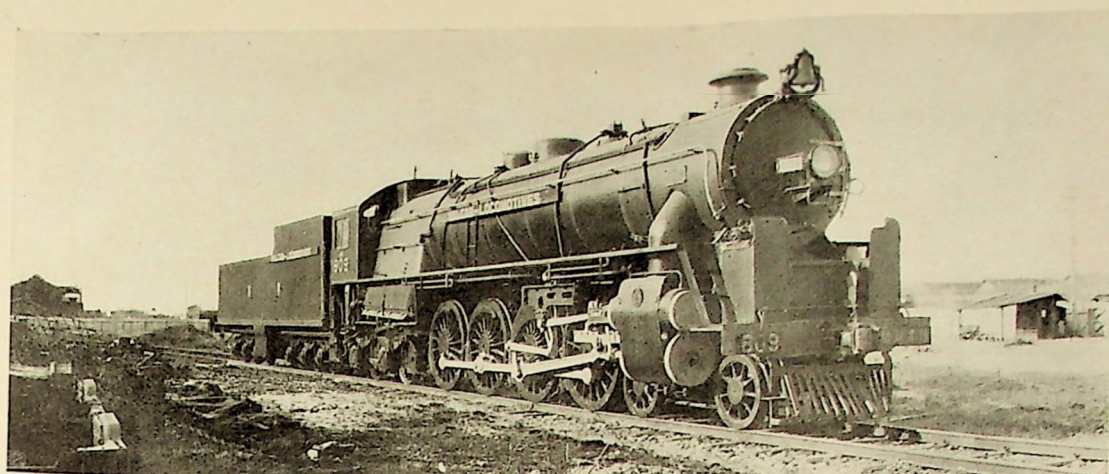
Rug Manufacturers Sigh for Days Gone By: The rug industry of Peiping, which has seen its prosperous days, is now seriously affected by the world's economic depression. The latest statistics reveal that whereas between 1927 and 1931 there were 300 rug factories in Peiping alone, producing approximately 1,000,000 square feet of rugs yearly,

there are at present only about 150 factories with an annual production of not more than 400,000 square feet. This does not mean, however, that the Westerner has lost his taste for Chinese rugs, but that his purse is limiting his purchasing power.

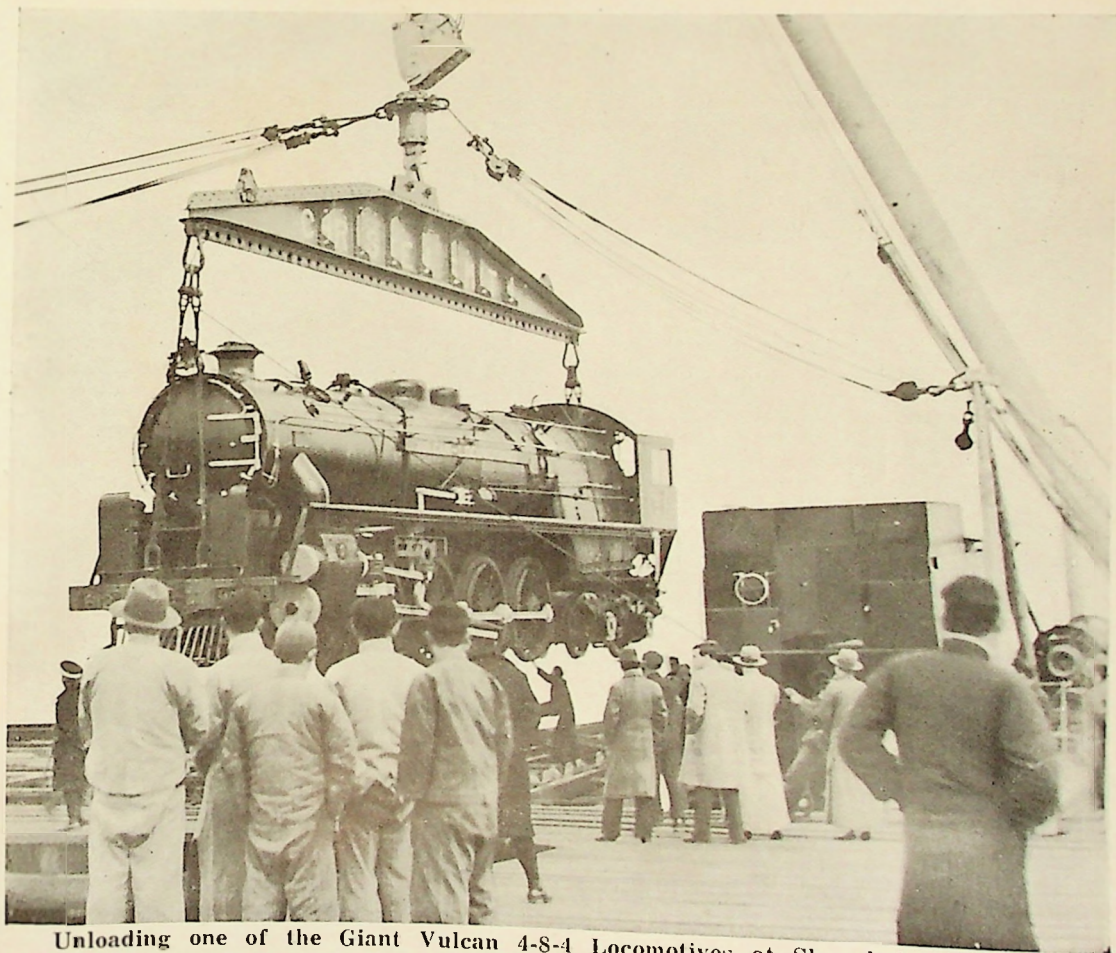
Alarming Shortage in Wool Supply: Large quantities of wool have been exported to Europe and America during the past few months causing a shortage in supply in China and resulting in a steady increase of prices. This unusual demand for wool from abroad, together with the increasing price of German dyes, partly accounts for the closing down of many rug factories in Peiping and for the decrease in the rug industry.

Trade in Manchoukuo: A report appearing in the correspondence of the *North-China Daily News* revealed that out of a total export of £25,000,000 the sale of manufactured goods to foreign countries from Manchoukuo amounted only to £200,000, the chief exports being agricultural raw products, such as beans, and bean products, millet and other cereals, oil seeds, coal, timber, hides and livestock products.

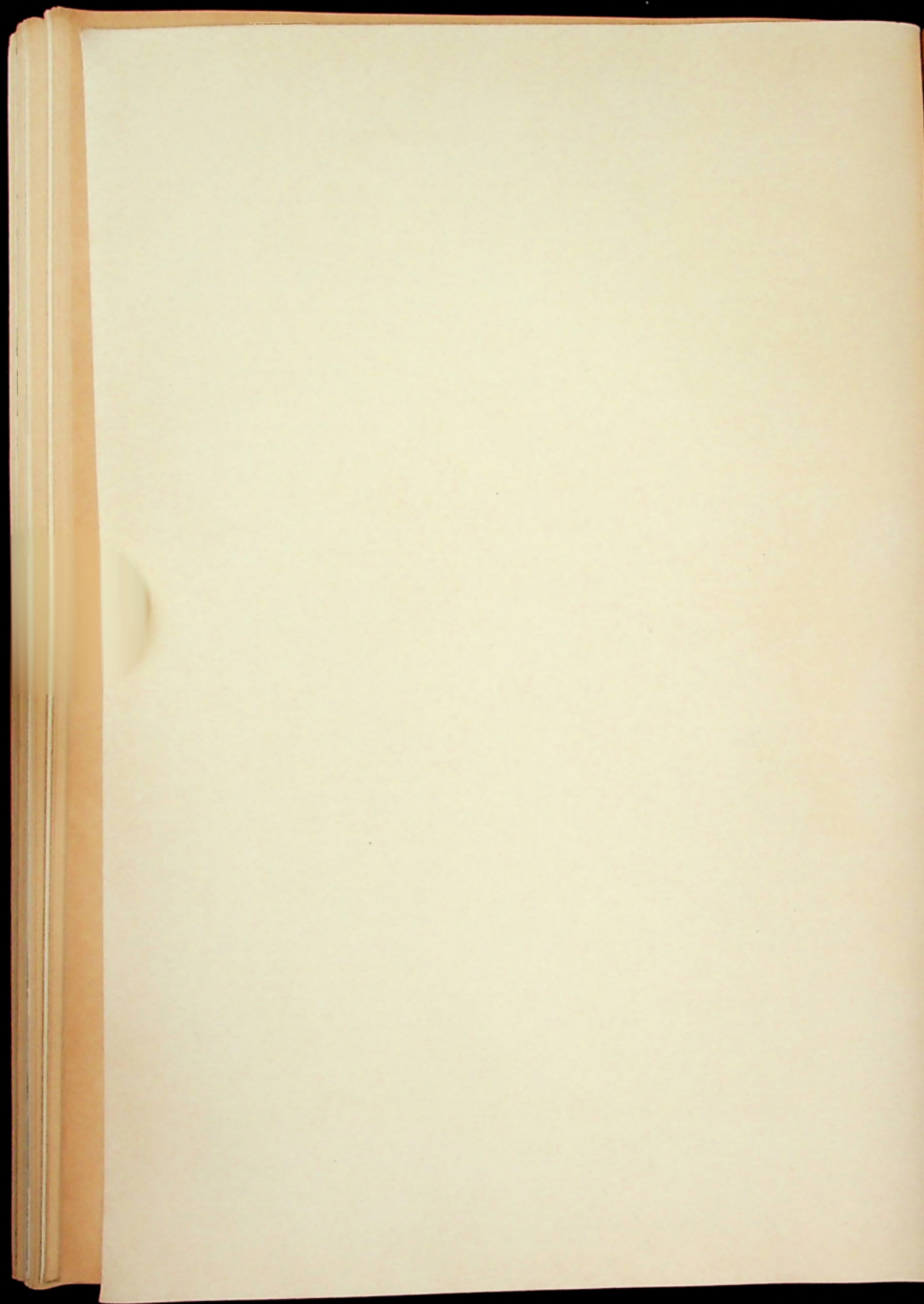
Fairs to Promote Sino-American Trade: At a meeting of the Chinese-American Trade Council held not long ago plans were discussed for the observation of Chinese-American Trade Week (May 17-23), which will concurrently be celebrated by various trade organizations and Chambers of Commerce in the United States. Other trade activities which will take place in the near future and which should have special significance for Chinese merchants are the "World Two-Way-Trade Fair," to be held in New York City from May 18 to May 30, the "World Two-Way-Trade



One of the Giant Vulcan 4-8-4 Locomotives recently purchased by the Chinese National Railways from the Vulcan Foundry Limited at Newton-le-Willows, England, for use on the newly completed Canton-Hankow Railway.



Unloading one of the Giant Vulcan 4-8-4 Locomotives at Shanghai. Altogether twenty-four of these Engines have been ordered through Messrs. Malcolm and Company, Shanghai, for use on the Canton-Hankow Railway.



ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

Congress" and the Texas Centennial Exposition at Dallas, all of which China has been invited to join.

Importation of British Giant Locomotives into China: Although China is unquestionably becoming more and more a manufacturing country, and now makes a lot of the machinery she formerly used to buy from abroad, it will be a long time before she will be in a position to manufacture such articles as the six giant Vulcan 4-8-4 locomotives, which were landed in Shanghai about the middle of February last, and were destined for the Canton-Hankow Railway. Specially built for the Chinese Government by the Vulcan Foundry Limited at Newton-le-Willows in Lancashire, for whom Messrs. Malcolm and Company, Limited, are the Shanghai representatives, these

powerful locomotives weigh 106 tons each, and have eight driving wheels of 5 ft. 9 in. diameter and two groups of four smaller wheels. The length of engine and tender combined is 93 ft. 2½ in. overall, while the height of the boiler from the rail is 10 ft. 6 in.

Altogether twenty-four such engines are on order from the manufacturers, the six landed in Shanghai representing the second consignment. The first went to Canton some time ago, and the third is to be landed at Tsingtao. All twenty-four, however, will eventually be used on the Canton-Hankow Railway when it is completed.

At about the same time that the above mentioned British engines were being landed in Shanghai a Polish locomotive was also landed, being destined for use on the Kiangnan Railway. This was a much smaller engine.

CONSERVANCY

Flood Prevention Along Yellow River: In a report to the Chinese press Mr. Kung Hsiang-yun, chairman of the Yellow River Conservancy Commission, stated that more than \$2,000,000 had been spent on flood prevention work along the Yellow River, a sum which is \$1,000,000 less than the original budget. He averred that, with the proper management, the losses suffered through floods would be much less this year than in former years. The Yellow River Conservancy Board has received instructions from Dr. H. H. Kung, Chairman of the National Water Conservancy Commission, to strengthen the embankments of the river in the three provinces of Han, Hopei and Shantung and to take all precautionary measures against the recurrence of floods this year.

Budget for Conservancy Expenses: In the National budget for the year July, 1936 to June, 1937 a sum of \$8,000,000 has been set aside for the costs of river conservancy, an increase of \$2,000,000 over the figures for last year.

Hopei River Conservancy: The Hopei Provincial Department of Reconstruction is reported by the *Central News Agency* to have drawn up plans for flood prevention work along the three great waterways in Hopei Province, the Yungting River, the Yellow River and the Grand Canal, the cost of which is estimated at \$212,000 to be shared by the National Economic Council and the provincial authorities.

FINANCE

Central Savings to Establish Chungking Branch: The Central Savings Society, which opened in Shanghai on March 16, 1936, is preparing to open a branch office in Chungking with Mr. Yang Hsi-chih as Branch Manager, reports the *Central News Agency*.

Bank of China Appoints New York Officers: Having been granted license to maintain an agency in New York City, the Bank of China has appointed Mr. H. R. D. Burgess, a New York Banker, and Mr. C. H. Wang to be joint managers of the New York branch. This is part of the plans of this institution to

expand its business to foreign countries, negotiations now being made to open branch offices in Singapore, Paris, Berlin and Manila as well.

Central Bank Plans Canton Branch: The *Kuomin News Agency* states that the Central Bank of China will soon open its Canton branch, to be headed by Mr. Chen Wei-chou as manager. Mr. Chen recently made a visit to Canton to arrange for the enforcement in Kuangtung of the new currency system which was recently inaugurated in Shanghai, and it is said that the silver exchanged for legal tender notes in

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Kuangtung will be used as the foundation fund of the Central Bank's branch in Canton.

Number of New Coins Minted Released: According to a report of the Advisory Committee of the Central Government Mint, the numbers of coins minted, examined and approved for circulation during the month of March were as follows: 4,090,000 nickel coins of 20 cents denomination, 2,280,000 nickel coins of 10 cents denomination, 280,000 nickel coins of 5 cents denomination, 18,000,000 copper coins of one cent denomination and 16,800,000 copper coins of half cent denomination.

Leith-Ross Comments on China's Economy: Sir Frederick Leith-Ross, Chief Economic Adviser to the British Government, during an interview in Shanghai with Chinese news reporters, urged the balancing of the national budget, the avoidance of monetary inflation and the stabilization of currency. Regarding the new currency system, he stated that thus far it had proved satisfactory and that in time the financial conditions of the treasury would improve. Though time would be required to change the unfavourable balance of trade to a favourable one, this could gradually be acquired by the utilization of the people's savings, the development of natural resources and rural economy.

Commenting on this press interview, a

spokesman of the Ministry of Finance pointed out that the financial reforms already drawn out by the Ministry were very much along the same lines suggested by Sir Frederick Leith-Ross.

Bank of China Report for 1935: A lengthy report issued by Mr. T. V. Soong, Chairman of the Bank of China, at the annual meeting of the shareholders held at the Chinese Bankers' Association Building on April 4 revealed that the Bank of China had realized a net profit of \$3,602,357.98 for the year 1935, showing a considerable increase over the 1934 balance. Reviewing China's financial year, the Chairman lauded the new monetary policy and showed that as a result of the change China's trade balance since December, 1935, was favourable for the first time in sixty years. He added that its success was largely due to the close co-operation between the principal Chinese banks.

Bank of Communications Reports Progress: A similar increase in profits was shown by Mr. Y. Hou, chairman and managing director, in his report to the shareholders at the annual meeting of the Bank of Communications. The Bank realized a net profit of \$1,290,957.16 for the year 1935, an increase of \$283,000 over 1934, while the total deposits amounted to \$331,474,000, exceeding the 1934 total by \$89,427,000.

FISHING INDUSTRY

Quest of the Yellow Flower Fish: Six thousand Chinese junks, sampans and vessels set sail from Nantung for the China Sea last month in search of the Yellow Flower Fish, anticipating a big haul. Each boat was fully armed for protection against pirates, though outlaws along the coast are much fewer now since the anti-pirate campaign has been enforced.

Fish Market Company Formed: The Shanghai Fish Market Company, Limited, which is to operate the Central Fish Market on Point Island, was formed and the officers elected at a meeting of the shareholders which took place last month. The enterprise is jointly a governmental and a commercial one, the capital being appropriated by the Ministry of Industries and by commercial groups. The new market, a modern structure in design and detail and costing \$1,000,000, was

completed last November, but the formal opening was delayed pending negotiations between the Government and the merchants concerned. It is not too much to say that the organization of this new market will lead to the development of the fishing industry in China on a profitable basis.

Shanghai Fishery Office to Close: The Ministry of Industries has abolished the Shanghai Fishery Office because of the financial difficulties involved in its operation. However, various coastal authorities have been instructed to supervise the fishing industry in their respective areas. The Ministry is said to have new plans to develop the fishing industry in China and to aid fishermen.

Measures for Improving Fishing Trade in Canton: The fishing industry

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

in Kuangtung has suffered such a serious decline in recent years that the Kuangtung authorities have decided to adopt measures for its improvement. The plan submitted by the Provincial Reconstruction Department calls for taxation at

the lowest possible rate, the establishment of two fish markets, uniform prices to be fixed by the market management and patrol boats to escort and protect the fishing boats during the busy season.

FORESTRY

Enormous Afforestation Project: China has suffered greatly in the past from deforestation which has resulted in shortage of timber, soil erosion, silting-up of rivers, flood and drought. In order to prevent future calamities the Executive Yuan has made elaborate plans for a nationwide campaign for afforestation. This programme, which was first submitted by the Ministries of Industries, Finance and Interior, provides for the establishment of a model forest, the utilization of unused lands and a revision of present levies on timber and freight rates. The Executive Yuan is also encouraging the issuance of credit loans to farmers.

Cheng-tu Experiment in Tree-grafting: Having successfully experimented in the grafting of thousands of apple trees from a few trees imported from the United States fifteen years ago, the West China Union University at Chengtu has ordered and recently received a new shipment of citrus trees from Australia, representing twenty-nine species of orange, grape-fruit, lemon and citron. Those trees that prove themselves suited to the climate and soil of Szechuan will later be made available to farmers all over the province. At the last Chengtu Flower Fair more than 60,000 apple trees were put forth for sale.

INDUSTRY

Lard Manufacture in Shanghai: It may not be generally known that high grade lard is manufactured in Shanghai, not only for local consumption but for export as well. The Geddes Trading and Dairy Farm Company, Limited, has been manufacturing and exporting this commodity since 1932 under the name of "White Lily Lard." Their product is made by the ton only from the best leaf fat, which, after processing, is free from all taints and is odourless, being properly packed and adequately protected till it is actually used. It has even been exported to England and America, while quantities are regularly shipped from Shanghai to outports. This offers a good example of what may be done in the way of developing Chinese industries with a view to exporting the resultant

produce.

Native Fruit Industry to be Boosted: The Ministry of Industry is seeking the co-operation of the Foreign Trade Bureau and the National Agricultural Research Bureau to enforce the plans drawn up by the Government Testing Bureau in Shanghai to revive the native fruit industry.

Proposal for Rayon Factory Approved: The establishment of an artificial silk factory, for which Hangchow has tentatively been chosen as the site, has been approved by Nanking authorities, according to the *Sinwenpao*. Preparations are being made for the formation of the company which has already raised a capital of \$10,000,000.

HARBOUR WORKS

Kiangnan Dock Opens: The Number Three Drydock of the Ministry of Navy, the largest dock on the coast of China, was formally opened on April 14. Two years in construction and costing \$1,500,000, it can accommodate any vessel coming up the Whangpoo, including the largest of the Dollar or Empress boats.

Chiukong Wharf under Construction: Another important step in the development of the Shanghai harbour is the

construction of the Chiukong Wharf, which, when completed, will be even larger than the Number Three Drydock in Kiangnan. The dock gets its name from the Chiu Creek, north of which it stands, and because of its convenient location it is expected that many ocean liners will stop there rather than continue up river. Many prominent engineers and technical experts have been engaged on this project and the new wharf is backed by the Central Bank of China.

Ambitious Scheme to Develop Whampao:

If the ambitious plans of Dr. Lo Wen-kan, Director of the Whampao Harbour Development Board, are realized, the insignificant port of Whampao just south-west of Canton will become an important world port in 1938. The project, which, Dr. Lo revealed, was first conceived by Dr. Sun Yat-sen as part of his programme for the development of China, will be divided into four stages, the cost estimated at \$4,103,500. The first stage will be the survey of the river course; the second, the construction of wharves to connect the harbour with the Canton-Hankow Railway; the third, the dredging of the Pearl River; and the fourth, the construction of jetties, warehouses, etc.

New Dock at Foochow Opened: The Number Two dock of the Mamoi Dockyard was completed and opened on April 10. The dock boasts a length of 375 feet

Sulphur Found in Putien: Sulphur deposits are said to have been discovered in Putien in southeastern Fukien, to which place the Provincial Department of Reconstruction has sent Mr. Li Chi-shan, technical expert, on a tour of investigation.

Coal Mines Discovered along Railway: The *Kuo Min News Agency* reports the discovery of two new coal mines along the Chekiang-Kiangsi Railway in eastern Kiangsi. Mining engineers have already been despatched by the Board of Directors of the Railway Administration to survey the extent of the deposits in that district.

Kuangtung to Exploit Coal Mines: As part of its plan for rural reconstruction and the development of natural resources, the Kuangtung pro-

and incurred a cost of \$200,000.

Chefoo Harbour Improvements: The recently issued annual report of the Chefoo Harbour Improvement Commission besides reviewing the year's work provided schemes for further improvement of the Chefoo harbour, including dredging of the harbour, laying of mooring buoys, purchase of a tug and the construction of a new wharf. Though work is now being carried out to the extent of the available funds, the Commission is waiting for the approval of the Central Government.

Construction on Hulutao Harbour: Construction work on the Hulutao Harbour, which was started years ago by a Netherlands concern, is expected to be completed in 1939. With the building of warehouses and the improvement of the Lisenshan-Hulutao Railway, the harbour will then be able to handle large exports of coal and general cargo.

MINING

vincial authorities are pushing forward preparations to exploit the coal mines in Juyuan Hsien, northern Kuangtung, and in order to facilitate the transportation of coal they also plan to construct a railway from Juyuan to Lochang to be linked with the southern section of the Canton-Hankow Railway. The Sino-British Boxer Indemnity Refund Commission is said to have agreed to a loan of £90,000 as initiative funds for the project.

Plans for New Diamond Mining Concern: At a recent meeting of shareholders of the Langkat Company, plans were discussed for the formation of a new company in which Langkat would receive \$750,000 of shares for the surrender of its diamond mining development interests in Southeast Borneo. The capital with which to form the new company was estimated at \$1,250,000.

RADIO AND TELEPHONES

Canton-Hankow-Shanghai Hook-up: Experimental work on the projected radio-telephone link between Shanghai, Canton and Hankow has been going on for the past four or five months, the tentative date for the opening of this service having been set for July 1.

Peiping-Tokyo Service: If arrangements can be completed by the end of this month, the radiophone service between Peiping and Tokyo should be in-

augurated not later than June 1. Apparatus has already been installed on the Tientsin-Tokyo line ready for service.

Development of Radio Broadcasting in China: There are no less than 89 broadcasting stations in China to-day, almost half of them being in Shanghai. Stations in political centres operate mostly for governmental purposes, while those in commercial centres are for busi-

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

ness interests. Those in Shanghai which are privately owned exist for the chief purpose of advertising and entertaining. According to the Bureau of International Telegraphs, the installation of receivers increase in pace with the

development of broadcasting. Originally these radio sets or radio parts were imported from the United States, Great Britain and Germany, but latest statistics show that there is a noticeable increase of Japanese importations.

RAILWAYS

Holidays Bring Large Receipts: Statistics show that more than 470,000 passengers travelled over the Shanghai-Nanking and the Shanghai-Hangchow-Ningpo Railways during the Easter holidays, bringing in a total receipt of \$450,000.

Canton-Hankow Line Completed: With the laying of the last rail in Hunan, north of the Kuangtung border, the southern and northern sections of the Canton-Hankow Railway were linked together for the first time, and a task which was begun thirty years ago became a *fait accompli*. The date for the formal opening of the new railway has been set for October 10, National Independence Day.

Special Tourist Service to Tsingtao: A direct through train service between Shanghai, Nanking and Tsingtao via the Tientsin-Pukou and Kiaochow-Tsinan Railways will be installed for the summer months beginning June 1, according to the *Kuo Min News Agency*. Through passenger service will likewise be inaugurated on the Nanking-Shanghai, Shanghai-Hangchow-Ningpo and Chekiang-Kiangsi railways beginning May 1.

Railway Projected in North China: The projected Tsangchow-Shihchiachwang railway, which was conceived in 1920, will soon be actively under construction according to a *Central* despatch of April 24. The railways, when completed, will link the Tientsin-Pukou and Peiping-Hankow Railways in Hopei Province.

ROADS

Szechuan-Shensi Road to Open: The Sian-Chengtu highway which has been under construction for some time is expected to be open to traffic shortly. The Chengtu-Chinchueh section was completed last month.

Shensi to Develop Highway Communications: The Si-au provincial authorities have decided to develop transportation facilities in northern Shensi by constructing two new roads linking Yu-lin with Tung-hsieng and Suiteh, the cost, which is estimated at \$300,000, to be shared by the provincial government and the various districts concerned. The omnibus service on the Sian-Hanchung Highway in southern Shensi was inaugurated on April 15.

Reconstruction of Peiping-Tientsin

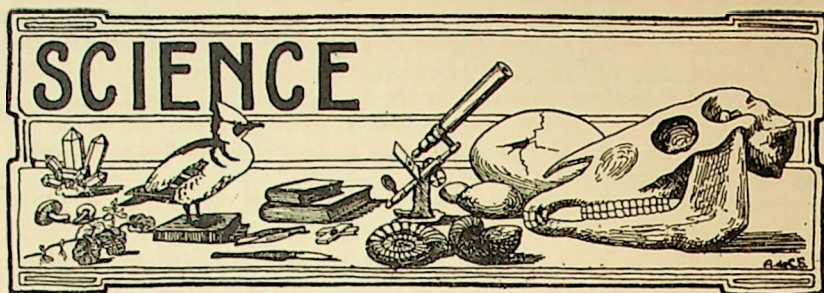
Road: Reconstruction work on the main road between Peiping and Tientsin has already begun and is expected to be completed within a month, according to a *Reuter* report.

China's Highway Expansion Arouses American Interest: The extensive road building programme of China has aroused the interest of the Americans, who are speculating on the fact that the more roads are built the more motor vehicles will be imported. Moreover, the fact that highway construction in China is exceeding railway construction confirms the conviction of the Americans that in the future motor vehicles will be the most important means of transportation and this lends possibilities to a great increase in the sale of American motor cars in China.

SHIPPING

Purchase of Italian Vessels Regarded as Violation: The rumour that the China Merchants' Steam Navigation Company, a Government-owned concern, has completed negotiations with the agents of Lloyd Triestino for the purchase of 15 Italian steamers has aroused the attention of the League of Nations representatives in Shanghai who regard this deal as a violation of economic sanctions against Italy.

New Hongkong Shipping Company: A report appearing in the *China Press* stated that a new Chinese shipping company with headquarters at Hongkong is being formed. The new company, which will operate ships between Shanghai, Amoy, Swatow, Hongkong, Singapore and Penang, will offer passenger and freight accommodations at rates lower than those of other shipping firms.



SOME STRANGE ANIMALS AND PLANTS OF CHINA'S OVERSEAS TRADE

BY

ARTHUR DE CARLE SOWERBY

Those who attend a first class Chinese dinner will find themselves being invited to partake of many dishes, which, however delectable, will at first appear somewhat terrifying because of the strange animals and plants of which they are composed. Sea-slugs, sharks' fins and lips, cuttlefish, awabe, bears' paws, birds' nests, shrimps' eggs—these are some of the delicacies most highly prized by the Chinese gourmet, but which the Westerner at first finds considerable difficulty in making himself taste. How important they are to the Chinese is shown by the quantities of these products that are imported into the country. Indeed, anyone going through the list of China's imports and exports will be struck by the strangeness of some of the items, for, besides the sea products used for food already mentioned, the names of various unusual animals and plants or parts thereof employed as medicine will be noted. In this category are included such things as the horns of the rhinoceros, deer (in velvet and dried) and saiga antelope, dried seahorses, lizards and snakes, ginseng root, Chinese evergreen and various other little known plants.

Space will not permit a detailed description or even a listing of all the many out-of-the-way animal and plant products that enter into China's overseas trade, but a few of the more remarkable may be here discussed.

Perhaps the most important of these is that which is commonly, but erroneously, called sea-slug. The animals that form this commodity are not slugs at all. There are real sea-slugs in the ocean, but they belong to the great phylum *Mollusca*, whereas the sea-slug of a Chinese feast belongs to the class *Holothuroidea* of the phylum *Echinodermata*, to which also belong the sea urchins, the starfishes and the encrinites or stone-lilies. The correct term for the so-called sea-slug of the Chinese cuisine is the sea-cucumber or holothurian in popular natural history, while its trade names are *bêche-de-mer* and trepang. Under the latter name it is an important article of commerce throughout the Malayan

SOME STRANGE ANIMALS AND PLANTS OF CHINA'S TRADE

Archipelago, in the coastal waters of which the animals are taken in great numbers, mainly to supply the Chinese demand. To prepare them for the market they are first boiled in sea water and then dried in the sun. Before they are fit for consumption, however, they must be boiled in fresh water several times in order to get rid of the salt. By this time there is little flavour left in the gelatinous mass, but it is the succulent feel of the latter in the mouth and as it slides down the gullet that the gourmet enjoys.

Sea-cucumbers may be described as sausage-shaped animals, in which the body-wall is very muscular, the alimentary canal extends the entire length, the mouth being situated at one end and the vent at the other, and the whole is enveloped in a tough integument, often with short tentacle-like excrescences and lumpy protuberances. The leathery skin contains small calcarious spicules of varying shape, such as spears, anchors, wheels and the like, while tube-feet, by means of which the animal attaches itself to rock surfaces, are present. In some forms the mouth is surrounded by ruffles of branched tentacles. Progression is accomplished by a series of worm-like extensions and contractions of the body.

There are many different species, two genera, *Holothuria* and *Stichopus*, supplying the forms used for food.

The largest known form, measuring as much as six feet in length, is known as *Synapta besselii*. It is not edible.

A strange association takes place between certain forms of sea-cucumber and a little fish known as *Fierasfer acus*, in that the latter seeks shelter inside the body of the former, without, apparently, causing them any annoyance or discomfort. The fish enters the vent and lies curled up there with its head protruding, presumably on the lookout for food.

Sharks as a group are too well known to need any description. The part eaten by the Chinese as a great delicacy is formed by the innumerable cartilaginous rays of the fins. The fins are cut off from the fish when caught and carefully dried, when they are ready for the market. In some cases the rough leathery skin is removed before drying, when the fins have the appearance of coarse brushes. Large quantities of this product are imported from the Malayan region, in the seas of which sharks abound. Certain large species of cuttlefish or squid are also caught in these seas and dried to be shipped to China, to which country the Japanese send dried and tinned awabe. The latter is known in America as abalone, where, also it is considered a delicacy. Its popular name is the sea-ear on account of the shape of its shell, which is commonly called the ear shell, and its scientific name is *Haliotis*. Its nearest relation in the animal world is the well known limpet, which it very much resembles in form and habits, though it is usually considerably larger.

Birds' nest, as served in a delicious soup by the Chinese chef, is a transparent crisply gelatinous substance, of which the shallow cup-like nests of certain species of tropical swifts (not swallows) are made. It is the hardened saliva of the bird, and the nests are found high up on the walls of caves in the islands of the Malayan Archipelago and along the south-east and south coasts of Asia, from Formosa to Ceylon. There are many species of swift belonging to the genus *Collocalia*, some of

them finding their way in summer as far north as Western Szechuan in China, but only the form known as the edible swift (*Collocalia fuciphaga*) yields the valuable "birds' nest" of trade.

The saiga antelope, known to science as *Saiga tartarica*, is a strange creature inhabiting the wide steppes from Eastern Europe to Central Asia, often occurring in herds of a hundred or more. It is characterized by an enormously swollen muzzle, which gives it an almost grotesque appearance. Its short slightly curved cylindrical and ringed horns are considered so valuable as medicine by the Chinese that this antelope, although one of the fastest creatures on four legs, is in danger of becoming extinct through the persecution to which it is subjected by professional hunters.

The same applies to the various Asiatic species of rhinoceros, whose horns are also considered valuable as medicine, and are imported in considerable numbers. The three Asiatic species are the single-horned Indian rhinoceros (*Rhinoceros unicornis*) and Javan rhinoceros (*R. sondaicus*) and the two-horned Sumatran rhinoceros (*R. sumatrensis*), whose range is from the Bay of Bengal eastward, including Burma, Siam, Sumatra and Borneo. Doubtless this is the form found in Indo-China, and formerly in South-west and South China. The Chinese do not consider the horns of the African species of rhinoceros of any value medicinally, but recently, in order to satisfy a demand in Abyssinia for Chinese medicine made from rhinoceros horn, which is supposed to make one brave and strong, the horns of the African two-horned rhinoceros (*R. bicornis*) have been imported into China, made up into the medicine and exported to Abyssinia. According to a report from London, rhinoceros horn had doubled in price as a result of this demand from China, and every available piece of the material had been shipped to the latter country. This is, indeed, a remarkable trade to have developed as a result of the war between Italy and Abyssinia. Rhinoceros horn medicine appears, however, to have been as impotent as the League of Nations in saving the Abyssinians from their enemies.

Deer horn as a medicine has long been considered extremely valuable by the Chinese, especially when in the velvet, or, rather, when only partially grown. It is then known as *lu jung* (pronounced loo roong), meaning "deer wool," while the horns when at this stage are called by the hunters *shueh chao*, meaning "blood horns." While the horns of many types of deer are used for this purpose, the most valuable are those from the sika or spotted deer, of which there are several species in China, Manchuria, Japan and Formosa. It is from Tibet and Central Asia that deer horns are mainly imported, these belonging to various species of the wapiti or red deer groups.

Ginseng root, derived from *Panax ginseng*, as it is known to science, is imported from Korea and Manchuria and an inferior quality from America. This root is supposed to be very efficacious as a rejuvenator, especially when it comes from Korea and is in the shape of a human figure. It then fetches an almost fabulous sum.

Recently there has been a demand in the United States for what is known as Chinese evergreen, which has certain valuable medicinal pro-

THE NATIONAL QUARANTINE SERVICE OF CHINA



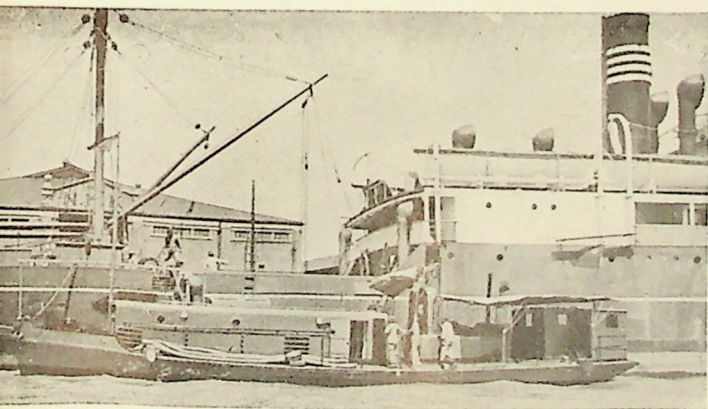
In the Vaccination Department of the National
Quarantine Service.

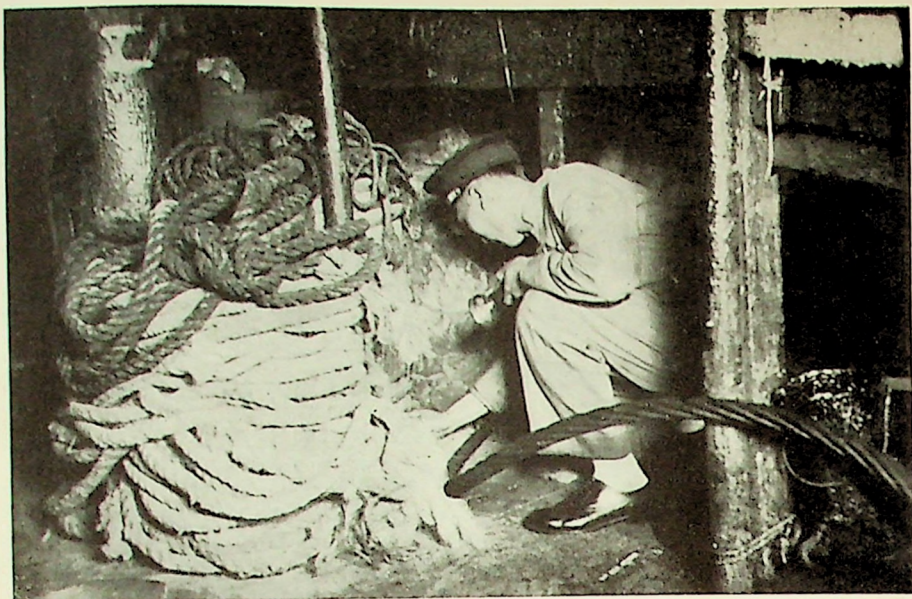


Officers of the Boarding Division of
the National Quarantine Service
examining a Ship's Crew.



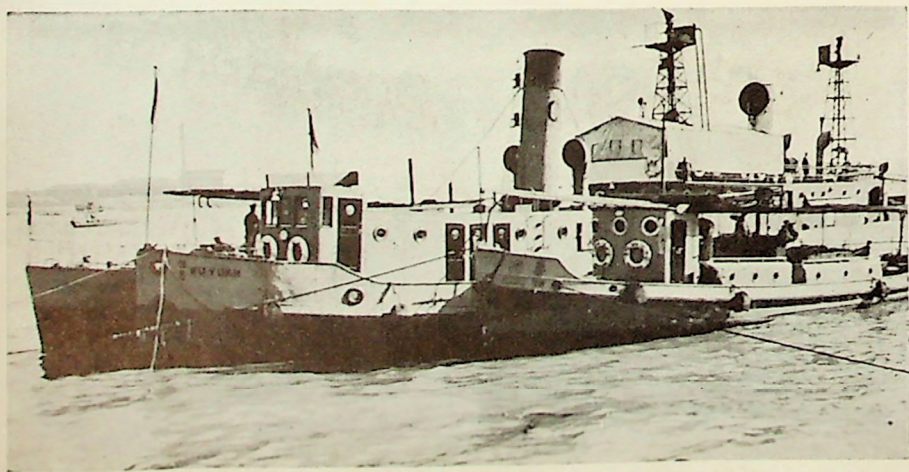
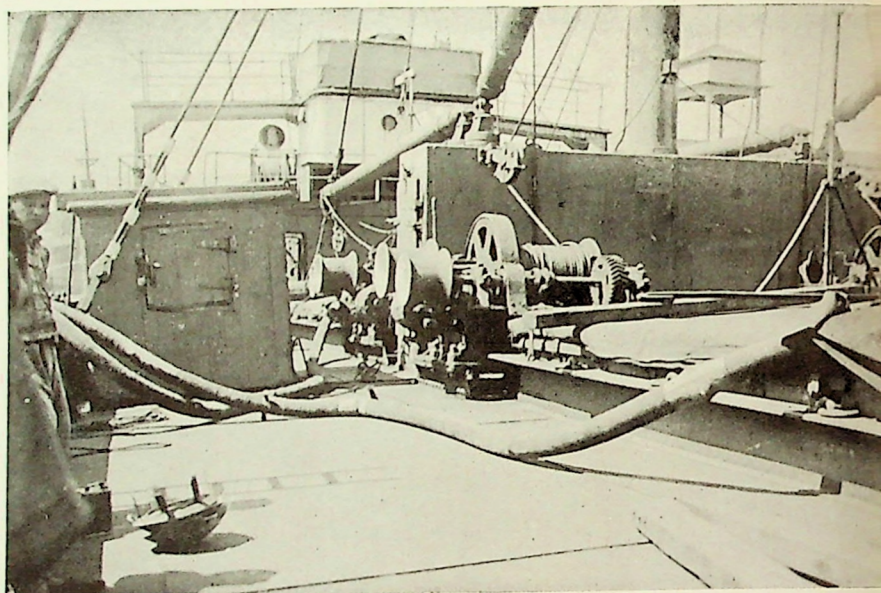
An Officer of the National
Quarantine Service inoculating
a Ship's Crew against Cholera.
On the Left is shown the
Service Gas Barge fumigating
a Ship in the Harbour,
Shanghai.





Looking for
Evidences of
the Presence
of Rats in
the Hold of
a Ship, an
important
Precaution
against
Plague.

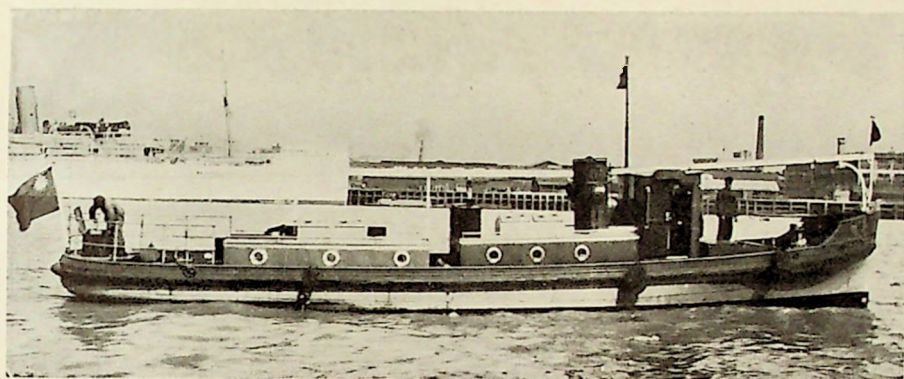
Gas being
pumped into
the Hold of a
Ship during
the Process
of Fumiga-
tion.



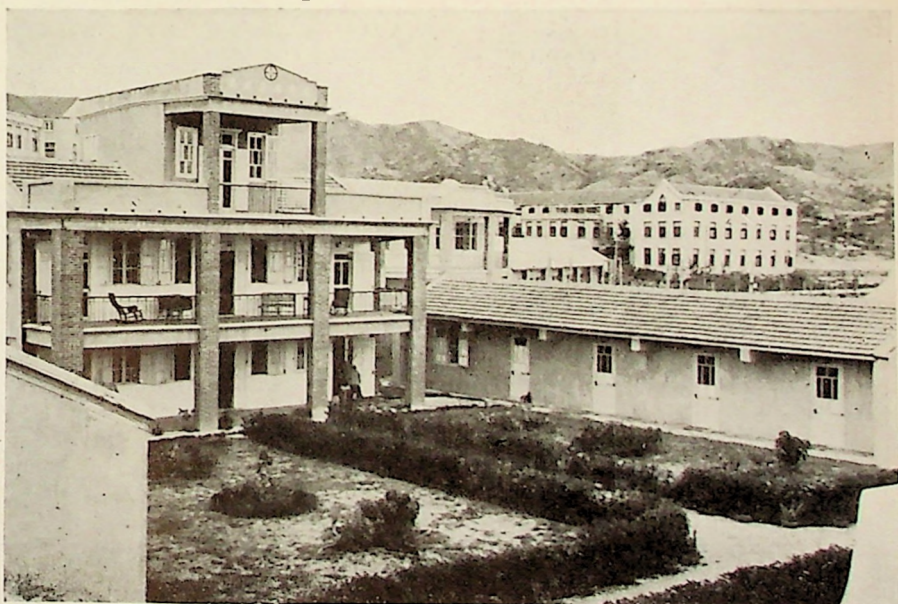
Launches
belonging to
the National
Quarantine
Service
moored off
the Bund in
Shanghai.



The attractive and comfortable Bungalows of the National Quarantine Service Hospital at Woosung at the Mouth of the Whangpoo River on which Shanghai stands.



Boarding Launch *Hua To* of the National Quarantine Service in the Port of Shanghai.



The Station of the National Quarantine Service at Amoy, Fukien, South-east China.



CHINA'S NATIONAL QUARANTINE SERVICE

perties. A member of the *Aroideae* or arum lily family, this plant is known to the Chinese as *wan nien ch'ing* (萬年青) or "ten thousand year green," and it is exported to all parts of China from Canton where it is cultivated. It grows freely when the stem is placed in water or moist earth, sending out long roots, and in due course it produces the green spathe-like flower characteristic of the arum family. This is believed, by the Chinese, to presage the birth of a son in the house in which it occurs. Scientifically it is known as *Aglaeonema simplex*.

CHINA'S NATIONAL QUARANTINE SERVICE

BY
SU-LIN YOUNG

Although quarantine activities were started in China as far back as the year 1873, when Amoy and Shanghai took the initiative precautionary steps against a cholera epidemic which was sweeping over Siam and the Malay Peninsula and threatening to invade China, the National Quarantine Service was not established until 1930. Quarantine regulations were first enforced in Shanghai in August of the year already mentioned under the Chinese Maritime Customs. These first measures were undeniably limited in scope, but they laid a foundation for subsequent quarantine stations in various ports of China to build upon.

Under the old system of quarantine administration the medical officers made admirable attempts to prevent the invasion of communicable diseases, but they were greatly handicapped by the lack of skilled advice, insufficient funds with which to operate and inadequate machinery. Moreover, in many ports there was a total absence of isolation camps, hospitals and fumigating and disinfecting plants. It was not until the outbreak of the terrible Manchurian plague epidemic of 1910-11, which seriously threatened China, that the first quarantine hospitals were established.

In 1923 under the auspices of the League of Nations Dr. Norman White made a survey of the quarantine ports in the Far East and the prevalence of diseases, which resulted in the formation of the Eastern Bureau of Health Organization in Singapore and aroused such interest amongst a group of Chinese medical leaders that in 1929 the League sent out another mission. This, together with Chinese medical officers, investigated the conditions in other Chinese ports not touched by Dr. White. The direct outcome of this investigation was the creation of the National Quarantine Service, with the famous plague specialist, Dr. Wu Lien-teh, at its head, by the authority of the Central Government. Its headquarters were established in Shanghai, and orders were issued to draw up a new set of quarantine regulations and to make preparations to take over the control of all quarantine stations in the various ports of China when convenient. The functions of the National Quarantine Service were the collection and dissemination of epidemiological intelligence, the medical inspection of vessels, the

giving of vaccinations and inoculations, the rendering of medical services, the fumigation and disinfection of vessels when necessary, the carrying out of research and the issuing of publications.

Since the inauguration of this new system progress and improvements in port health work have been remarkable. The Shanghai station, which started in 1930 with only a steam tug, a barge and an old quarantine hospital, now possesses in addition to these two motor launches with modern equipment, a motor tug, a barge fitted with the latest type of gas apparatus for fumigation and an up-to-date quarantine hospital at Woosung. The important ports of Amoy, Hankow, Tientsin, Tang-ku and Chin-wang-tao, which were later incorporated into the service, have acquired similar modern equipment to combat any epidemics that may occur.

THE DIAMOND FIELD OF SOUTH-EAST BORNEO

Before the discovery of the famous Kimberley pipes in South Africa in the year 1870 India, Brazil and Borneo were the principal countries producing diamonds. Not long after their discovery, however, the production of diamonds from the Kimberley mines proved so great that these countries were collectively forced into a position of comparative insignificance, to be grouped later with a few other small producers, such as New South Wales, under the heading of "Other Countries" in statistics of annual production. Thus Borneo since the opening of the South African mines has occupied a position of little or no importance as a diamond producer, and, with the attention of the whole world drawn and held by frequent articles descriptive of the wonders of the South African mines, it has attracted little notice. That it is still a producer of diamonds is known only to a few of those engaged in the mining and marketing of gems.

As far as the writer is aware, the deposits of South-east Borneo have not hitherto been described, so that the following account will serve to present such features of the deposits as are likely to prove of interest and of service to the diamond industry and trade.

For more than a century before and for some time after the Dutch occupation of South-east Borneo the natives were allowed to search for diamonds, provided that all diamonds of unusual size were handed to the local ruler or Sultan, an arrangement similar to that in force at the ruby mines in Burma at the time of the British annexation.

At the conclusion of a local rebellion in the year 1880 the diamondiferous lands passed into the possession of the Dutch Crown. The natives were allowed to continue mining for diamonds under monthly permits, costing one guilder each and issued by the Dutch authorities. At the present time about a thousand permits are issued annually in



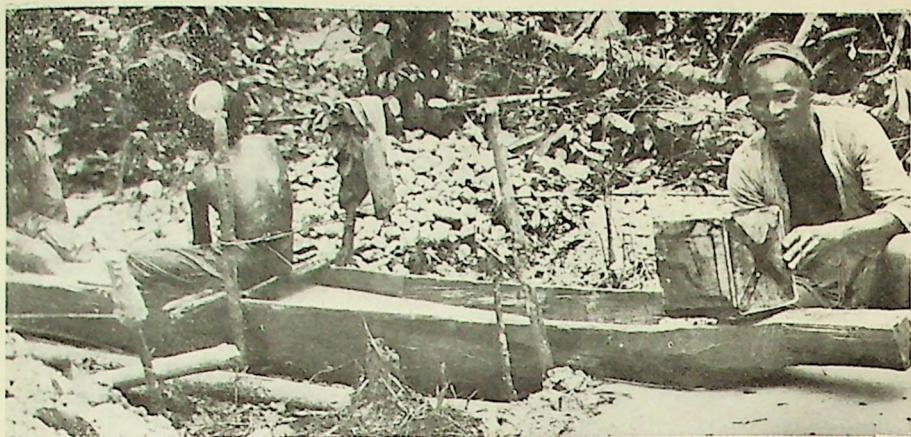
The Diamond Field of Martapoera Province and the Meratoes Mountains in South-east Borneo.



Travelling in a Dug-out Canoe on a River in the Diamond Field Area of Martapoera Province in South-east Borneo.

Natives of South-east Borneo digging for Diamonds on a Permit issued by the Dutch Government.

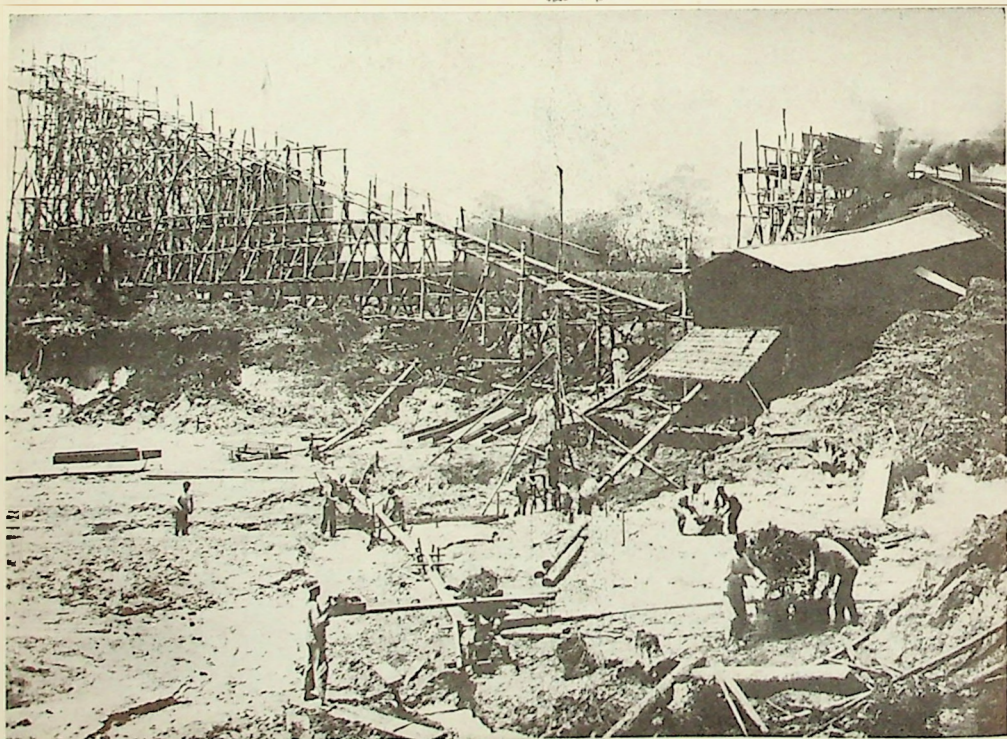
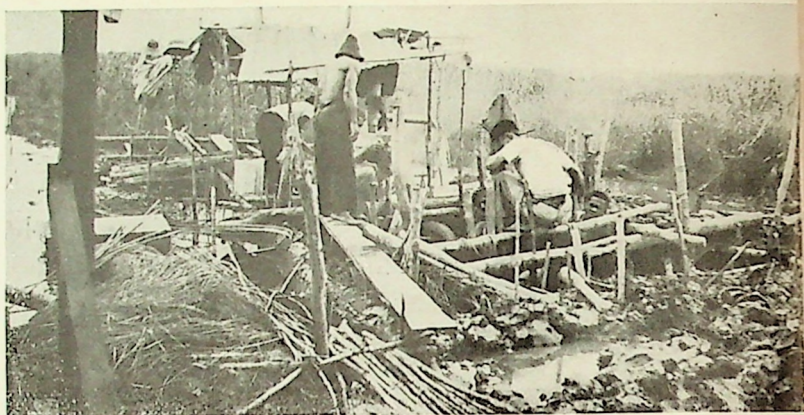




THE DIAM SOUTH-E

In a wide Strip of
Borneo occur De
Platinum and Dia
been Explored wi
tion by Holders
Work

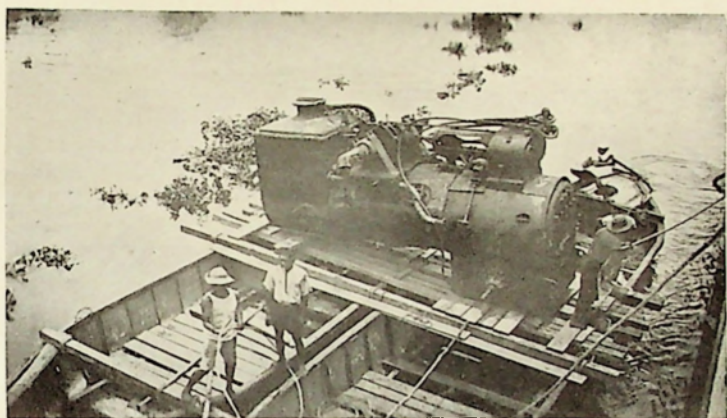
Above are shown Na-
tive Workings in the
Diamondiferous Area,
to the Right a Prospecting
Pit where Marshy
Ground greatly hinder-
ed Operations.



Operation
Swing on
cess

FIELD OF BORNEO

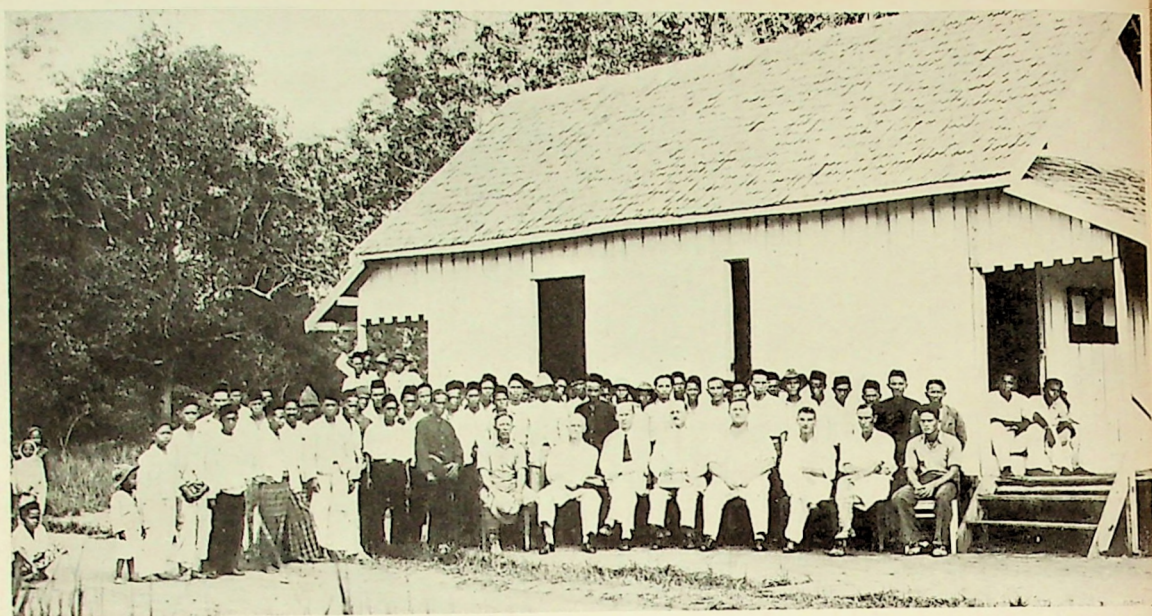
Country in South-east
containing Gold,
It has recently
View to Exploita-
a Concession to
Area.



Above is shown Operations on a Prospecting Pit being carried out by the Concession Holders, to the Left a Locomotive being shipped on two Barges to the scene of Operations on the Concession.

in full
the Con-
Site.





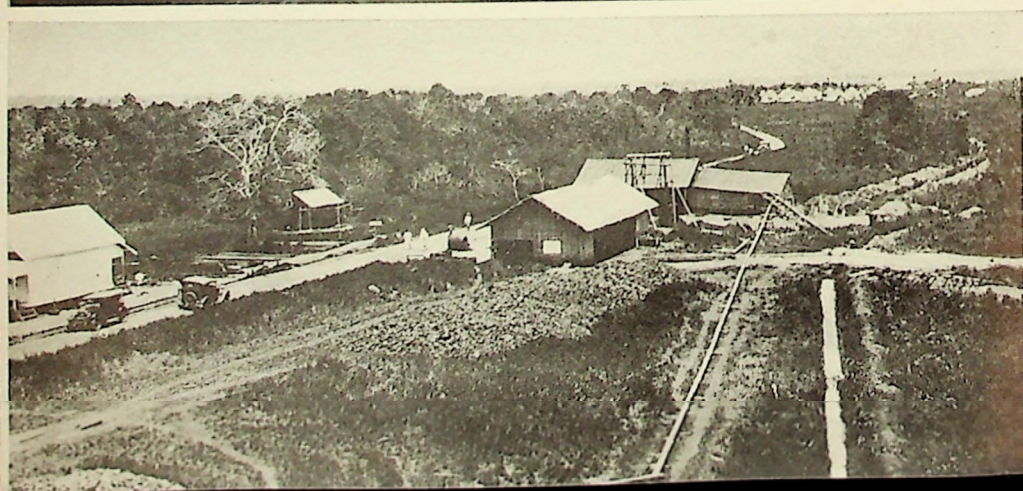
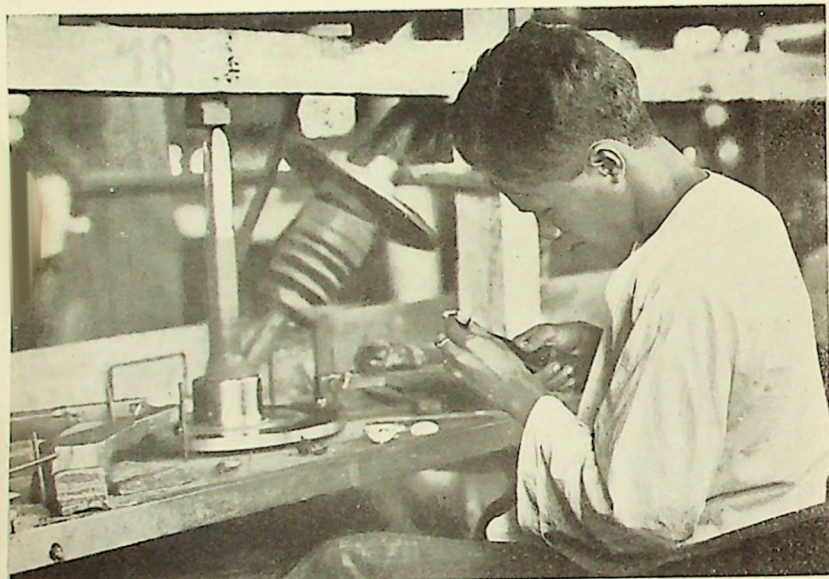
The Staff of the
Concession Hold-
ers engaged in
carrying out Pro-
specting Opera-
tions.



Diamond Cutting



A View from the
Top of the Mill
looking towards
the Company's
Camp.



THE DIAMOND FIELD OF SOUTH-EAST BORNEO

Martapoera Province, beyond whose confines the tax is not worth the cost of collection.

The area within which diamonds are found extends from the Java Sea through Martapoera on the west in an easterly direction to the Pacific Ocean, a distance of a hundred miles. With an average width of about nineteen miles this gives a total area of approximately nineteen hundred square miles. The main topographical features of the diamondiferous area and adjacent country include a wide range of mountains, called the Meratoes Mountains, on the south, rising to heights of 3,000 to 4,000 feet above sea level, and a cross range lying to the west of the middle of the area forming the watershed of rivers flowing east and west. The crest of this cross range is the boundary between the provinces of Martapoera and Tanah Boemboe, of which the latter was not visited by the writer. By far the greater portion of the diamonds comes from Martapoera Province, and it is believed, from a study of maps and of native descriptions of the occurrences in Tanah Boemboe, that the geological features there are similar to those in Martapoera Province, so that the same problems dealing with the distribution of the diamonds apply equally well to both areas.

Maps of the diamondiferous region show a marked north-east to south-west direction of the mountains and rivers, modified on the Tanah Boemboe side by a change in the direction of the drainage system to south-east. Throughout Martapoera Province the rocks have a noticeably constant direction of thirty to fifty degrees east of north with but a few minor divergencies of only local extent. The geological features comprise a core of intrusive basic rock in the south-east, flanked on its north-west side by a belt of extrusive rocks, which in turn are overlain by sediments derived largely from the basic rocks, and into which have intruded basic and intermediate rocks of Post-Eocene age.

It seems probable that one or more of these volcanic vents contributed diamonds, which might possibly have been scattered broadcast with the ejecta. Then followed a period of active stream erosion with a great diminution, if not complete cessation, of volcanic activity, the eroded material being carried down and deposited along the shore line of the sea or strait, through which, judging from the distribution of diamonds, strong currents were in evidence. In this connection it is interesting to compare this distribution with that of the diamonds in South-west Africa, where they are found over a length of coast line of two hundred and seventy miles and within twelve miles of the sea.

The coarse conglomerates, laid down not far from the surface of the lava beds, contained a high proportion of the gold, platinum and diamonds derived from the disintegration of the new land, and at the few places where these conglomerates are now exposed there are native workings for diamonds, not in the conglomerates themselves, which are too firmly cemented, but in the beds of those streams which tend to follow the strike of the conglomerates.

When these sediments had attained a considerable thickness, measurable in thousands of feet, a long dyke-like intrusion of pyroxenite took place some distance from the shore line, lifting and arching these sedi-

ments and altering the drainage system over a large area. With that and subsequent adjacent parallel intrusions of less basic rocks the sediments were forced into folds forming a persistent anticline on the north-west of the intrusion and an asymmetrical syncline on the south-east. Due to the presence of a parallel intrusion of pyroxenite on the south-east the sediments in that region were lifted high, causing the syncline to pitch at a low angle to the north-east.

The south-eastern portion of the syncline, owing to its elevated position, has been completely removed by erosion, and the bottom or basal conglomerates exposed at the present western extremity. The diamonds liberated from this denuded part of the syncline were carried to the north through or over the long pyroxenite intrusion and deposited along a shore line extending from Karang Intan in a south-westerly direction to Bentok, a distance of about twenty-five miles.

The drainage having been established westwards, the rivers Riam Kanan and Riam Kiwa arose, draining the raised sediments and transporting their diamonds to the sea to Karang-Intan-Bentok shore-line. By a continuance of the movement of elevation these were raised to form the existing gravel-covered undulating country extending from the village of Martapoera to the village of Bentok.

Following the elevation of this land, carrying with it some bench gravels, streams arose draining it and discharging north and south into the main westerly flowing channels, where diamonds were dropped through current interference. The amount of sediment removed from this easily eroded land appears to have been beyond the carrying capacity of the rivers, for a choking of the main channels took place, causing deposition of the finer particles up-stream, so that these, the last concentration of diamonds in stream and river beds, are now found buried under several feet of barren alluvium of fine texture, and the positions of the stream beds are only approximately indicated, in their lower portions particularly, by meandering streams in extensive swamps.

It can be safely said that geological work in the tropics is neither easy nor healthy. The hardest of all is geological mapping of recent strata forming the high ground immediately beyond the coastal swamp. Owing to the slightly consolidated nature of these strata out-crops are few and far between, and are confined to stream and river beds.

During the wet season progress up country is generally possible along the main rivers in a dug-out canoe for a week or two at a time, but then the outcrops are largely under water, or, where exposed, are unapproachable on account of the strength of the current. In the dry season journeying upstream in this comfortable and leisurely fashion, if possible at all, becomes too tedious and cannot be compared in economy of time with travelling on foot from village to village along the river banks. In the vicinity of the villages, where the jungle has been felled and cleared, the long coarse (*lalang*) grass, which shoots up in a few months after the land has been cleared, soaks one to the waist in the morning, while after ten o'clock in the morning is so stiflingly hot that walking through it for more than one or two hours is a test of endurance.

THE DIAMOND FIELD OF SOUTH-EAST BORNEO

The dry season, notwithstanding the arduous marching, should be chosen as far as possible for geological work, and, by mapping in the vicinity of each halting place on the up-country journey, a fair idea can be obtained of the dominant geological features. Then on the downward journey the previous work can be connected by a time and compass traverse, floating downstream on a bamboo raft or dug-out, the carriers being sent overland to avoid possible loss of baggage in navigating rapids. Even where the river forms shallows a few inches in depth it is possible to drag downstream a small bamboo raft of sufficient buoyancy to float three men, and thus to complete the traverse down the river.

The geologist should be blessed with a good constitution, for, in addition to the amphibious life on the river, he will be called upon to do considerable stream-wading in the dark gloomy virgin jungle under conditions which favour malaria.

Diamonds are found in the beds of the main rivers, the Riam Kanan and the Riam Kiwa, and in numerous tributaries in the upper reaches. During the dry season many natives can be seen at work in the river beds washing the material resting immediately on bed-rock or dug from some pebble layer near water level. These rivers have a few bench gravels, the remains of former extensive deposits, which are now scarcely recognizable as such, the rapid erosion of the tropics having converted them into a clayey mixture of soil, sand, lateritic nodules of iron oxide and pebbles, to be detected only by the appearance on the surface of pebbles of larger size than usual.

Streams draining the bench gravels, particularly those at lower elevations near the swamp land, have concentrated diamonds into their channels, and these have been largely worked by the natives.

The shafts sunk for the purpose of valuation have served to emphasize the difference in behaviour in a stream channel between diamonds on the one hand and gold and platinum on the other. Every shaft in one particular section showed an unusual concentration of diamonds, gold and platinum, as many as thirteen diamonds being found in one shaft, which was also the richest in gold and platinum. It was there found that the channel narrowed between high banks at a sharp bend three hundred feet down stream from that section with no overflow for the flood waters, so that the congestion which took place prior to the acceleration in velocity of the flood waters caused a great precipitation of the heavy minerals. That was the only instance where high values of gold and platinum were associated with high values in diamonds. The shafts sunk in the deeper parts of any cross-section gave the highest values in gold and platinum, but were usually poor in diamonds. On the sloping side of the deeper parts an occasional diamond above the average size was found, but the shafts sunk on the gently sloping top of any "island" in the channel invariably gave the best results in diamonds. In fact, the shallowest shafts, apart from those on the banks, gave the highest values in diamonds, which was rendered still more striking in calculations of average value by the smaller depth of overburden.

Again, where the flood waters had poured over a bank sloping gently toward the channel centre at the convex side of a bend, diamonds larger than the average size had been lifted from the channel and spread over the surface of the bank, giving to that shallow ground a higher value than that of the channel itself.

The grade of the channel, on the assumption that the surface of the water table was a true plane surface, proved to be one in two hundred and forty over a length of a mile, while the slope of the surface on the same assumption was found to be one in four hundred and fifty.

The quality of the Borneo diamonds is excellent, only a small percentage being decidedly yellowish or off-colour.

In conclusion, the writer desires to acknowledge his indebtedness to the late Mr. Gilmour Brown, A.R.S.M., M.Inst. M.M., and Dr. L. H. Krol, of the Netherlands East Indies Mining Department, for the data and valuation results presented in this article.

SCIENTIFIC NOTES AND REVIEW

BIOLOGY

Snakes Exported from China to Malaya: Probably China's most extraordinary overseas trade is that concerned with the exportation of poisonous snakes from Canton to British Malaya. This has nothing to do with the trade in snake skins, which in recent years has developed in tropical countries as a result of the use for such material in the manufacture of ladies' shoes and various fancy leather goods. The snakes from South China are exported to Malaya as food, well-to-do Chinese in that region considering them a delicacy as well as a valuable remedy for certain ailments. The most highly prized are the deadly cobras, of which two species are found in China, namely, the king cobra or hamadriad (*Naja hannah*, Cantor) and the black cobra (*Naja atra* Cantor), and it has been estimated that at least a thousand of these reptiles are imported into Malaya from South China annually. As much as \$10 may be paid for a good cobra, the most valuable part of which is its gall, this being drunk with alcohol as a strengthening medicine. The flesh is also believed to restore strength to invalids, in this being superior to milk, fish or the flesh of other animals.

A Valuable Reference Work on China's Medicinal Plants: The third

and greatly expanded edition of Dr. Bernard E. Read's useful work entitled "Chinese Medicinal Plants from the Pen Ts'ao Kang Mu," has just been published by the Peking Natural History Society, the sales agents being the French Bookstore, Peiping. It now runs to 389 pages and includes 898 items, not all of which, however, are identified scientifically. In a brief introduction the compiler points out that this new edition is called for owing to the fact that so much research has been carried on during the past ten years, and in it are included as far as possible the results of this research. "Extended studies in this field show the value of comparative data from India, Japan, the Philippine Islands, Indo-China, Malay and other continents, for they hold much in common through trade and interchanges of culture." It is this phase—the trade in Chinese medicinal herbs—which interests us here, for the latter has always been considerable, and goes back to very early times. It has been an important factor in the spread of culture from one country to another, and in the development of international commerce. Even to-day the West is still learning that China has many valuable drugs to offer, and this country's export of medicinal plants is of no little importance. The book

SCIENTIFIC NOTES AND REVIEWS

under review is well arranged and carefully documented. The price is \$6.00 in

China, \$7.50 abroad, and the book is well worth the money.

ANTHROPOLOGY

Another Ape-Man Discovery in Java: Java, where the remains of *Pithecanthropus erectus*, the first ape-man known to science, were discovered by Dubois nearly half a century ago, has yielded another discovery of the same nature in the form of the skull of a young female which is said to belong to a creature half way between man and the higher apes, says a recent message. This new find was made at Modjokerta, and scientists are busily engaged making a thorough examination of the skull and the strata in which it was located in

order to ascertain the characters of the creature represented and the period of the earth's history in which it lived. The original ape-man of Java and the now famous Peking Man, *Sinanthropus pekinensis*, are by a long way the oldest human remains so far unearthed in Asia, and are believed by some to be closely related, or at least to belong to about the same period of man's development. It will be interesting to know whether the new skull belongs to the same group and period or to either earlier or later ones.

ASTRONOMY

Meteor Falls near Spanish Village: A Havas message of April 23 from Madrid was to the effect that a meteor, leaving a trail of dazzling light and with a thud that rocked the ground over a radius of many miles, hit the earth in the vicinity of the village of Villarejo de Fuentes in Cuenca Province. A veritable cyclone was caused, the blast uprooting some two hundred oak trees and hurling heavy rocks to a considerable distance.

World's Astronomers Gather for Eclipse Observations: The eclipse of the Sun which will occur on June 19 is attracting the attention of astronomers all over the world, and scientists are being sent from many countries to carry out observations to Manchuria, to East Siberia or to Hokkaido or Yezo, the northernmost island of Japan, where the eclipse will be observable.

From China four are being sent, namely, Dr. Yu Ching-sung, Director of the Institute of Astronomy of the

Academia Sinica, Mr. Chen Sun-wei, Mr. Chang Yu-cheh and Mr. Li Heng. The two latter will proceed shortly to Harbarovsk, at the junction of the Ussuri and Amur Rivers, the two former to Hokkaido. Funds for the expedition have been contributed by various scientific institutions in China, including the Institute of Astronomy of the Academia Sinica, \$1,000; the Institute of Physics of the Academia Sinica, \$500; the Astronomical Society of China, \$200; the National Academy of Peiping, \$200; the Meteorological Station of Tsinghua University, \$100; and the Tsingtao Observatory, \$100.

The British group has already arrived at Kamishari in Hokkaido, being headed by Dr. Frederick Stratton, Professor of Astrophysics at Cambridge University, and including Dr. R. O. Redman, from the Astronomical Observatory of Cambridge University.

An expedition sanctioned by the Government of India will be led by Dr. Royds, Director of the Kodaikanal Observatory.

VOLCANOLOGY

Asama again in Eruption: The turbulent volcano Asama near Karuizawa in Japan erupted with considerable violence early in the morning of April 20, and again in the morning of April 23, scattering ashes and dust far and wide. The inhabitants of Mayebashi were obliged to use umbrellas when out walking to protect themselves.

Mauna Loa Active: A United Press message from Hilo dated April 29 confirmed reports that Mauna Loa, Hawaii's

most important volcano, was in eruption. Except that the new lava flow was located along a five-mile ridge above the spot, near the summit of the mountain, where lava broke out during Mauna Loa's last eruption several months ago, no details of the new eruption were available.

Vesuvius Breaks out Anew: From Rome came the news on April 29 that Mount Vesuvius had erupted on that date, and a large stream of lava was flowing down its western slope at the

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rate of four feet a second. No villages were in danger, according to scientific

observers, who pronounced the eruption a normal one.

SEISMOLOGY

The Monthly Record of Earthquakes: At about 10.20 a.m. on April 1 a severe earthquake, whose centre was located between the Philippines and South China, was strongly felt in Hongkong and Canton. Manila was also shaken at the same time and date, but it was believed by a different disturbance centred near Celebes in the Netherlands Indies. While no damage was done in Hongkong or Canton reports which came in later indicated that the earthquake had been felt over a wide area in Kuangtung and Kuangsi, causing the collapse of numerous houses and resulting in many casualties. There appear to have been two shocks, two hours apart, the second being much the more severe and responsible for the damage. At Ling-shan two-thirds of the houses were shaken down crushing at least a hundred victims, while another hundred

people were killed in the administrative areas of Hop-po and Fong-shing.

Lan-chou in Kansu was hit by two earth tremors at about 2 a.m. on April 8, but no damage was reported.

Kuangtung was again visited by a severe earthquake on April 23, when several villages in the south-west were destroyed and many people killed. The message reporting this further disturbance came from Ling-shan.

Slight earthquakes were felt over a wide area in Szechuan early in the morning of April 27. The first occurred at 7.05, the second at 7.15 and the third at 8.35 o'clock. Cheng-tu, Chung-king, Tze-liu-ching and Ta-chien-lu all reported the shocks, the message from the last named place being to the effect that it was the worst earthquake that had been felt there for many years, considerable damage having been done. The time was given as 6.45 a.m.

METEOROLOGY

The Weather in China during April: The weather in the Shanghai area all through April was unusually cold and wet. On such bright days as occurred there was generally a cold wind. Doubtless this state of affairs was a reflection of the unprecedentedly severe weather that prevailed in North China and Inner Mongolia throughout the month. A blizzard swept the latter area on April 1, being felt as far south as Peiping. This was followed on April 10 and 11 by a heavy snowfall along the Mongolian border, the snow lying two feet deep in places, and many sheep and cattle being frozen to death. On April 15 wintry conditions were still prevailing in this general area, another blizzard having swept the country as far south as Kuei-hua-ch'eng in the province of Suiyuan.

Severe weather was also experienced in Central China, a gale, characterized

as the worst storm in years, hitting the Hankow area on April 18 and causing considerable damage to buildings and telephone and electric light cables. Eighteen people were killed and fifty more injured as sixty-six houses were destroyed. On April 22 a second gale swept the same area, blowing down a further hundred houses and killing and injuring many more people. What was described as one of the most serious rain and hail storms swept through Southern Honan and Northern Anhwei and Kiangsu on April 25, damaging numerous houses and uprooting many trees. On the same date a severe wind-storm raged through Japan.

It is interesting to note that in both Europe and North America also unusually cold weather prevailed throughout April.

MEDICINE

Yu-lin Fu Suffering from Epidemics: A strange disease was reported as spreading rapidly in Yu-lin Fu, a city on the Shensi-Ordos border, early in April, as well as an epidemic of small-pox. The unknown disease is characterized by black marks on the skin of its victims, who usually die within two or three days.

Epidemics in Lan-chou Fu: Epidemics

have also been sweeping over the city of Lan-chou, capital of Kansu Province, says a *Central* report from that city dated April 17. The toll up to that date was in the neighbourhood of a thousand people, according to official statistics. All hospitals were full to overflowing, while it was estimated that about fifteen per cent. of the city's population, were affected by the plague, which was spreading unabated.

SHOOTING AND FISHING NOTES

Smallpox Alarms Nanking: Thirty-nine cases of smallpox with eleven deaths were recorded in Nanking during the week ending April 26, causing considerable alarm. A vigorous campaign for vaccination was immediately inaugurated by the authorities in an endeavour to check the epidemic.

Tuberculosis Hospital in Honour of Yu Ya-ching: A sum of \$100,000 is to be raised to establish a tuberculosis prevention hospital in honour of Mr. Yu Ya-ching, Shanghai shipping magnate, who will shortly celebrate his seventieth birthday. This decision was reached at a meeting of the China Anti-Tuberculosis Association held in Shanghai on April 22.

Anti-Cholera Campaign Inaugurated: An extensive campaign to combat cholera has been launched in Shanghai and the

Yangtze Valley generally as a result of a meeting held on April 6 in this city which was attended by officials of various medical institutions, including the National Health Administration, Nanking, the National Quarantine Service, Shanghai, the Railway Health Service, the Chinese Red Cross Hospital, the Henry Lester Institute of Medical Research, and the Public Health Departments of the various Municipalities in the Shanghai area.

Exhibition of Chinese Materia Medica held in Shanghai: An extremely interesting Exhibition of Chinese Medicines was held at 572 Range Road in Shanghai early in April. Over a thousand objects were shown, including derivatives of plants, animals and minerals, from China and places abroad, such as India and the Malayan region.

A. de C. S.

SHOOTING AND FISHING NOTES

SHOOTING

Kowloon Tigers still on Rampage: The two tigers, which have been infesting the Kowloon area on the mainland opposite Hongkong for the past several months, appear to be still on the rampage. The latest news from Hongkong, dated April 14, was to the effect that two British naval officers who had lost themselves in the hills near Tai Mo Shan, the highest peak in the district, came upon the two tigers as they wandered during the night. The great felines showed no inclination to attack the officers, who were unarmed, and were very relieved at their departure. We may well ask what are the Hongkong Nimrods doing, that they do not bring the marauders to book?

Russian Killed by Four Tigers in Manchuria: Tigers appear to have been particularly numerous in Manchuria during the past few months. Perhaps it should be said that they have been more in evidence as a result of the unusually severe winter through which we have just passed. Several deaths have been reported from that country this year,

the latest being that of a Russian armed guard named D. Karmony, who was employed on a timber concession at Muling on the Eastern Section of the North Manchuria Railway (formerly known as the Chinese Eastern Railway). He went out to track down a tiger which had killed a horse belonging to a Manchu in the vicinity, and was attacked and killed by four tigers not far from the spot where the horse had been killed.

Sportsmen Requested to Play the Game: In a letter which we have received from Mr. Harry Caldwell, the famous missionary tiger hunter of Fukien Province, he suggests that the publishing of news concerning large bags of game is liable to stimulate the shooting of undue quantities of birds and game animals on the part of sportsmen in China. He further suggests that, in view of the absence of any legal restrictions on the number of game birds or animals a sportsman may shoot in this country, foreign sportsmen should follow the laws of their own countries

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and limit themselves to the number of head of game allowed them by these. This is excellent advice for Americans and Canadians, in whose homelands such laws exist, but what about the English and other Europeans, in whose countries no restrictions as to the numbers of game birds and animals it is permitted to kill exist? It seems to us a bit too much to ask sportsmen to impose regulations upon

themselves which the Chinese authorities make no attempt to enforce upon native hunters, although we thoroughly agree with the theory that game of all kinds should be protected. Professional hunters are far more dangerous to a country's game reserves than sportsmen, and should be carefully watched and strictly dealt with.

FISHING

New Zealand Fishing Season Successful: News from Russell in New Zealand is to the effect that the past season for big-game fishing in New Zealand waters has been very successful, many large catches having been made and a number of near-record fish captured. Amongst the latter were a 957 lbs. black marlin swordfish, another weighing 895 lbs. and one weighing 700 lbs., as well as a 426 lbs. striped marlin. The records for black and striped marlin, re-

spectively, are 976 lbs. and 450 lbs.

Colonel J. N. Horlick, well known English angler, while at Wellington is reported to have expressed great enthusiasm for the New Zealand fishing. "I am amazed," he said, "at the variety of fishing afforded by the different localities, and there are incredible trout which, after English trout, seemed like propoises. Both rainbow and brown trout have afforded us marvellous sport."

A. de C. S.

THE KENNEL

The China Kennel Club's Annual Dog Show: The annual Dog Show of the China Kennel Club is being held in Shanghai this year at the Race Club on May 17, when it is expected to see an unusually fine turnout of Shanghai's canine aristocracy. Membership in the China Kennel Club has now reached the figure of 246, an increase of eighty-two since last year, while nearly five hundred dogs have now been registered by the Club.

Municipal Regulations Announced: The attention of dog owners in the International Settlement of Shanghai is called to a notification published in the *Municipal Gazette* regarding the regulations governing the licensing and muzzling of dogs. It points out that "dogs when on the streets or other place of public resort must be effectively muzzled, but in such a manner as will admit of its breathing and drinking," we would like to insert the word "freely" after "breathing," as we have noticed many cases in which the muzzles have been outrageously cruel, preventing the wretched dogs from opening their mouths

sufficiently wide to breath freely, especially on warm days. Dogs found in the streets or on the outlying roads without muzzles are liable to be shot, if they cannot be captured. If caught they will be impounded for a minimum of three days, and their owners, if and when located, prosecuted.

Dog owners are requested to present their application for licenses at the Revenue Office of the Municipal Council or at Bubbling Well, Gordon Road or Yangtzepoo Police Stations, together with \$5 for each dog.

Dog Skins a declining Export from China: In 1933 some 364,848 dog skins were exported from China. This figure dropped to 75,038 in 1934 and to 17,245 in 1935. This decline is probably due to the fact that no further skins come to China from Manchuria, whence the bulk of this product used to be derived from large dog farms. Doubtless the dog skins formerly exported from China are going abroad, mainly to the American market, from Manchurian ports.

A. de C. S.

THE GARDEN

Lawn Flowers in Shanghai: One of the attractions of lawns in England is the way they become covered in spring and summer with the little white flowers of the common daisy. This is something we have not got in Shanghai. But in place of the daisies we have two equally delightful flowers, which, if allowed to grow, suffuse our lawns with gold and mauve. These are a species of small buttercup (*Ranunculus ternatus*. Thunberg) and a small violet (*Viola Patrinii chinensis* Ging.), which grow down amongst the stems of our coarse Bermuda grass, and only push their buds and flowers above it when the first warmth of spring calls them out of hiding. These little wild flowers should be encouraged, but it is hard, indeed, to make the women who come to weed our lawns distinguish between them and other wild plants of a less desirable nature. They make a clean sweep of everything that is not grass.

Wild Flowers in the Garden: As a matter of fact, there are in Shanghai a number of modest little wild flowers that, if allowed a footing in the garden, will add greatly to its beauty and charm. For instance, the ground under holly bushes and other low-growing shrubs will not support grass, with the result that in most well kept gardens it remains bare. There is no need for this, since there are several small creeping wild flowers that thrive in such spots. One of these, known to science as *Isopyrum adoxoides* DC., has leaves something like parsley, which grow close to the ground covering it well. Another is the sorrel (*Oxalis corniculata*, L.), whose pretty clover-shaped leaves and lovely little star-like yellow flowers also cover the ground with a most attractive canopy. Yet another is Tournefort's speedwell (*Veronica Tournefortii* Gmelin), in which the shapely foliage becomes spangled early in spring with little gems of forget-me-not blue. The Indian strawberry (*Duchesnea indica*, Andr.) also spreads its pretty leaves and yellow flowers thickly over the ground, as also does its close relation the cinquefoil (*Potentilla Kleiniana* W. & A.). A small plant with beautiful mauve blossoms called the heal-all and known scientifically as *Prunella vulgaris*, L., may be grown effectively in clumps amongst rocks, over which stone-

crops may be trained. We have introduced into our garden a species from Mokanshan that is very effective, forming not only a beautiful cover with its foliage, but lending a note of colour when its masses of yellow blossoms appear in the early summer. The local variety of stonecrop is also effective, though having smaller more narrow leaves and less conspicuous blossoms than the Mokanshan form.

All of these humble plants may be used in the garden without in any way detracting from its neat and tidy appearance. A very lovely wild flower which sometimes finds its way into our gardens is the so-called day-flower or spider wort (*Commelina communis* L.). This has beautiful blossoms in which two large petals of the purest blue stick up like a mouse's ears. They protrude from a hairy purse-like sheath growing towards the end of a grass-like jointed stem with long spear-shaped leaves. The flowers open in the early morning and have withered by noon, but, where the plant grows in clusters, the effect of their wonderful blue is very pleasing. The only trouble with this plant is that it grows very rank, and spreads with great persistence, so that it is liable to get out of control and become a nuisance. It is self seeding, even if grown in pots, and, with a little care, becomes a most attractive plant to have around.

Shanghai Horticultural Society's Sixtieth Show: The Shanghai Horticultural Society is holding its sixtieth Annual Spring Flower Show on May 16 and 17 at the Race Club. It is hoped that there will be an unusually large attendance to celebrate the occasion, as there is going to be a particularly attractive display, in spite of the extremely late season.

All Flowers Backward this Spring: The continued gloomy, wet and cold weather that has characterized the present spring season has had the effect of greatly delaying the blossoming of many spring flowering shrubs. Everything is at least a fortnight later than last year. A pleasing result may accrue, however, in regard to the roses, all the many different varieties of which are coming in-

to bloom at once, so that our Shanghai gardens will be a riot of colour shortly. Usually the different varieties bloom in a succession from about the middle of

April to the end of May, but this season they are all in bud together, and only a few have started blooming as yet.

A. de C. S.

SOCIETIES AND INSTITUTIONS

THE ROYAL ASIATIC SOCIETY, NORTH CHINA BRANCH

Lectures During April: The members of this Society were favoured during April with three most interesting and instructive lectures on the culture of the Shang Dynasty.

The first was delivered on April 2 by Mr. H. E. Gibson, Honorary Keeper of Archaeology in the Society's Museum, his subject being "The Inscribed Bones of Shang." This was devoted to a detailed discussion of the pictographic writing of the Shang Period (1776-1122 B. C.) as revealed on the so-called Oracle Bones which have been discovered at An-yang and other early sites in Honan and Shantung. It was illustrated with lantern slides showing the pictographs and their equivalents in the Chinese characters of to-day. Some specimens in the lecturer's own collection and in the collection of the Shanghai Museum (R. A. S.) were exhibited.

The other two lectures were delivered on April 23 and 30 by Professor James M. Menzies of Cheloo University, Shantung, the titles being "The Art of the Shang and Chou Dynasties" and "The Culture and Religious Ideas of the Shang Dynasty." Illustrated with lantern slides and actual relics from the Shang period, these lectures were fascinating in the extreme, providing the listeners with a wonderful picture of the civilization and culture to which the Chinese had attained in that far distant period.

THE NUMISMATICS SOCIETY OF CHINA

Members View American Medals at Monthly Meeting: At the regular monthly meeting of this Society, held in Shanghai on Tuesday, April 14, Mr. K. F. Mulder, the Honorary Treasurer, exhibited an extremely interesting series of

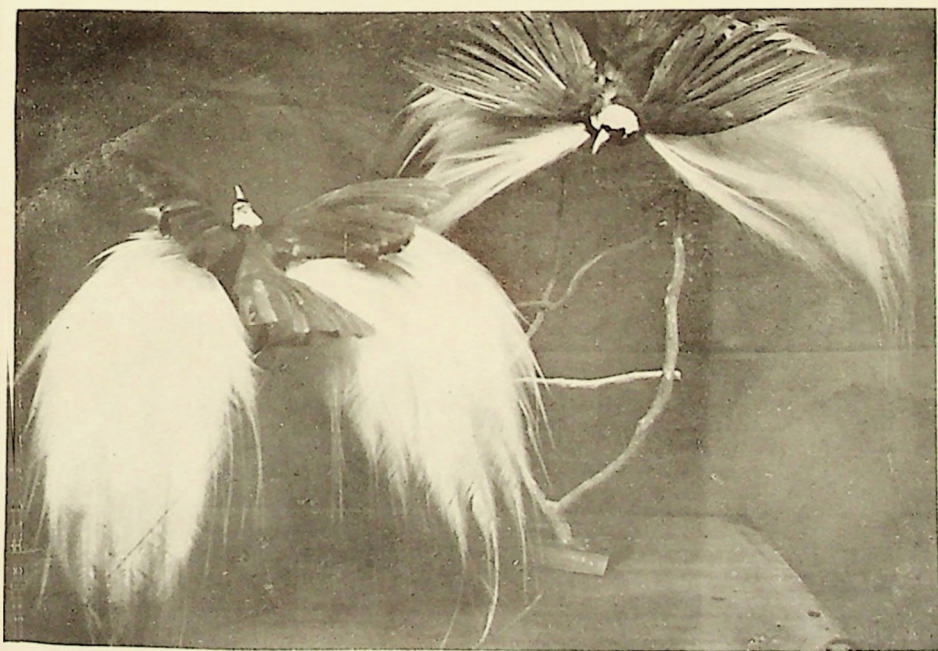
Shanghai Museum's New Cases Completed: The Director of the Shanghai Museum, Mr. Arthur de C. Sowerby, who is also acting as President of the Society, announces the completion of the two new cases of large animals upon which he has been working during the past few months as well as the renovation of two others damaged by moisture last summer. One of the new cases, shown in the accompanying illustration, contains a pair of roedeer from Korea, presented by Mr. Mark L. Moody, who also contributed the funds necessary for the preparation of the case and an adjoining one containing two other species of Chinese deer. The roedeer belong to the Manchurian species which is known to science as *Capreolus manchuricus* Noak, while the other two deer represent the Szechuan tufted deer (*Cephalophus cephalus*) and the crested muntjac (*Muntiacus crinifrons*), the former presented by Mr. Floyd Tangier Smith and the latter by Mr. E. H. Clayton of Hangchow.

Two fine birds-of-paradise of the species known to science as *Paradisapoda* L. from Aru Island near New Guinea are also shown here. These were presented to the Museum by Mr. J. Carriere of the Java, China, Japan Line. They have been carefully mounted by the Museum's taxidermist and make a fine showing.

American medals struck to celebrate various occasions and events or for other purposes. While the membership of this Society is not large, it holds very interesting meetings.



A Pair of Roedeer (*Capreolus manchuricus* Noak) from Korea presented to the Shanghai Museum (R.A.S.) by Mr. Mark L. Moody of Shanghai. As the young male on the Right had already shed its Horns when shot, the Skull of a Buck with Horns is included in the Case to show the Type of Horns carried by this Deer. This Group showing the Deer in their Natural Surroundings has been arranged and the Scenery painted by Mr. Arthur de C. Sowerby, the Museum Director.



Two specimens of the Great Bird-of-Paradise (*Paradisea apoda*, Linnaeus) presented to the Shanghai Museum by Mr. J. Carriere of the Java-China-Japan Line. The Home of these beautiful Birds is Aru Island, near New Guinea.



The Blue Sheep (*Pseudois naheer szechuanensis* Rothschild) Group in the Shanghai Museum (R.A.S.) in its new Setting of precipitous Cliffs and Snow-clad Mountains.



The Szechuan Serow (*Nemorhoedus milne-edwardsi*, David) and the Chekiang Goral (*Urotragus arnouxiianus*, Heude) in the Shanghai Museum (R.A.S.). These two Groups with their Scenic Backgrounds have been done by Mr. Arthur de C. Sowerby.

EDUCATIONAL NOTES AND INTELLIGENCE

Compulsory Education to Begin: An announcement has been made by the Nanking Municipal Bureau of Social Affairs that compulsory education will be enforced in Nanking from July 1. The regulations have been drawn up by the Bureau with the intention of wiping out illiteracy in that city within a period of three years.

Shantung Students to Study Abroad: Examinations will be held in Hunan on July 4 for the selection of four students to study abroad on Governmental scholarships. According to a *Kuomin* report, two of these students will be despatched to Germany to study entomology, one to Great Britain for mining and one to France for agricultural chemistry.

Cantonese Students for Foreign Countries: Examinations will be held in Canton from June 23 to 25 for the third group of students to go abroad for advanced education. The students selected will be sent to twelve different countries, including England, America, France and Germany.

Free Education in Fukien: Beginning with the autumn term free public education in primary and middle schools will be enforced in Fukien. This important step adopted by the Provincial Government will enable even the poorest families to send their children to school. However, the abolition of tuition fees will cost the Government an additional \$20,000 for educational expenses.

Chinese Schools in Overseas Countries: The latest statistics released by the Bureau of Education of the Overseas Affairs Commission reveal that there are 2,666 schools in foreign countries operating for the overseas Chinese. British Malaya tops the list with 844 schools, with the Dutch East Indies running a

close second, while England boasts but one.

British Indemnity Students: Of the three hundred students competing in Peiping and Nanking for the British Boxer Indemnity Scholarships twenty were selected to go to England this autumn to study. These scholarships are for three years, and may be extended if necessary. The successful students will form the fourth group sent to England by the Board.

Schools for Blind, Deaf and Dumb: A recent survey made by the Ministry of Education shows that there are now forty schools in China operating for deaf, dumb and blind students, the majority being maintained by private organizations. The first school of this nature in China was founded in 1884.

Chiaotung Celebrates Fortieth Anniversary: An elaborate programme of festivities marked the fortieth anniversary of Chiaotung University which took place on April 8. Since the founding of Nanyang College, which later became Nanyang University and then expanded under the name of Chiaotung University, the institution has become one of the most renowned and the best equipped of the technical institutions operating under the Central Government. The University has branches at Tangshan and Peiping and three colleges in Shanghai, offering courses in science, administration and civil, electrical and mechanical engineering. The University at Shanghai boasts of a library, gymnasium, laboratories, foundry, forge and wood shop, engineering hall, administration building and a recently completed paint and varnish laboratory, and from all appearance it will continue to expand and progress under the worthy presidency of Dr. J. Usang Ly.

PUBLICATIONS RECEIVED

BOOKS

- | | |
|---------------------------------------|--------------------------------------|
| House of Earth, by Pearl S. Buck: | Handbook of Cultural Institutions in |
| Methuen & Co., Ltd., London. | China, by W. Y. Chyne: Chinese |
| China's New Currency System, by T'ang | National Committee on Intellectual |
| Leang-li: China United Press, | Co-operation, Shanghai. |
| Shanghai. | |

PERIODICALS

- | | |
|--------------------------------------|--|
| Man—Metropolitan Vickers Gazette— | New Zealand Journal of Science and |
| Game and Gun—Far Eastern Review— | Technology—People's Tribune—Recueil de |
| Tea and Coffee Trade Journal—Science | Statistique de l'Institut International du |
| —Week-end—Town and Sportsman— | Commerce—Chinese Economic Journal— |
| Salmon and Trout—Marriage Hygiene— | Chinese Economic Bulletin—Shipping |
| Finance and Commerce—New Zealand | Review—Geographical Review—Natural |
| Fishing and Shooting Gazette — | History. |
| Travel Bulletin—T'ien Hsia Monthly— | |

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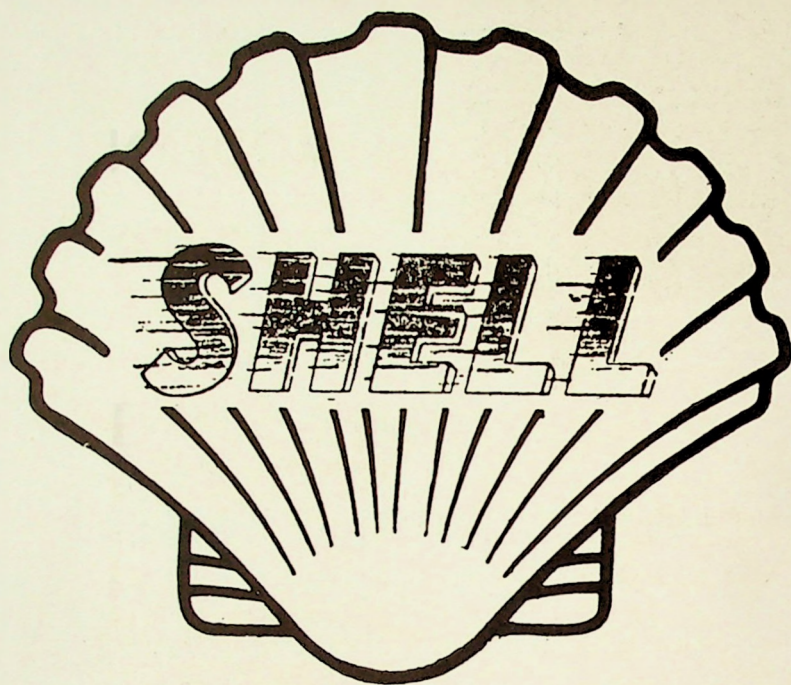
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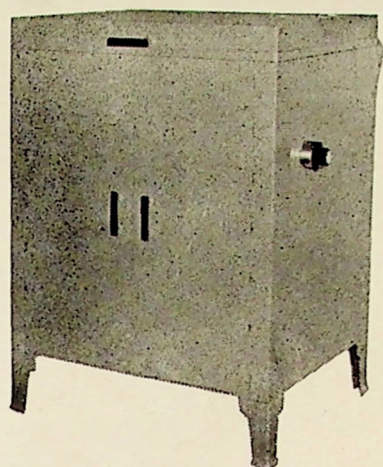
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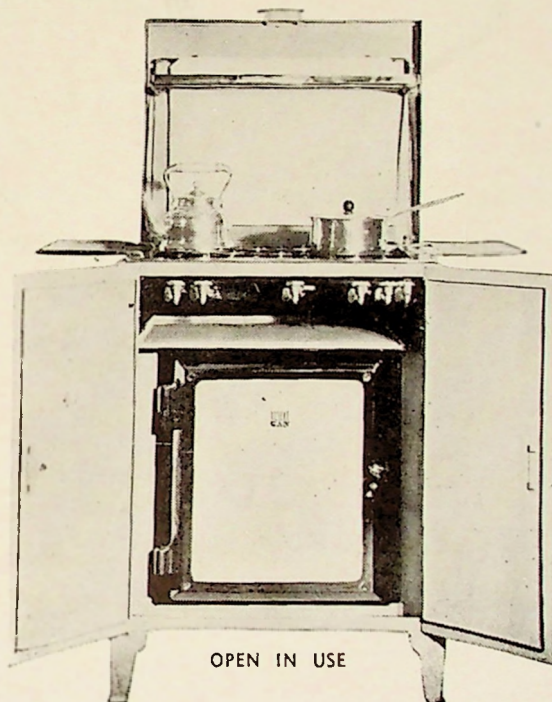




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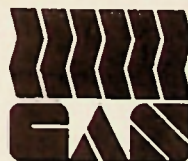
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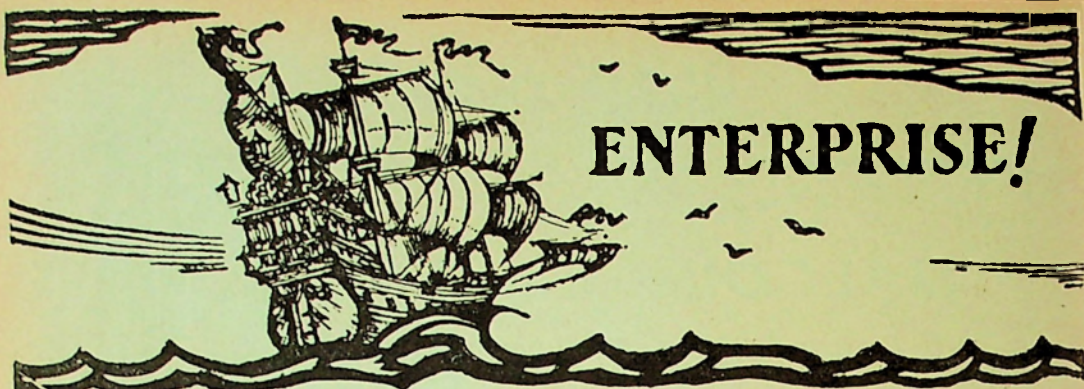
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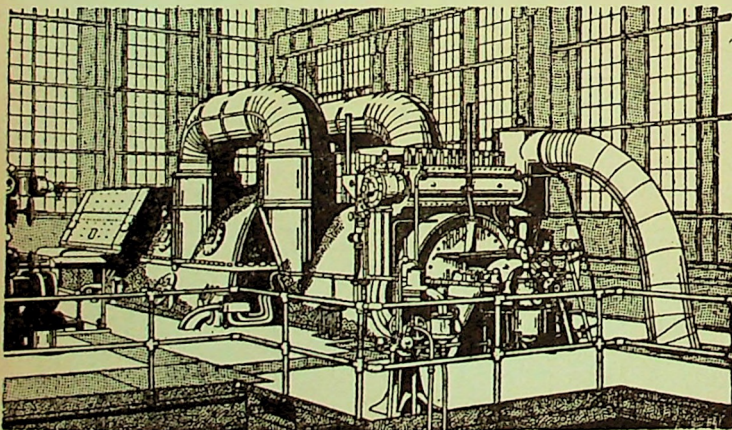
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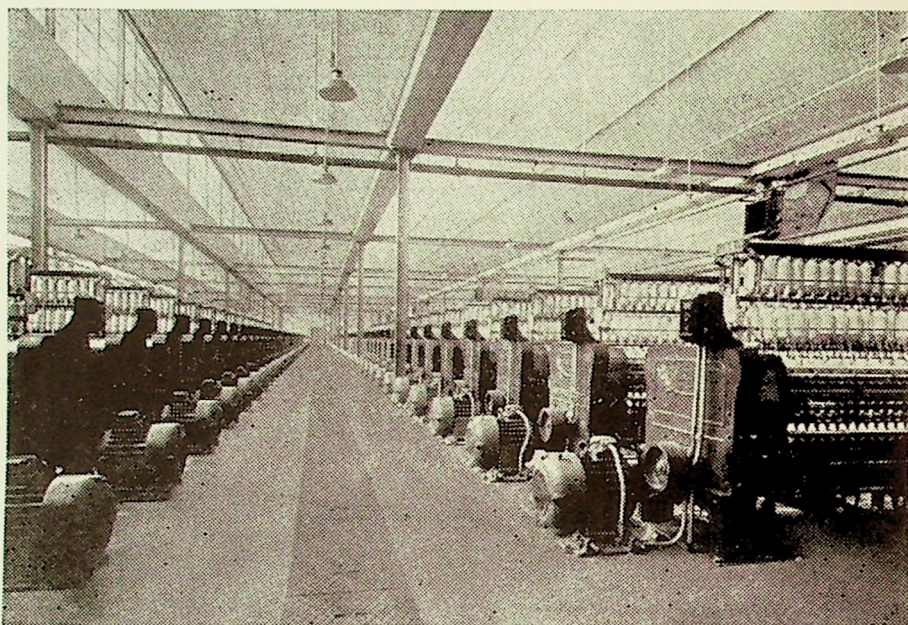
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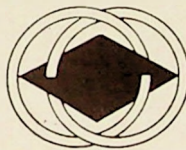
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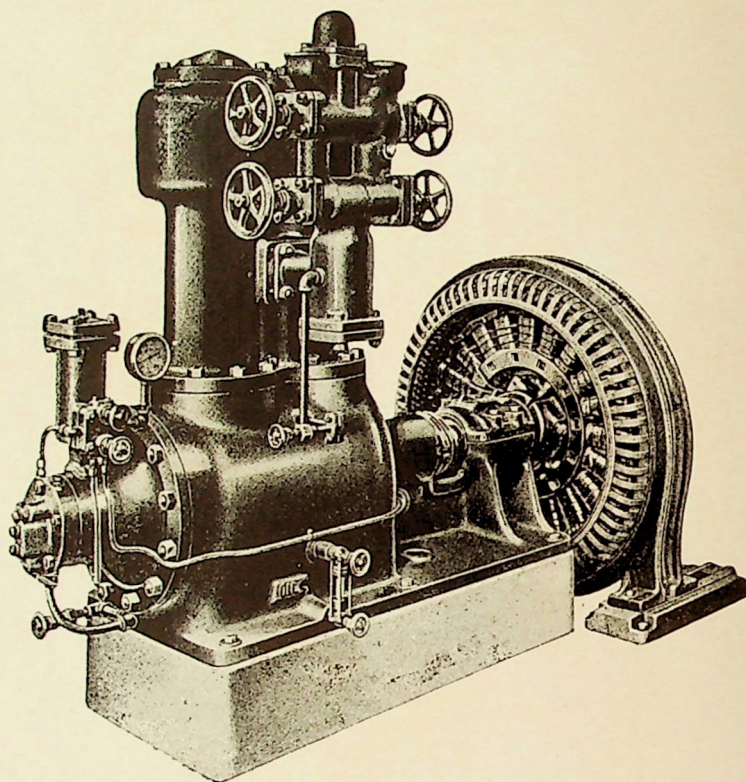
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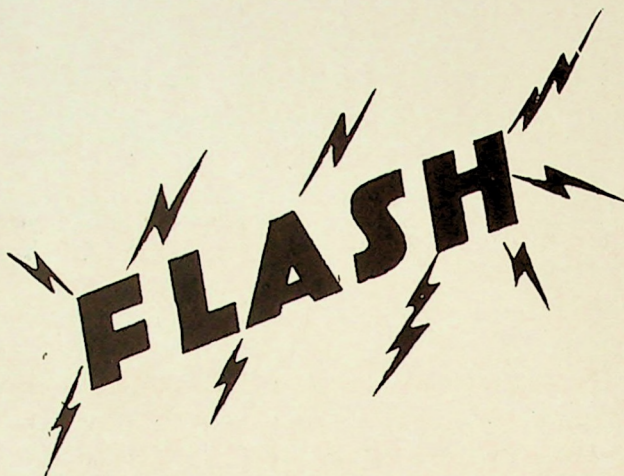
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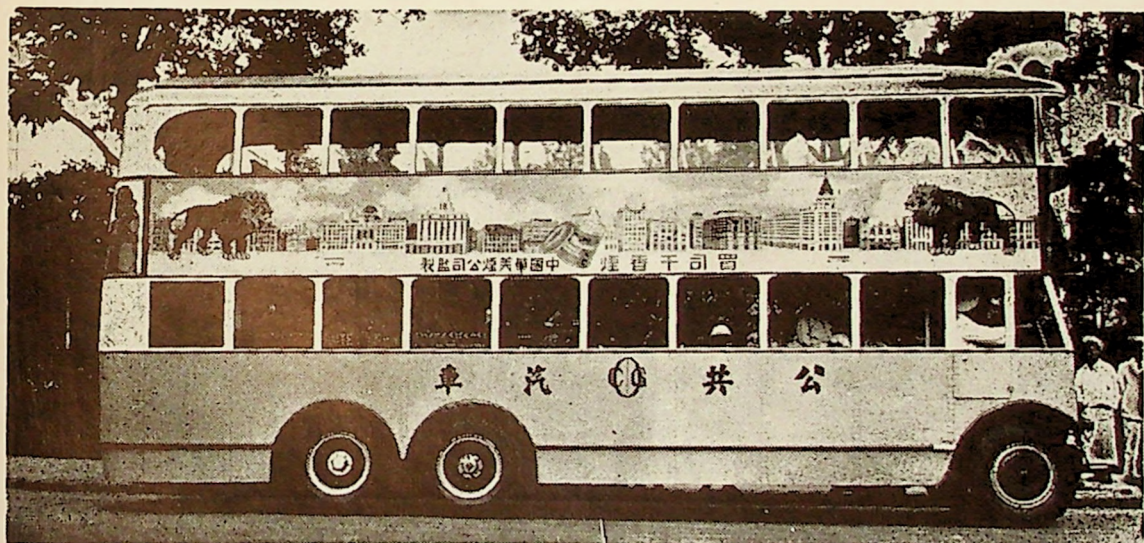


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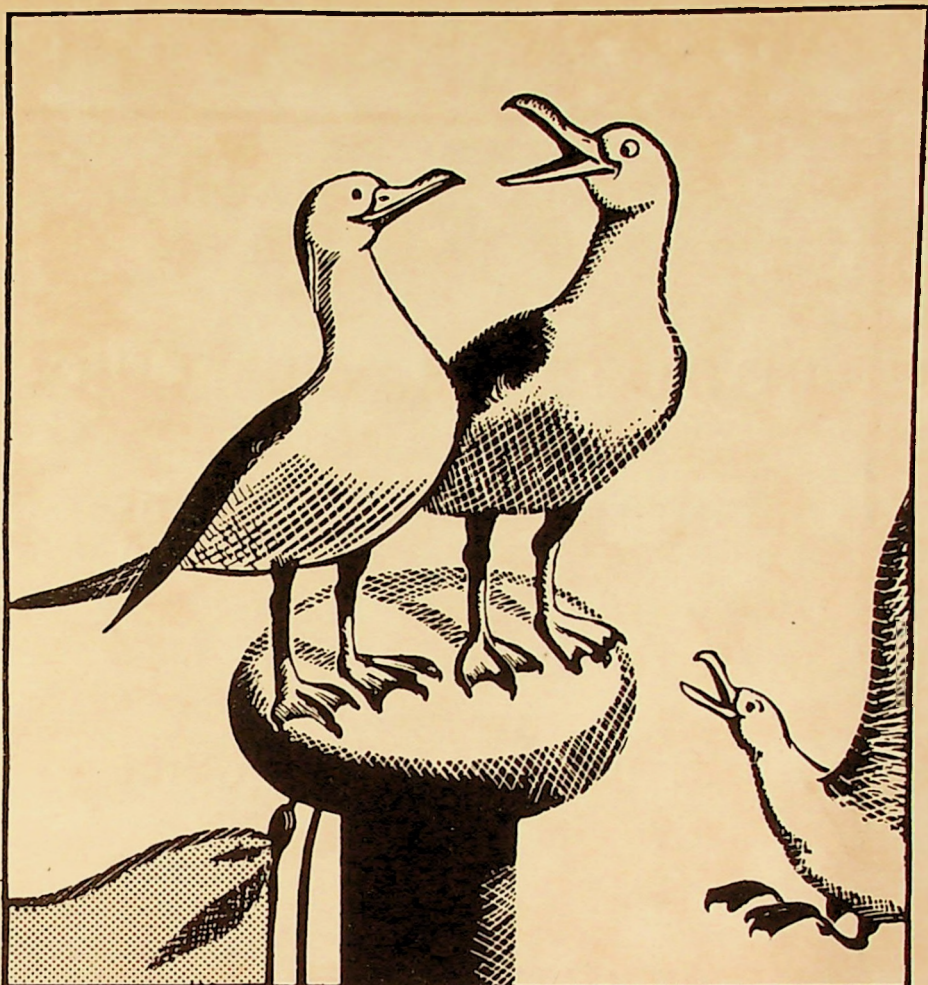
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