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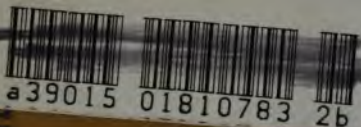
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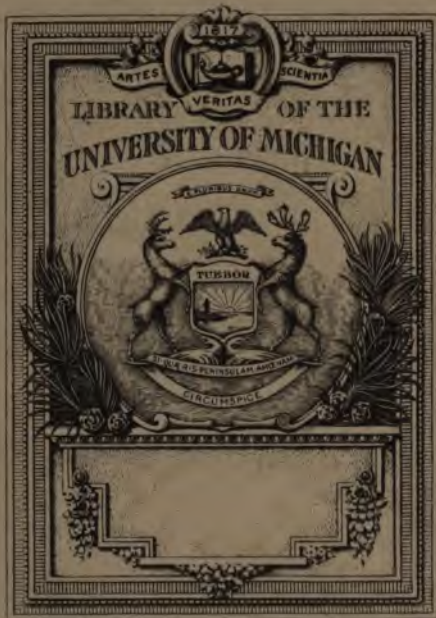


All
American Engineer
in China



By
Win Barclay Parsons

31



1897

R. J. GROSS,
SECOND VICE PRESIDENT,
AMERICAN LOCOMOTIVE CO
DUNKIRK, N. Y.
U. S. A

**An American Engineer
in China**

**An American Engineer
in China**



The American Engineers in the Field

An
American Engineer
in China

By
Wm. Barclay Parsons

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NEW YORK
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Preface

THE following pages are designed to present a view of China and the Chinese from the stand-point of industrial development as it exists at present and along the lines it is likely to follow in the future. Such phases of the Chinese question as the missionary problems, and the causes and treatment of the recent political disturbance, are left entirely to be dealt with by others, as, likewise, are all matters of government, internal and foreign politics, and personal or national characteristics, except in so far as they may come within the subject scope. In the years 1898 and 1899 the author was in China, under retainer of an American syndicate to examine, survey, and report on an extensive railway enterprise, and the duties connected with his professional work placed him in an exceptional position to study and observe this interesting country and its people from a quite different point of view from that taken by other writers. The journey made in the course of the survey had a special interest, in that it traversed Hu-nan, that province of China of which the least was known, and presented the opportunity, successfully availed of, to obtain an entrance to, and an

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official recognition in, Chang-sha, the one large city in China which hitherto had been closed to foreigners. The author was accompanied by a corps of engineers, consisting of Mr. R. C. Hunt, Chief of Staff, and Messrs. A. E. Coulter, H. B. Magor, W. K. Brice, and W. S. K. Wetmore—to whom were added Mr. Charles Denby, Jr., as interpreter and manager, and Dr. R. B. Jellison as physician. Shêng Ta-jen, Director-General of Imperial Chinese Railways, kindly attached to the party Mr. W. W. Rich, his consulting engineer, and Woo Yung-fô, and Lo Kwok-shui, two of his secretaries. The two last mentioned gentlemen had been educated in the United States, the latter as an engineer. They both had been recalled in the midst of their collegiate studies, and subsequently Mr. Woo entered the Chinese navy, where he served as flag-lieutenant to Captain Lang, R.N., at that time acting as Chinese Admiral. When Admiral Ting succeeded Captain Lang, Mr. Woo was transferred to the former's staff, and stood at the side of his chief in the conning tower of the flag-ship in the famous battle of the Ya-lu in the Japanese War.

The journey was not without its rough as well as its interesting side, and was one of some considerable personal risk. The party was accompanied by a large force of Chinese soldiers for

protection, Chinese officials to indicate its character, and a body of coolies acting as porters, for all stores had to be carried. Provisions, except eggs, fish, and fresh meat, were purchased before starting in sufficient quantity to maintain the party in the field for some months. The articles mentioned above were obtained without trouble, and usually as presents from the local officials, the meats consisting of buffalo, sheep, goat, deer, wild ducks and chicken.

The author desires to take this opportunity to express his sense of personal obligation to Their Excellencies: Shêng, the Director-General of Railways and Telegraphs, with whom the author was necessarily brought into close contact; Chang Chih-tung, the great central Viceroy, through whose territory the survey was made; and Wu Ting-fang, China's able representative in Washington; to Mr. Conger, the United States Minister at Peking, the latter particularly for such personal aid as his official position permitted; and to Mr. John Goodnow, United States Consul-General at Shanghai.

Part of the matter contained in this volume has previously appeared in *McClure's* and *Engineering Magazines* and *Harper's Weekly*, and is republished through the courtesy of the respective editors,

although now entirely rewritten and enlarged. All the illustrations are from photographs actually taken on the expedition, and for the most part represent Chinese life as it exists in the interior of the Empire.

NEW YORK, November, 1900.

柏生士

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Chapter

I

China

EVER since the days when Marco Polo brought back to Europe the seeming fairy tales of the wonder land of the Far East, the country to which we have applied the name of China has been a field more and more attractive for commercial conquest.

At the close of the nineteenth century, when the ever-rising tide of industrial development has succeeded in sweeping over Europe, America, the better portion of Africa, Western Asia, and India, it is the Chinese Wall alone that resists its waves. The movement, however, is irresistible, and not even the exclusiveness of the Chinese and their extreme disinclination to change their ways will be a sufficient protection against it. The recent so-called "Boxer" outbreak will probably prove to be the death-knell to Chinese resistance. Whatever may be the outcome of this outbreak, in so far as it affects the government or the political integrity of the country, it can be predicted with safety that the commercial and industrial life of China will be revolutionized, and the beginning of the twentieth century will be found to mark the dawning of a new era.

The present moment, when we are about to pass from the old into the new state of things, is a

fitting time to survey the field of industrial enterprise by examining into what has been done, and to ascertain the sort of foundation that has been prepared on which the Chinese people, aided at first by foreigners, will eventually of themselves erect their own industrial structure.

In the consideration of this very interesting land there seems to be a surprise at every turn, and one of the most peculiar is that we are met at the outset by the curious circumstance that it is a country without a name. The Chinese themselves have no fixed designation for their country, using, as a general thing, either the "Middle Kingdom," or the "Celestial Kingdom," or the "Great Pure Kingdom." The interpretation of the first is that the people consider China to be the centre of the world, all the other countries surrounding and being tributary to it; although the term probably originated when, what is now the Province of Ho-nan was the central kingdom of several other kingdoms which together formed a united country. The name "Celestial Kingdom" is a piece of self-flattery, the Chinese Emperor being called in like manner the "Son of Heaven;" while the last name, that of the "Great Pure Kingdom," follows the designation of the present ruling house, which styles itself the "Pure Dynasty," in contra-distinction to the preceding dynasty which it overthrew, and which was called the Ming or "Bright Dynasty." The foreigner's appellation of China

is of uncertain origin, but it is supposed to mean the land of Chin or Tsin, a family that ruled about 250 B.C.; and even this name is used indiscriminately as covering two areas very different in size. When we use the word China it may mean the Chinese Empire proper, the Empire of the eighteen provinces; or it may mean the eighteen provinces and the dependencies of Manchuria, Mongolia, and Tibet, whose bond of attachment to the Empire, in strength, is in the above order. The eighteen provinces comprise in area about 1,500,000 square miles, or an area about equal to that portion of the United States lying east of Colorado. The shape of the Empire proper is substantially rectangular, extending from the latitude of eighteen degrees north, or the latitude of Vera Cruz, to forty-two degrees north, which is about that of New York. When the dependencies are included under the title of China the northern boundary is carried to the forty-eighth parallel, or say the latitude of New Foundland, and the whole has an area of over 4,000,000 square miles, a greater surface than that of Europe, or of the United States and Alaska combined. This great area is reputed to support a population of upwards of 400,000,000; figures, however, which, as I will later point out, are, in my belief, a gross exaggeration; but the balance, even after the most conservative reductions, will still easily be the greatest single con-

tiguous conglomeration of people under one ruler. Racially speaking, they are a conglomeration. Who the Chinese were originally is not known. It is generally believed that they came from Western or Central Asia, and, conquering the scattered nomadic tribes inhabiting what is now China, seized their country.

In the dependencies and China proper we find distinctly different peoples, with diverse customs; while scattered about the Empire proper are settlements of strange tribes, whose origin is absolutely unknown, but who are believed to be relics of the aboriginal inhabitants.

Lack of intercommunication has allowed the language of the Chinese to become locally varied, and to such an extent that, although the written characters are the same, the spoken dialects of the North and South are so different as to be mutually unintelligible. There are said to be in the Empire proper eight dialects, each again being many times subdivided by local colloquialisms. Of these dialects the most important is the so-called Mandarin or Pekingese, the dialect of the North and the official language of the country, the one which all government officials are required to learn and use. It therefore holds the position in respect to other dialects that the French formerly held in Europe as the court tongue, or language of diplomacy and officialism.

Historically, China enjoys the distinction of

being the oldest continuing nation in the world. Fairly authentic records trace back the course of events to about 3,000 B.C., so that China rightly claims an existence of at least 5,000 years. Relating to the time previous to this period there is a vast amount of legendary matter, in which probability and fiction have not yet been separated.

China's own historians, with characteristic conceit, make out their country's history to be contemporaneous with time. Owing to her seclusion and isolation from the affairs of other nations, the history of China possesses a local rather than a world interest, and for the most part is a record of the rise and fall of the several tribes or peoples composing the nation, each such change establishing a new dynasty. However, there are certain epochs of general interest and certain salient points in the nation's development and growth that should be understood and kept in mind if any study of China or of things Chinese is undertaken.

Accepted Chinese chronology begins with the reign of Fuh-hi, in the year 2852 B.C. As to the significance of that date, it is interesting to note that it is 200 years before the rise of the Egyptian monarchy, 500 years before that of Babylon, and precedes the reputed time of Abraham by a period almost as long as the whole record of English history from the conquest to the present time.

In the Chau Dynasty, which lasted from B.C. 1122 to B.C. 249, we find the great period in Chinese literature, an era comparable with that of Elizabeth in our records. In 550 B.C. Confucius was born, whose philosophical reasonings, owing to the long time he antedated the spread of Christianity and Mohammedanism, have affected the thought of more human beings than the writings or sayings of any other man, with the possible exception of Buddha.

Although Confucius is the central figure of the epoch, there are at least two other men substantially contemporaneous with him, who are only a little less prominent: Liao-tze, who preceded him fifty years, and Mencius, who followed him one hundred years. The former was a religious philosopher, on whose writings has been founded the doctrine of Taoism. This philosophy is based on Reason (Tao) and Virtue (Teh), and is of interest in that it leans toward an eternal monotheism. According to his theory the visible forms of the highest Teh can proceed only from Tao, and Tao, he says, is impalpable, indefinite. Taoism, therefore, contemplates the indefinite, the eternal, and a pre-existent something which Liao-tze likens to the "Mother of all things," or what we call a creator.

In Chinese literature there are the nine classics, the five greater and the four lesser books. The former are Yih-King, the Book of Changes; Shu-

King, Book of Records; Shi-King, the Book of Odes; Li-Ki, the Book of Rites; and Chun-Tsiu, a continuation of the Shu-King. Of the above, the second, third and fourth, although long antedating Confucius, were edited by him, while the fifth is from his pen. The four lesser classics are Ta-Hioh, Great learning; Chung-Yung, the Just Medium; the Analects of Confucius; and the writings of Mencius. The last is the great production of Mencius, while the first three are a digest of the moralizings of Confucius as gathered by his disciples.

On these nine books are founded Chinese philosophy, morals, thought, religion, education, ethics, and even etiquette. The spirit of the matter in the classics is essentially lofty, moral, and good.

In China, learning transcends all else in importance, and as Confucius is considered the fountain head of literature and learning, so he has come to be regarded as saints were regarded by Europeans in the Middle Ages, and temples to his honor are found in all large cities. The most important is the beautiful example of Chinese architecture in Peking, where the Emperor annually worships before his tablet. In spite of this apparent adoration, Confucius is not regarded by the Chinese as a god, but is clearly understood by them to have been a man and a philosopher, and is revered as the embodiment of wis-

dom. He was not the founder of a religion, nor was he a religious writer, although his sentiments have become woven in the complicated fabric of Chinese faith. The name by which foreigners



Stairway Leading to Temple of Confucius, Peking

know him is a latinized corruption of Kung-tze, the Master Kung, the last being his family name, as Mencius is a similar corruption of Mang-tze, the Master Mang.

Following the Chau dynasty comes that of Tsin, which was noted for supplying the foreign appellation of the country and for the great works, both good and bad, of its name-giving Emperor.

It was he who united the various peoples of Eastern Asia under one sway, laid the foundation for at least internal commerce by beginning the construction of the Chinese system of canals, started the construction of the Great Wall, and succeeded in raising his country to a point of material greatness not before reached. Then, with a view to make all records begin with him, he ordered burned all books and writings of every description, including those of Confucius and the other philosophers. Fortunately, in spite of an energetic attempt, this sacreligious act was not completely consummated.

From this period to the Tang dynasty in 618 A.D. the history of this country is a succession of different reigning houses, internal wars, rebellions, more or less successful, and during which the capital was frequently moved; part of the time being located at Nan-king on the Yang-tze, which many of the Chinese to-day regard as the proper site. The great single event of this long stretch of years, and practically the only one of foreign interest, was the introduction of Buddhism at the close of the first century A.D.

The Emperor Ming-ti sent an embassy to the West to bring back the teachings of the foreign god, rumors of whose fame had already reached the Pacific shore. It has since been supposed by some that this meant tidings of Christ; but the basis for such an inference is doubtful. At any

rate the embassy found its way to India and returned thence with the doctrines of Buddhism, which at once became the established religion of the country, spreading over the whole of China and eventually Japan. It makes an interesting speculation to consider what the effect on the world would have been if the embassy had taken a more northern route, bringing it to Palestine instead of to India.

The Tang dynasty A.D. 618 to 908 marks perhaps the zenith of Chinese development, when, there is no doubt, its civilization and cultivation outshone those of Europe at the same period. Literature flourished; trade was nurtured, the banking system developed, laws were codified and the limits of the Empire were extended even to Persia and the Caspian Sea. The art of printing was discovered, certainly in block form and probably by movable type. The fame of China reached India and Europe, whence embassies were dispatched bearing salutations and presents. Monks of the Nestorian order were received by the Emperor Tai-tsung, who gave permission for them to erect churches; and thus was Christianity first publicly acknowledged in China. Although the efforts of the Nestorian monks continued for many years, from perhaps as early as 500 A.D. to 845, yet they were without permanent results, as they left no monuments behind them, and the practice of Christianity was suspended for some centuries.

In 1213 A.D. the Chinese for the first time passed under a foreign rule, when Genghis Khan, the great Mongol, crossed the wall and began to lay waste the country. When he had captured Peking and established a Mongol dynasty, he turned his attention to further conquests, and in 1219 led a force westward. With it he overran Northern India, Asia Minor and even entered Europe in Southern Russia. He then withdrew to Peking, having established the largest Empire in the world's history. Under his degenerate successors this vast power dwindled, the only permanent result being found in Europe; where the Turks are the descendants of those whom Genghis drove out of their own Asiatic country.

The last purely Chinese dynasty was the Ming (Bright), which occupied the throne from 1368 to its overthrow by the Manchus in 1644. The capital of this house was originally at Nan-king, but was moved by the great Emperor Yung-loh to Peking in 1403, where he constructed the famous Ming Tombs forty miles northwest of the city, and where he and his successors of Ming lie buried in solitary grandeur. He established also the laws under which China is governed to-day, and under Wan-leih the seeds of Christianity were permanently planted in China in 1582 by the Jesuit missionary Matteo Ricci. About two hundred and fifty years earlier a temporary foothold had been gained by the same order. The first effort had



Carved Stone Animals Lining the Road Leading to the Ming Tombs

lasted, for only seventy-five years, and then, like the Nestorian movement, quietly died without practical results. It was also during this dynasty that the first foreign settlement was made on Chinese soil, in the Portuguese port of Macao in 1557.

In the seventeenth century the northern tribes set up a rebellion. Gaining adherents to their cause they captured Peking in 1644, swept away Chinese rule and established the Manchu dynasty, to which they gave the name of "Ta Tsing" or the "Great Pure." The principal effects of this change were to establish the northern races in control of the government, and to stamp upon the whole people their most striking outward distinguishing mark, in the queue, which was a distinctly Manchu custom, the Chinese having previously cut their hair like Western people. On their establishment the Manchu rulers ordered all people to wear the queue as a token of subjugation. This the Chinese natives still do, although the Tibetans and Mongols continue to cut their hair as of old. Manchus and Chinese can be readily distinguished by their names. Thus one of Manchu descent has but a double name, like Yung Lu, while a Chinese has three characters as, Li Hung-chang.

The government of China is an absolute despotism, with powers vested in an Emperor, whose position is well indicated by his most used title the "Son of Heaven." He is assisted by two councils under whom are the seven boards of Civil

Service, Revenue, Rites, War, Punishment, Works, and Navy, who severally attend to the administration of affairs in their respective departments. Then there is the Tsung-li Yamên, or foreign of-



Four Members of the Tsung-li Yamên and Mr. Conger in the Courtyard of the Yamên

From left to right they are: Hsü Yung-i, Wang Wen-shao, Chao Shu-chiao, Mr. Conger, Yü Keng

fice, a bureau composed of twelve ministers, with and through whom all relations with other nations and foreigners generally are conducted.

The communication between the Imperial authority and the people is through the local gov-

ernments of the provinces. These provinces in their organization closely resemble an American State, varying in size from Che-kiang, the smallest, with an area of 35,000 square miles, to Sz-chuen, the largest, embracing 170,000 square miles. These are respectively comparable with the States of Indiana (36,350 square miles) and California (156,000 square miles). Each province is ruled by a Governor appointed by the throne, who exercises his authority through a chain of officialism. The province is divided into circuits, each circuit being controlled by an intendant of circuit or taotai. In addition to the regular taotais, there are special ones appointed to look after the large treaty ports, like Shanghai. Such taotais have immense powers, and the positions are much sought after. The circuits or "Fu" are usually again subdivided into two or more "Chow," or prefectures, under a prefect, and each prefecture into Hsiens, or districts, under a magistrate. Cities where such officials dwell are usually indicated by the adding "Fu," "Chow" or "Hsien" to their names. The Hsien magistrates are the men who come in direct contact with the people. The Governor in turn reports to an officer properly styled a Governor-General, but whose title foreign nations have translated as Viceroy, each of whom usually controls two provinces. These Viceroys form the real government of the country. Their powers are abso-

lute. It is to them, armed with judgment of life and death, that the people look for justice and protection, and to them, also, the throne itself looks for support. Each Viceroy maintains his own army, of which, in some instances, a portion has been foreign drilled; and he has a right to decide whether he will use this army for national purposes or not.

Of the existing college of viceroys, there are three who have brought themselves, by their acts, abilities, and force of character, to the forefront, and who are known as the three great viceroys. These men are Li Hung-chang, formerly Viceroy of Chi-li, but now of Canton, ruling the provinces of Kwang-tung and Kwang-si, and so usually referred to as the Viceroy of the two Kwang; Chang Chi-tung, the Viceroy of Wu-chang, in like manner called the Viceroy of the two Hu, as his dominion covers the provinces of Hu-peh, and Hu-nan; and Liu Kun-yi, the Viceroy of Nanking, ruling the provinces of Kiang-si and Ngan-whui.

Li Hung-chang, whose reputation is international, needs no introduction. The other two, while, perhaps, not so well known, are in China of scarcely less importance, especially as they have a personal hold on their people that is not equalled by any other official. They are not rich, which is almost the same as saying that they are honest, and, although they are decidedly pro-foreign in

their views, nevertheless they are at the same time imbued with a strong and earnest desire to ameliorate the condition of their charges and therefore are honored and respected by their people. To accomplish this end they do not hesitate to avail themselves of occidental ideas or means if therein they see a possibility of benefit.

When the Empress Dowager in 1898 executed her *coup d'état* and notified the Viceroys of what she had done, Chang Chi-tung and Liu Kun-yi were the only ones who had courage to express their disapproval. In consequence there is little doubt that she would have removed or beheaded them if she had dared to brave the outcry of the people of the four provinces which would certainly have followed. In any reorganization of China these three men will play an important part. The influence of Chang Chi-tung and Liu Kunyi will certainly be of weight, as they enjoy the esteem and confidence of both foreigner and native.

In the appointing of all officials there is one rule that is curiously indicative of Chinese reasoning and methods. No official is allowed to serve in a district in which he was born. The reason for this is that, being a stranger, without local prejudice or interest, he will, it is believed, administer justice quite impartially. Unfortunately, human nature being the same in China as elsewhere, the official, on account of his lack

of local prejudice and interest, administers justice in such a manner as will best serve his own ends and secure his advancement.

Topographically considered, China lies on the eastern flank of the great Central Asian plateau and, therefore, its main drainage lines lie east and west. There are three great valleys: that of the



Yang-tze Kiang, between Han-yang and Wu-chang

More than one mile wide, although seven hundred miles from the mouth

Yellow in the north, Yang-tze in the centre, and the Si or (West) in the south. The Yellow River, or Hoang Ho, or as it is frequently called, on account of its erratic and devastating floods, "China's Sorrow," is a stream very much resembling the Mississippi, carrying a great amount of alluvium, which it deposits at various places, forming bars and shoals. In order to protect the shores from inundations, the Chinese for many

years have been building dykes, with the result of gradually raising the bottom of the river through the deposition of alluvium. There are now many places where the bottom of the stream is actually higher than the normal banks. Under such circumstances the breaking of a dyke means untold destruction, with possible permanent change of bed. The location of its mouth shows the character of this great river. Eighty years ago it flowed into the Yellow Sea, south of the Shang-tung Peninsula. To-day it enters the Gulf of Pe-chi-li two hundred and fifty miles in a direct line northwest of its previous location, or about six hundred miles, when measured around the coast line. The Yang-tze, on the other hand, rightly merits its name of "China's Glory." This noble stream, whose length is about 3,500 miles, of which 1,100 miles are navigable by steam vessels, divides the country, approximately equally north and south. Its drainage area covers more than one-half of the empire, the richest and most valuable portion. This stream, like the Hoang Ho, carries a large amount of alluvial matter, but it is much more orderly and well regulated. Practically at its mouth, the gateway to Central China, although actually on a small tributary called the Whang-Poo, is Shanghai. The West River, or Si Kiang, drains the southern and south-western section of the empire, flowing into the sea at Canton, where, with the Pei (North) and

Tung (East) Rivers, it forms the broad estuary known as the Canton River.

In agricultural possibilities and mineral wealth China is particularly fortunate. On account of its great dimensions north and south it enjoys all varieties of climate, from the tropical to the temperate, and in consequence possesses the ability to raise almost any crop. The great bottom-lands of the Yang-tze, the Hoang and other rivers, which are subject to annual overflow, are thus by nature enriched and automatically fertilized, as are the bottom-lands along the Mississippi and other alluvium-bearing streams. In addition to the ordinary advantages of soil and variety of climate to which such a large expanse is naturally entitled, China enjoys one special favor in the singular deposit known as Loess.

The country lying north from the Yang-tze to the Gulf of Pe-chi-li, part of which has been made by the alluvial deposits of the Yang-tze and Yellow Rivers, is known as the Great Plain. Of this territory there is a considerable section in the provinces of Shen-si, Shan-si and Shan-tung, which is known as the Loess formation. This particular soil is yellow in appearance, resembling alluvial material, but on examination is found to consist of a network of minute capillary tubes. The best theory for its deposit is that it is the fine dust of dried vegetable matter carried down by the winds from the north-west plains and

dropped where found. The fine tubes are accounted for by believing them to be the spaces occupied by the roots of grasses, as the latter have been continually elevating themselves to remain on the constantly rising surface. The loess soil is of great and unknown thickness, of extraordinary fertility, and with great capacity for withstanding droughts, as the tubes, by their capillary action, serve to bring up moisture from the ground water below. This part of the Great Plain has been growing crops for many centuries without fertilizing, and supports the densest part of the Chinese population.

In minerals, China is particularly rich. Of the precious metals, gold and silver are known to exist and probably in paying quantities, while of the less valuable metals, copper, lead, antimony, and others have been found, and but await the introduction of proper transportation methods to be developed. Petroleum occurs in Sz-chuen, the extreme western province lying next to Tibet. But China's greatest mineral wealth lies in iron and coal. The great fields of the latter are in Chi-li, Shen-si, Shan-si, Sz-chuen, Kiang-si and Hu-nan, where all varieties from soft bituminous to very hard anthracites are found. Of the former there are coals both coking and non-coking, fit for steel making or steam uses, while of the latter there are those adapted for domestic use, with enough volatile matter to ignite

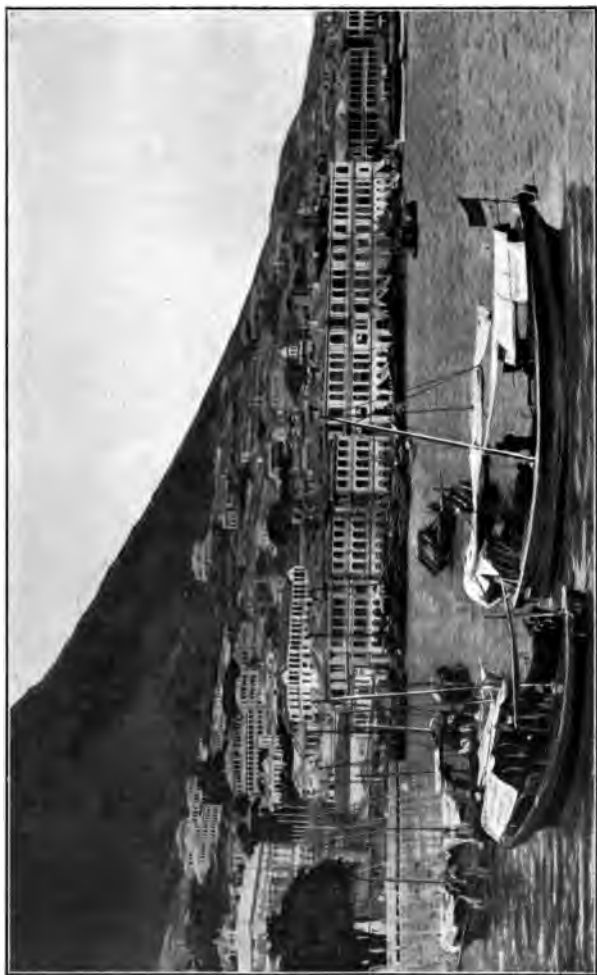
easily, and others sufficiently hard to bear the burden in a blast furnace and yet so low in phosphorus, sulphur, and volatile substances as to render them available for the manufacture of Bessemer pig, as is done in Pennsylvania. Chinese houses are usually without chimneys, and therefore the native is compelled to use for domestic purposes an anthracite, or, as he calls it, a non-smoking coal, which he burns in an open fireplace, the products of combustion escaping through the doors, unglazed windows, or the many leaks which are usually found in Chinese roofs.

In opposing the introduction of occidental reforms, methods, and commercial relations, China has invited, if not actually obliged, the forming of bases by other nations from which to push their trade. Chinese soil is now held, through some excuse and under various conditions, by Portugal, Great Britain, France, Germany, Russia, and Japan. In addition to this Italy has made an unsuccessful attempt to secure a foothold at San Mun Bay.

The Portuguese possession is Macao, situated on the western side of the mouth of the Canton River, a charming settlement covering the city and a few square miles of territory separated from the main land by a narrow neck. It is a delightful little piece of southern European refinement in an oriental setting, and perhaps the only

point on the coast to which the word charming can be rightly applied. It was the first foreign settlement in China, being ceded to Portugal in 1557, in return for services in putting down pirates. On account of the shallowness of the harbor, the importance of Macao as a trading point or military base is very small.

The British possessions are Hongkong, Kowloon, and Wei-hai-wei. As a result of the Opium War of 1841, the island of Hongkong, whose greatest dimension is but nine miles, and wholly mountainous, was given over by China as a part of the indemnity. It is located at the eastern side of the Canton estuary, directly opposite Macao, but distant therefrom about forty miles. In 1860 there was added, in order to complete the harbor, the shore of the main land, called Kowloon, across the roadstead whose width is rather more than a mile. On this island the English have established a colony, built the city of Victoria, and, through the magnificent land-locked harbor, have developed a trading point whose commerce ranks with that of the world's greatest ports. There are no customs dues nor restricting conditions, but all nations and nationalities have an equal footing, so that Hongkong has become the great *entrepôt* or warehouse for nearly the whole of Eastern Asia, and absolutely so for Southern China, whose gateway it controls. A year's record shows that over 11,000 vessels enter and clear, not including up-



A Part of the City of Victoria, on the Island of Hongkong, at the Base of the Peak

wards of 70,000 junks. Thus have the English converted an apparently useless island into a most valuable possession for themselves and a great stepping-stone for the world's commerce.

The next country to establish a foothold on Chinese soil was France, who acquired from Annam, by war and treaty, between the years 1860 and 1874, part of the province of Tong-king. In 1882 further trouble arising between France and Annam, the latter appealed to her protector, China, and war ensued. The result was the permanent occupation of the whole of Tong-king and the placing of the French frontier next to that of China.

At the conclusion of the Japanese war, the island of Formosa was permanently ceded by China, and an arrangement made for the temporary occupation of Port Arthur. Then Russia interfered, insisted on the withdrawal of the Japanese troops from the North, and, as her price for aiding China, secured for twenty-five years a lease of the Liao-tung Peninsula, covering eight hundred square miles, with the harbors of Port Arthur and Talién-wan, and so, practically, obtained the control of Chinese Manchuria.

In 1897 the German Emperor demanded, as compensation for two German missionaries who were killed, a share of Chinese territory, which was granted through a "lease" of Kiao-chow Bay for ninety-nine years.

These so-called "leases" are in fact nothing

more than mere subterfuges to save "face" for the Chinese in yielding up their territory, as the following abbreviated quotations from the German document will show :

"I. His Majesty the Emperor of China, being desirous of preserving the existing good relations with His Majesty the Emperor of Germany and of promoting an increase of German power and influence in the Far East, sanctions the acquirement under lease by Germany of the land extending for one hundred li at high tide.

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"Germany may engage in works for the public benefit, such as water-works, within the territory covered by the lease, without reference to China. Should China wish to march troops or establish garrisons therein she can only do so after negotiating with and obtaining the express permission of Germany.

"II. His Majesty the Emperor of Germany being desirous, like the rulers of certain other countries, of establishing a naval and coaling station and constructing dockyards on the coast of China, the Emperor of China agrees to lease to him for the purpose all the land on the southern and northern sides of Kiao-chow Bay for a term of ninety-nine years. Germany is to be at liberty to erect forts on this land for the defence of her possessions therein.

"III. During the continuance of the lease China

shall have no voice in the government or administration of the leased territory. It will be governed and administered during the whole term of ninety-nine years solely by Germany, so that the possibility of friction between the two powers may be reduced to the smallest magnitude.

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“ If at any time the Chinese should form schemes for the development of Shan-tung, for the execution of which it is necessary to obtain foreign capital, the Chinese Government, or whatever Chinese may be interested in such schemes, shall, in the first instance, apply to German capitalists. Application shall also be made to German manufacturers for the necessary machinery and materials before the manufacturers of any other power are approached. Should German capitalists or manufacturers decline to take up the business, the Chinese shall then be at liberty to obtain money and materials from other nations.”

While the area actually covered by the lease is small, the shore-line being but 100 li (33 miles), nevertheless the Germans, availing themselves of the special commercial concession, as above quoted, have thrown a sphere claim over the whole province of Shan-tung, an area as large as New England.

The strongholds of Kiao-chow and Port Arthur —for the Germans and Russians immediately set

about fortifying them—so threatened the balance of power in the North, that the British Government in 1898, demanding something to offset them, secured the harbor of Wei-hai-wei, directly opposite Port Arthur and with it marking the entrance to the Gulf of Pe-chi-li. This territory is to be held as long as the Russians hold Port Arthur. At the same time Great Britain extended the limits of her Kow-loon possession by two hundred square miles, so as to absolutely protect the harbor of Hongkong, and secured from the Chinese Government a promise that no territory in the Yang-tze Valley should be alienated to any other power, thus obtaining a so-called sphere of influence over the richest half of the Empire. France, not wishing to see her commercial rivals outdo her, demanded, as her share of the plunder, the harbor and port of Kiang-chow-wau near her province of Tong-king, and secured a lease of the same for ninety-nine years. Thus has the Chinese Government given away its patrimony.

In addition to the above possessions of territory actually held under the domination of their respective governments, there are at the various treaty ports the so-called foreign concessions, which have been given by the Chinese Government to the temporary care of the people of other nationalities, permitting them to establish police force, courts of justice, fire protective service, to collect taxes for local use, and otherwise to main-

tain local governments according to foreign regulations and practically without interference by the Chinese Government. Such concessions remain, however, in name at least, Chinese territory. The largest and most important of them is Shanghai, where grants were made some years ago to the English, American, and French. The first two concessions have been combined into the Shanghai Municipality, under a system of popular government with annual elections, where the rate-payers are voters and which in all its functions closely resembles an independent republic. The theory that all nations are on an equal footing within the limits of the Municipality is carried out to such an extreme, that not only does the Chinese Government maintain a post-office, but also do all other countries under whose flags lines of mail steamers are operated to and from the port. There are thus to be found, in addition to the Chinese post-office, regular establishments of the United States, Great Britain, Germany and Japan, while France has hers in the French concession, at all of which the stamps of the several countries are for sale.

Such, in a few words, is the political and physical status of that nation and that country on which the attention of the civilized world is focused, and whose development and regeneration will probably be the leading feature of the early years of the new century.

Chapter II American Concession

IN the making of Chinese foreign commerce and the opening of the country to trade and industrial enterprise, the position taken by European governments has been to foster and support the efforts of their subjects. The policy of the United States in this regard has been distinctly negative, and whatever has been accomplished by our citizens is the result of individual energy without national support. There have even been lacking co-operative efforts on the part of our people, so that practically all of the corporation interests, such as banks, transportation lines, railway and mining privileges, and the administration of those departments of the Chinese Government whose functions are largely external, such as the maritime customs, are in the hands of Europeans, principally English. The reason for this is partly due to the traditional policy of the American Government not to interfere in foreign affairs, but principally to the fact that the attention and capital of the American people have been occupied in the development of their own country. A change from such conditions and a turning of American energies into new channels were developments that were inevitable. In the investigation of the transition of the American position the

future historian will point to the mass of statistical information now being made, which will show that the status of our country changed from being open to invasion by foreign capital to being capable of invading other lands with its own capital, about the year 1895. The latent force was given life by the Spanish War in directing the attention by our people to foreign affairs, and the subsequent and consequent acquisition of foreign territory. A singular confirmation of the movement toward a broadening out on the part of American capital for foreign invasion, was the securing of the concession of the railway from Hankow to Canton, consummated by the signing of the grant in Washington in April, 1898, by H. E. Wu Ting-fang, the Chinese Minister, and by a singular coincidence just one week before the declaration of war, which was to establish the United States as a colonizing power.

The concession covers about nine hundred miles of railway, together with mining and other privileges, which make it in value and in national importance second to no other concession granted by the Chinese Government. The projected route of the railway itself is from Hankow, the metropolis of the interior, or, as it is sometimes called, the "Chicago of China," to Canton, the great port in the South, and thence with rights to go to any selected point on the coast if desired. It lies through part of the province of Hu-peh, for four

hundred miles through the whole length of the province of Hu-nan, and across the province of Kwang-tung.

In order to investigate the local conditions and to ascertain the official, physical, and commercial aspects of the concession, and to make a detailed survey of the route of the railway, the concessionaire syndicate retained me as a Chief Engineer to go to the East with a complete staff. The work of making this survey, the longest continuous instrumental measurement up to that time completed in China, and the other duties of investigation connected therewith, necessarily brought me in personal contact with Chinese officials of the highest rank, such as members of the Tsung-li-Yamên; Shêng Tajen, the distinguished Director-General of Railways and Telegraphs; Viceroys; Governors of Provinces; minor officials of all degrees; and the foreign merchants of different nationalities who control the trade at the treaty ports. I was obliged to visit not only the various points from Peking to Canton that are accessible to ordinary travellers, but typical portions of the interior, which can be reached only with difficulty, and others which it had not been previously possible to reach at all, so that for five hundred miles I was the first foreigner ever seen. I was enabled, by living among the people under all sorts of conditions in official yamên, in temples, in village inns, or in ordinary private houses, to inspect



The Last of Hu-nan
See page 102

and study at close range Chinese who were absolutely and entirely unaffected by foreign or outside influences. My experience with the people extended therefore from the poorest peasant through all grades of society up to those actually next to the throne, and my observations of the country from the national and commercial capitals down to the individual farmhouse, or the little country hamlet, where a foreigner was as great an object of wonderful astonishment as a man from Mars would be with us.

Of the eighteen provinces which constitute the Chinese Empire proper, the only one, until recently, which had not been explored or mapped by foreigners, previous to the occasion described herein, was the province of Hu-nan, extending from the Yang-tze Kiang to the Nan-ling Range,—that is, between the 30th and 25th parallels of latitude, and between the 109th and 114th meridians of east longitude.

From the earliest times, since the subject of the development of the interior of China has been considered, the province of Hu-nan has been regarded as one of the great objectives of the railway and mining promoter, on account of its well-known wealth in coal and other minerals, the fertility of its soil, and the superior ability of its people. The people themselves, however, have been the most clannish and conservative in the Empire, and have succeeded in keeping their

province practically free from invasion by foreigners or even by foreign ideas. All writers on China refer to this attitude of the people of Hu-nan. As Lord Charles Beresford says of it in his recent work: "At present the province of Hu-nan, though very rich, and the people very well-to-do, is the most anti-foreign in China. Foreigners who penetrate into Hu-nan, even by help of the mandarins with a military escort, do so at the risk of their lives." Strangely enough, however, this hostility is directed not only against foreigners, but against other Chinese with almost equal force. In the way of exclusiveness, the Hu-nanese mark therefore the extreme of the Chinese character in that regard. They are, however, hard working, and possess one of the richest provinces in the empire as to mineral resources and fertility of soil. In fact, it is doubtful if any other province, except possibly Sz-chuen, exceeds Hu-nan in the variety, extent, and value of its mineral wealth, while Hu-nan has the great advantage over Sz-chuen in having a double outlet north and south for its products and being five hundred miles nearer the sea-coast market.

In 1871 Baron Richtofen, the great German geologist, to whose investigations we owe the greater part of our knowledge of the geological structure of China, made a trip from south to north across Hu-nan to report on the coal areas of the province to the Shanghai Chamber of Com-

merce; but his voyage was confined wholly to boat travel, and therefore the information that he obtained was very limited. Some three years previous to this, Pumpelly, the American geologist, had made an attempt to explore Hu-nan by proceeding by boat up the Siang River from the Yang-tze, but was not allowed to land, and finally was compelled by the people to turn back after having reached, but not entered, Chang-sha, the capital of the province. In 1878 Mr. G. J. Morrison, an English engineer, travelled from north to south across Hu-nan, having attempted to make the journey on foot, but was compelled by the people to take to boat, as Baron Richtofen had also done.

Missionaries have made a number of attempts to travel through Hu-nan, but in every case without success, except in the single instance of maintaining one Roman Catholic Mission Station in Southern Hu-nan, so that the only accurate knowledge of this most interesting section was that obtained from the three travellers above mentioned, but whose observations were made wholly from boats. No land journey by foreigners had been made through the province, except in the northwestern part, where the people are less anti-foreign. In the other provinces little or no difficulty was to be anticipated. In Hu-peh foreigners were well known and could travel at will, and the same was true, although possibly to a less degree, in Kwang-tung. Hu-nan was peculiar.

The province of Hu-nan has an area of about 75,000 square miles, or half as much again as the State of New York. Its population is estimated by the Chinese at 22,000,000. It is well watered, for the Siang River, a fine stream, although too shallow during the winter months for anything but light-draught junks, flows northerly through it into the Yang-tze. The upper part of the province is open and gently undulating, growing the finest quality of tea. As, however, the southern portion is approached, the hills change into mountains, the scenery becomes grander, the population less dense, and the agricultural resources much diminished. But these lower regions are much more valuable from the point of view of future development as the lower half of the province, for a length of two hundred miles along our route, and for a width of at least sixty miles, is underlain with certainly three, and probably more, veins of coal, which, curiously enough, is both bituminous and anthracite. It took but small flights of fancy to see future trains bearing their dark burden northward to furnish power for the furnaces and mills that will be built in central China to convert her ores into metals or work her raw produce of cotton and wool and hemp into articles of commerce; or other trains south-bound carrying a like burden to Canton and Hongkong to make steam for the vessels of all nations, bringing goods from other lands to China, and taking back her teas and silks.

Some three years ago the Emperor appointed, as Governor of Hu-nan, Chên Pao-cheng, a man of modern thought, who at once set about to break down the barriers which had hitherto shut in the province from the rest of the empire and the world at large. He introduced electric lighting into Chang-sha, the capital, established schools where scientific subjects were taught, urged on the general government the advisability and desirability of railroad construction, and in many ways opened the door for the entrance of Western civilization. The Empress Dowager, immediately on accession to power, removed Chên, and appointed in his stead as governor, Yu Lien-san, a "conservative," an official of high character and attainments from a Chinese point of view, but who did not believe in departing from customs supported by four thousand years of precedents. He closed the schools and set about to undo the work begun by his predecessor. In a recent memorial to the throne, he apologized for his tardiness in entirely uprooting the false doctrines, but hoped in the end to bring the people back to the exclusive study of the classics. In accordance with his views of what was right, he used his influence to thwart our going, even to the extent of sending word forbidding the foreigners to enter his province. It is not surprising that in the recent "Boxer" outbreak the sympathies and influence of Yu were enlisted on the anti-foreign side.

The extreme position hitherto taken by the Hu-nanese and their consequent isolation render them unsurpassed among the Chinese as interesting objects for study, and have gained for their section the name of the "Closed Province of China."

Chapter

III

Hu-nan, the Closed Province of China

THE general condition of affairs as to the hostility of the Hu-nanese and the difficulty of travelling through Hu-nan was known before our leaving New York, but on arriving in Shanghai it was found that the political disturbance following the *coup d'état* executed by the Empress Dowager and the beheading of certain members of the Reform or Emperor's Party, had rendered the whole Chinese official class very cautious about taking a decided stand upon any important question, especially upon one looking to the invasion of the country by foreigners, even if they came with peaceful intents. A stop was made in Shanghai only long enough to purchase provisions and equipment, when the engineering staff left there for Hankow to begin the survey to Canton.

As our course from Hankow lay to the Nan-ling Mountains, which form the divide of the water-shed of the Yang-tze Valley from that of the China Sea, along the Yang-tze and its tributary the Siang for a distance of nearly five hundred miles, it was decided to establish headquarters afloat, and thus avoid the difficulties and dangers of sleeping on shore, except when the latter was absolutely necessary. One morning

shortly after reaching Hankow, and while the preparation for our start was being made, I set out in a sampan to find among the junks in the River Han, a satisfactory one for our purpose. A junk is a picturesque but not a pretty object,



Junks on the River Han, with Hankow in the Distance

but, in that flotilla which forms a solid surface along the banks of the Han for at least two miles, there was a stern that caught my eye. The ordinary junk stern is something that rivals any stern that a naval architect of the sixteenth century ever conceived, but this special one had something which singled it out from all its fel-

lows. Possibly it was its height, for perched on it one could imagine himself a gay freebooter ploughing the Spanish Main, until the sight of a steel tape would rudely bring him back to the realization that he was nothing but an American engineer making a survey for hire ; or perhaps it was an undefined and undistinguishable grace in the upward curve of the heavy timber on the side ! Whatever it was, there was an instant resolve made that the junk of which that stern formed a part must be had. On hailing, the Lao-dah (which is Chinese for captain) shoved his pig-tail out of the door and invited us all on board. With trepidation lest his demands would be unwarrantably exorbitant, we gradually, and with much circumlocution, according to Chinese etiquette, communicated our wishes to charter the boat for a journey of two hundred and fifty or possibly three hundred miles, in short stages, so that the time might occupy a month, or even two. As a preliminary to what was evidently about to become an important financial negotiation, and in compliance with Chinese custom, the Lao-dah, in order to show his respect for us, offered tea. We, with a still higher respect for ourselves, with great ceremony and greater resolution, declined the same. It is wonderful what vile stuff is drunk in that country, where the finest tea that the world knows comes from ; but the natives consume only what they cannot sell or give

away. After a long session with Mrs. Lao-dah—for in every Chinese junk the woman seems to command—the Lao-dah returned, chin-chinned, and said that he would take us for forty taels. Now forty taels means about twenty-eight dollars, gold, and that was to include the boat, the crew of eight men, with their rice and all expenses, for possibly two months. Naturally our faces betrayed our astonishment, which the Lao-dah entirely misunderstood, and apparently fearing that he had lost the trade, begged us to make an offer. We finally agreed on thirty-six taels, or twenty-five dollars. Subsequently we discovered that our childlike and bland young friend, knowing that we would have a permit to pass all the “Lik-in” stations—that is, the places where heavy internal customs taxes are levied—had made this low price in order to secure the charter, and had then laid in a little stock of dutiable articles to trade in on his own account; in short, he made us his partners in a smuggling enterprise! After that I had, and will always entertain, the highest respect for the ability of a Chinese to turn an honest penny.

Early in December we started, but not without much anxiety and misgivings on the part of the chief. The Chinese officials had either tried to dissuade me from going, or if, like the Viceroy and the Director-General, courageous enough to have me start, nevertheless impressed upon me

the necessity for extreme caution when traversing Hu-nan. The foreign residents were practically unanimous that the trip could not be made, or, if made, that a land survey would be impossible, and that we would be compelled to remain practically prisoners in our junk, although under the orders of Viceroy Chang Chih-tung we were to be always accompanied by a guard of Chinese soldiers.

The Yang-tze, even at this distance of over seven hundred miles from the mouth, is still a noble stream, with a width of a mile, and a minimum depth, at lowest stage of water in winter, of six feet, with its continual procession of large junks carrying down coal from Hu-nan, opium and silk from Sz-chuen, wool from the mountains of Tibet, and passing other large junks carrying up in return, yarn from India, cottons from Lancashire, and oil from America. Its banks, when not high enough to be above flood-level, are built up with dykes, behind which are farms of rice, oil-beans, cotton, tobacco and, on approaching Hu-nan, tea.

For about one-half of the time we were obliged to sleep on shore, where camping in tents was impossible on account of the great curiosity of the people. In their eagerness to see a "foreign devil," to examine his short hair, to feel his queer cloth clothes, to inspect his extraordinary big leather boots—which last everywhere seemed, of all our belongings, to attract the most attention—



A Group of Natives who Have Never Before Seen a Foreigner

they would certainly have torn down any temporary shelter; and at such moments our guard, in spite of its pretentious proportions of three hundred soldiers, would have been of little use. In fact, the only benefit—which, however, was no small one—that we derived from our guard, was its notification to the people that we were travelling officially and under the protection of the government. At stopping-places we were immediately surrounded by curious natives, on whose faces every human sentiment, from wonderment to fear, or even hatred, was depicted. Our preferred sleeping-places were examination halls, in which are held the annual examinations of students in the classics for literary degrees, the stepping-stone for political preferment, the ambition of every Chinese, for in China public office means wealth and power; temples, either public of the Buddhist faith, or private ones for ancestral worship—the latter much to be preferred as being cleaner and better tended; tea-hongs or large store-houses, or, as a last resort, inns.

In the north, where there are horses and where the roads concentrate toward Peking, there are enough rich officials travelling to warrant the maintenance of fairly decent accommodations. The northern inns are set usually in a compound in which the travellers' horses are stabled, while the inn itself with two stories provides furnished



Another Group of Natives
The men on the extreme right and left are soldiers

rooms where the weary wanderer can secure some rest. Rarely do these inns supply food, which the traveller is supposed to carry with him, but they are equipped with a large brick oven called a kang, where the lodgers do their cooking in common, and on top of which they frequently sleep in winter. In the south of China the inns are quite different. There are no horses, and there are rarely any grandee travellers. When the latter do come they are quartered in the yamèn of the local officials, or in temples previously engaged and prepared. The southern inn is not set in a compound, but opens directly on the village street or country road. There is usually a large hall containing the kang, rarely arranged to be slept on, and on both sides of the hall are the sleeping-rooms, which are more like prison-cells. Sometimes there is a window, which if it is "glazed" is done so with thin tissue paper. On arrival at such a place the foreigner in self-protection has to barricade his door, which may keep him from personal contact with the crowd, but does not protect him from observation. It is not many minutes before his paper window is fairly riddled with small holes, behind each one of which he knows there is an almond-shaped eye, while a glance overhead will show little bright beads of light reflecting the flicker of the Chinese candle between the ceiling boards, the eyes of boys and men lying on the floor of the attic and taking in

everything from their point of vantage. A grunting noise under foot will explain the stench, that has been so very oppressively evident, as arising from the pigsty right beneath the very floor. Then a later arrival will pile on the kang in the common hall a lot of straw to rekindle the fire, whose tear-producing effect is a welcome boon as drowning



Coolies Waiting to be Employed as Carriers

for a moment the odors of the pigsty and other things worse, which cannot be defined. But even under such circumstances sleep will come, and at last the smoke, the pigsty, the peeping Toms, and the babel in the hall are blotted out.

My first experience with the morning that follows I shall never forget. The main door was barred and guarded by soldiers, and without,

packed solid in the little narrow street, was a mass of struggling humanity all armed with poles and all shouting. "Was there a riot in



Coolie Carrying My Bedding

progress?" I asked. "Oh, no, these are the coolies, three hundred in number, who will carry our things to-day." A hurried breakfast eaten, our belongings packed up, and then the doors are swung back. In they rush! There are more coolies than are needed, so they realize that first come, first employed, for there is no order, no system. The strongest push aside the weakest, and seize the lightest and most desirable packages. Our cook-stove, specially constructed for the expedition, is seized while still warm and swung from two bamboo poles, and off it goes

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hanging on the shoulders of four men. Surely everything will be broken, or if not broken, lost, and I am in despair all day. That night, on reaching our destination, I find my Chinese boy, as serene and unconcerned as ever, getting ready my pot of tea. At last I pluck up courage to ask him if certain things in which I am particularly interested have arrived safely. "Have got, massa." Then the greater question, "All things, Yang?" "Yes, all tings, massa." I never understood it, and finally became accustomed to it;



A Yamên Runner

but the only explanation of the phenomenon that I could give was that the Chinese way was not my way, and that in spite of apparent

disorder there was somewhere or somehow a system.

In order that the people along the route might be prepared for our coming and warned against molesting us, large hand-written placards were posted on the walls of towns in advance of our coming, bearing the official chop or seal of the Viceroy, the Director-General, and the Governor. These placards fully explained to the people the nature of a railway, and described how "its benefits would be manifold. Through its agency the people will obtain a means of livelihood, thus suppressing vagrancy and robbery, to the benefit of all localities. An equitable price will be paid for all land required for the road, and no loss will be suffered by any one. The blessings of the road will be hundredfold to the people—the disadvantages none whatever;" and closing with these words: "As the artisans of China are unfamiliar with railroad construction, American engineers have been engaged to come here to survey the line, and it is feared that some persons, ignorant of the purpose of their coming, may take alarm; therefore this proclamation is issued for their instruction. Let it be known to the scholars and merchants, and people at large, that they must peacefully pursue their occupation and create no trouble or obstruction. The military and the gentry are to instruct the populace to create no disturbance. Should rowdies circulate rumors to

disturb the populace and gather crowds together, the officials are ordered to assemble the police and arrest them, and deal with them with severity ; no mercy shall be shown them."

What is called in the proclamation a "policeman" is an attendant of the magistrate's yamên (official residence), and is an individual who is even more loathed than feared by the people, if that is possible. He rarely receives wages, and, in fact, is said frequently to pay for his place. He makes his living by a system of extortions from the weak, by threatening to report them for petty offences, sometimes not even committed; by inflicting extra punishment when offenders are convicted, unless bribed; by reporting persons for some special tax, or by other similar dishonest means. As showing the type of man these yamên runners are, I recall a little incident which happened, on one occasion, after our whole party lost its way, and the attending officials, the guard, and the baggage train were hopelessly scattered. The next morning early I started, with a solitary guide, for the agreed-on point of rendezvous for the night previous. On arrival I found that I was the first of the foreigners to get there, and had even preceded the greater part of the baggage train. Through some of our servants who could speak English, I communicated to the local official that I would like to inspect the town, and was thereupon conducted by several of these po-

licemen or "yamên runners." As is usual, they were armed with bamboo sticks about four feet long, split down about three-quarters of their length, so that when they were waved in the air the pieces slapped each other and made a terrifying din. With these sticks they clubbed back the people, who naturally pressed forward in their curiosity to see a foreigner for the first time, but otherwise were perfectly orderly and respectful. I soon noticed that the yamên men were exceedingly careful to avoid hitting full-bodied men, but fearlessly exhibited their importance by striking old men, cripples, and boys. When one of them raised his stick to strike an inoffensive old woman who was not in the way at all, I felt obliged to interfere—an act which was greeted with loud shouts of approval by the crowd. These "yamên runners" are a cowardly, despicable, lying lot, and represent one of the great causes of discontent that the masses feel toward the governing class.

On this occasion, while inspecting the town, a high-grade Chinese funeral was taking place. Now a Chinese funeral is a great source of joy to all but the central personage. At the head of the procession come boys bearing placards reciting the virtues of the deceased, many of which his neighbors had probably failed to detect in life; then follows a bier, and after that a collection of various eatables and silver bullion, all in paper to

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be burned at the grave, so as to provide the departed with these necessaries on his long journey ; while the coffin itself is surmounted by a grotesque and ridiculous dragon, intended probably to frighten away the evil spirit. Before and behind and on both sides are hired boys sending off enough fire-crackers to supply a small-sized New England village on the Fourth of July. It was very hard on the town that two such shows, a mandarin's funeral and the first foreigner, should both be playing at the same time. For a moment the crowd hesitated, but only for a moment! That mandarin had his paid placard-bearers and his fire-crackers, but otherwise went to his grave unmourned and unsung. I had the crowd.

Hu-nan : The Entrance

ON the morning of December 24, 1898, we crossed a long bridge, composed of stone beams thirty feet long, with an attractive temple at the farther end, into Hu-nan, which we had already termed the "enemy's country." From that point on we became an increasing source of wonderment and amusement to the natives. Christmas night found us at a little town called Ping-shui (literally "Still Water"), and all preparations were made for a proper dinner after the day's work. We were located in a tea-hong, opening directly on the village street, and with little provision for keeping out the crowd, so that the room in which we were dining was filled with natives, standing four or five deep around our table, and then stretching to the door and even to the street in a solid crowd. It was a singular thought to realize that our jollity that night was something more than the customary Christmas celebration. It was the first message to these people of a possible betterment in their condition, and a promise of the breaking of the bonds which have held them down for so many centuries, and our song of how "from every mountain-side let freedom ring" had that night possibly a special significance. But perhaps still more striking was the fact that this message of freedom was being carried by repre-

sentatives of the youngest nation upon earth to the oldest. Our actions, our songs, our very food, but above all, our forks and knives, were a source of inexplicable astonishment to the people; but when our plum pudding—a thoughtful gift of an English lady in Hankow—appeared, decorated with holly and blazing in true Yule-tide style, a look of terror appeared on their faces. The climax, however, was reached when a flash-light picture of the scene was taken. When the magnesium powder flared up, the crowd broke and ran. Probably the natives of Ping-shui stoutly maintain to-day that “foreign devils” are huge men with beards, who feed on uncooked meat which they tear to pieces with short swords and spears, and which excites them to such a degree that they shout loud and often, and in the midst of their excitement eat flames. I have not the slightest doubt that some such idea is generally prevalent in that town to-day.

After such extraordinary exhibitions it is little wonder that so unenlightened a race as the Chinese forms so erroneous an estimate of all foreigners. Fearing lest our St. Nicholas zeal might create a too strongly false impression, I sent for the local officials and explained to them that we were but celebrating the greatest day in our calendar—a day that is to us of the same importance that New-Year’s is to them. With that outward politeness that is so charming, and at times

so exasperatingly used as a cloak or subterfuge, they expressed their regrets at their ignorance, and said that had they but known it, they would have been glad to have shown some special honor, to both the day and us.



The Procession

Two official chairs are seen. The flags on the right indicate the position of the military commander. The foreground is a flooded rice-field

From now on we were conscious of the precautions taken by the Viceroy for our protection. Our guard was largely increased, so that our procession, including mandarins with their attendants, soldiers, coolies carrying baggage and supplies,

consisted frequently of from five hundred to six hundred men, and as they marched in straggling order and in single file, the distance from the head to the rear of the column would frequently be five



Placard Bearers who Preceded the Procession to Announce Our Coming

miles. The Chinese love a show, and this procession offered opportunities that could not be neglected. Although the details were largely a matter of the degree of imagination possessed by

the local functionary in charge, we were usually preceded by men or ragged boys carrying placards or wooden standards announcing our coming, and commanding the people to give place. Then there would be the flags of the commander and of the regiment acting as guard; soldiers armed with spears, tridents, two-handed swords, flintlock or, at times, even match-lock guns. The uniform of the Chinese soldier is a comfortable but a most unmilitary collection of garments. The coat, in its hang, resembles a cloak with wide, loose sleeves. It is of a plain color, with a wide marginal band of another hue. On the breast and back are marked, usually on white discs sewed to the coat, the number of the man, the designation of the organization to which he belongs, and his position in the ranks. The trousers are of dark blue cotton, and usually tied close around the ankles. The queue is worn wrapped about the head, and the whole enclosed in a dark blue cotton turban. Beneath the coat is a waistcoat with tight-fitting sleeves projecting about six inches beyond the ends of the fingers. The wearer can let the projections hang down, when they protect the hands from the weather, or can convert them into a muff by merely clasping his hands within the long sleeves. When he wishes to use his hands he rolls his sleeves up. If the weather be cold he wears as many undercoats as he pleases. He carries no knapsack, but instead a cotton bag some-



Chinese Soldiers who Formed Our Guard

what like a short golf-club bag, which he wears diagonally across his back, suspended by a cord over one shoulder and the chest, and in it he carries all the articles needed for a march, his tobacco pipe, fan, and paper umbrella!

According to the instructions of the Viceroy, we were accompanied by the local magistrate having complete jurisdiction over the Hsien, or district through which we were travelling, and which average in area from about thirty to forty miles square. In addition there were the mandarins representing the Viceroy and Director-General, always one and sometimes more delegated by the provincial Governor, and a military mandarin of high rank commanding the guard, with the title of General, and of high "button" rank of the blue or red. The mandarins were carried in their official sedan chairs, the position of the magistrate himself being denoted by a large gorgeous red umbrella. The Hsien magistrate is the official who comes in direct contact with the people, and who dispenses justice, authority, and bad government with no uncertain hand. Two or three Hsiens go to form a Prefecture, the Prefect in command reporting to the Governor or some agent named by him. These various officials receive as a regular emolument a sum much less than what the necessary expenses attendant upon their office are known to be. The difference between their regular compen-



Magistrate Mr. Denby Gen. Liu Mr. Parsons

A Chinese Hsien Magistrate and His Red Umbrella, Indicative of His Rank and Presence

sation and actual income, which latter is supposed to be large, is procured by deliberately appropriating a portion of the tax levy, or, perhaps more usually, through an ingenious system of squeezes or extortions. From a foreign point of view, they form a class intensely ignorant. The people hate them, but, on account of their almost uncontrolled power, fear them; while the magistrates, on the other hand, seem to fear the people, and hesitate to exercise much authority over them as a mass, preferring apparently to reserve their power for extortions in individual cases. The very evident mutual fear of the governing and governed classes was striking and interesting. This will be referred to later.

Some of these officials are not lacking in the social traits which we call good fellowship, and which made more than one a welcome guest at the evening gathering between dinner and bedtime, when our regret was that the conversation had to pass through the halting medium of an interpreter. There was one magistrate who took most kindly to foreign ways, foreign food, and even to foreign whiskey, with a particular fondness for the variety of the last known as Old Glenlivet.

At the time of passing through his jurisdiction our headquarters were afloat, so that he joined us with his junk, and every night his place at dinner was regularly set, and on returning to his own

boat he always took with him that comforting and comfortable glow so frequently the accompaniment of Scotland's liquid production. One night as he was leaving after dinner, dressed as usual in his long embroidered official robes, with his button and his peacock feather, "chin-chinning" or bowing his farewell as he walked backwards down the narrow plank connecting the junk with the shore, there was suddenly a series of rapid gyrations, like the rotating of the sails of a windmill, then a void in the night air, followed a moment later by a loud splash, immediately preceded by certain articulations which fortunately our knowledge of Chinese was not sufficient to catch exactly, but concerning which it is hoped that the pen of the recording angel will follow the example of mine. Thanks to his queue and the united efforts of two coolies and a boat-hook, he was at last placed on his native soil.

The Chinese costume does not diminish the bedraggled effect of an involuntary bath. The next evening he called as usual at the dinner-hour, and expressed his deep mortification at the previous evening's catastrophe, explaining at great length that his servant, an unfeeling rascal, had held the light in the wrong place. We begged him not to mention it; that we understood the phenomenon perfectly; that our servants had been known to hold double lights, bringing us to grief, and, in fact, it was well authenticated that in our

large cities, where lights were firmly fixed on iron poles, the latter have been seen to wave. This explanation gave him great comfort. He was a nice fellow, and I hope some day to see him become a member of the Tsung-li Yamên, for he would honor that or any other board.

The people in this northeastern part of the province are generally well-to-do, living in tiled-roof farm-houses or little hamlets. The valleys are well and carefully cultivated, the principal crops being tea and rice, the former for sale and export, the latter for domestic consumption. The Chinese, in all their habits, wants, and tastes, are extremely simple beings. As variety and change seem to possess no charm, their clothes in the country are invariably the same—of indigo-dyed cotton—while their food consists of the crop most easily grown in the locality, which in Southern China is rice, and in Northern China millet. This rice is eaten flavored with pickled cabbage or other vegetable, and sometimes relieved with fish, but rarely with meat. In the case of a coolie—that is, of the lowest class—such will be the diet the year through; if more well-to-do the list will be enlarged by the addition of pork, mutton, chickens, ducks, or eggs. Since food cannot be cut on the table with chopsticks, meat is sliced into small pieces before cooking, and then stewed. The higher-class Chinese are great gourmets, as the following menu of a dinner given us by the magistrate of Siang-yin

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will show, the table being set with a number of small dishes containing fancy cakes and sweet-meats:

Chicken giblets and ham,
Sharks' fins,
Pigeon's eggs,
Wood fungus,
Dough cakes,
Lotus seeds (hot),
Stewed fish,
Stewed chicken and pork,
Snails,
Bamboo shoots,
Stewed mutton,
Meat cakes and sweet grapes,
Roast pig,
Pork, fish, and vegetables boiled in a chafing-dish
on the table,
Rice.

We had not been long in Hu-nan before receiving illustrative warnings of possible trouble. On approaching Yo-chou, a large and flourishing city, situated near the junction of the Siang and Yang-tze rivers, the gate-way to the province, and which has since been declared a treaty port, we received word by courier from the Governor of Hu-nan that on no account must we go near Yo-chou, let alone enter it, as ten thousand students were gathered there from all parts of the province trying to pass the examination for the first degree, and that the authorities would not be answerable for the conse-

quences should we be found in their vicinity. Apparently Chinese students do not differ essentially from those of other lands. I replied to the Governor's messenger that Yo-chou was a place of so much importance, that a survey of it was necessary. On reaching the outskirts we were met by a large guard and politely conducted by a detour outside of the city along the river-shore to our junks where we slept, and which were flanked on both sides by gun-boats. The first night, just before retiring, a messenger came from the Hsien Magistrate announcing that a riot was imminent, that the students had threatened to burn the Roman Catholic Mission, whose priest was the sole foreigner in Yo-chou, and that the latter had fled. We could do nothing as we were prisoners. The reason for sending us word was not clear, unless as a notice of what we ourselves might expect. Perhaps the described riot did not occur at all. We never knew. It is hard dealing with a Chinese official. One is never sure. The next day, under a strong military escort, I inspected the city and saw no students.

Chang-sha, the capital of Hu-nan, is one of the most interesting places in the whole empire, on account of its extreme exclusiveness. Only two or three foreigners, but no missionary, had ever been within the city, and these few were smuggled in in closed chairs. Like all Chinese cities, it is heavily walled, and strongly gated, the gates

being locked at night, giving a most mediæval air. The population is estimated by the Chinese to be about a million, but that figure, like all others in the same line, is probably an exaggeration. Five hundred thousand would seem more likely to be nearer the mark. The streets are narrow, being but six to twelve feet wide. On them the shops open directly, and in front of the shops are frequently stationed small booths. During business hours, the whole shop-front, consisting of wooden shutters, is taken down, exposing the interior, so that a street resembles a bazaar, or rather an arcade, as it is frequently roofed over with bamboo mats. Hanging down in front of the shops are long, swinging signs, sometimes indicating the kind of goods for sale, but more frequently being felicitous greetings. I saw one that was translated, "Prices according to mutual agreement" —no fixed price for that tradesman.

On account of the local traditions, which were to be broken if possible, and on account of the general attitude of the Governor, it was deemed essential that not only should our expedition enter the city, but that we should be received publicly, and with full honors, according to the Chinese ritual, by the Governor himself. I, therefore, with the "flag-ship" and an attending gun-boat, pushed ahead of the survey party, and arrived at Chang-sha on January 7th at eleven o'clock in the forenoon. Our coming was expected; a tri-

umphal arch had been erected on the shore—an arch, by the way, as we afterwards learned, we were not expected to pass through, but which we did, nevertheless—and as our junk was poled up to the landing-place through a lane opened among the other boats, a great crowd came down to see us. Immediately on mooring, the local magistrate, in his official robes, called and extended a greeting. I then, without delay, sent my Chinese visiting-card to the Governor, announced my arrival in his capital city, and stated that I desired, accompanied by my whole staff, to call upon him and pay my respects. What followed was a good illustration of Chinese diplomacy, the roundabout ways of which were one of the difficulties that beset our movements. The Governor replied that he was glad to hear of our safe arrival, but that he would not trouble us to call, instead of which, accompanied by the chief officers of the province, he would call on us the next morning at eleven. With many complimentary phrases, I immediately pointed out that not only did Chinese etiquette, but even foreign etiquette, demand that a Governor should have the stranger call on him, and as my staff would arrive that evening, and as he was apparently free at eleven o'clock the next morning, I proposed that we should all visit him formally at that hour. Word then came from the Governor that he regretted that he could not receive me at eleven, because at



Main Courtyard of the Governor's Yamén at Chang-sha

that hour he would be engaged in inspecting his troops at their archery practice; therefore he wished us a pleasant and prosperous journey onward from Chang-sha. Of course there was nothing then for us to do but put ourselves entirely at his convenience for any hour of the day or evening when he would be free from the exactions of watching the archers. Then the excuse was offered that he had made no preparations to receive distinguished foreigners. This requirement we, of course, at once waived. Then his *yamên* (official residence) was too small. We replied that we knew that his *yamên* was as large as that of the Viceroy, and that the latter had found no difficulty in receiving us. When it was learned that the Viceroy had given us an audience, the whole affair assumed a different aspect, and a long conference with those versed in the intricacies of Chinese etiquette ensued, during which a small diagram which I had made in my note-book illustrating the viceregal reception played a prominent part. It was finally decided that Chang Chih-tung, in permitting our chairs to be carried to a certain place and in a certain manner, had used the same ceremony that a provincial treasurer, who ranks next to the Governor, was entitled to have accorded him. Clearly a man who had been thus received could not be unceremoniously refused an audience. Then the Governor said he would receive me alone, an offer that was respect-

fully declined, and finally he ventured, as a compromise, that I might select as companions three members of my staff. I assured his Excellency that my staff was composed of equally distinguished men, and that any invidious comparison in the way of selection was out of the question, but as it was now nearly midnight—for more than twelve hours had been consumed in the diplomatic intercourse—that I would not trouble him to reply immediately, but hoped that when morning came he would see his way clear to receive us all. At 10.30 the next forenoon he sent eleven official chairs from his own household, one for each of the foreigners and Messrs. Woo and Lo, the secretaries of H. E. Shêng, and a large guard of soldiers under the personal command of General Liu Kao-chao, the military commandant of the capital. With his trumpeters and flag-bearers preceding; with the genial and portly general himself at the head of the troops; with our chairs in line, from the leading one of which the chief engineer waved a small American flag—we entered the city, the first foreign party to do so publicly and with official honors, and very proud to feel that the first foreign flag to wave within Chang-sha walls should be that of the great republic. Thus fell Hu-nan's strongest tradition! Although the streets were jammed with people and the houses along the route filled to overflowing, there was not heard a single op-

probrious epithet or even impolite reference. As a general thing, the people seemed glad to see us, or, at the worst, merely exhibited a stolid indifference or, more usually an inordinate curiosity. The reception by the Governor was all that could be desired. Our chairs were carried into the inner court, where we were met by a personal representative of the Governor, to whom our Chinese cards were given. These, placed in order of rank, he carried in his right hand above his head, and so conducted us to the first reception-room, where we were presented to the provincial officers, such as the Treasurer, Salt Commissioner, and others, and then by them led to a second reception-room, where we were presented to his Excellency Yu Lien-san. The Governor was dressed in his official robes, which at that time of the year consisted of sable. Wearing his red button and peacock feather and other insignia of high rank, he received us in a most gracious and polite manner. He is a man of medium size, has an iron-gray mustache and a small gray imperial, with an intelligent face and great ceremony of manner. He inquired about our work, expressed his interest in its outcome, and his belief that a railway would be of enormous benefit to his people, and assured me that he had issued full instructions which would insure the party cordial treatment for the rest of our journey. The interview lasted about fifteen minutes, when we were

reconducted to our chairs, and returned to our boat by the same way in which we came.

The shops of Chang-sha will compare favorably with the shops of any other city in China, displaying a full line of articles of Chinese and of foreign manufacture ; in fact, so wide a range of choice is there that we were even able to stock our larder with a good supply of Munich beer in the original bottles.

Hu-nan: The Interior

WHEN the American party left Chang-sha, two of our boats, nicknamed the *Mary Ann* and *Consort*, were exchanged for three smaller junks of lighter draught, as the former were too large to proceed farther at the existing low stage of the river.



River Gunboat

While on the Siang our flotilla was always accompanied by one or more river gunboats. These boats are intended to protect the trading-junks from attacks of river pirates, which would otherwise be of frequent occurrence. They are from fifty to seventy-five feet in length, with a beam of eight to ten feet, are flat-bottomed, and

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draw but one foot. On the overhanging stern is a little cabin for the commander, the crew sleeping at night under an awning stretched over the boat. They are constructed of a native wood somewhat resembling yellow pine, which is oiled only, so that the wood is left bright and its showy grain fully brought out. They are furnished with a square sail stiffened with bamboo slats, hoisted on a pine mast without stays. If there is an adverse wind or none at all, they can be easily rowed. They are armed with a small cast-iron cannon, about a three or a six pounder, fixed on the bow, while the crew of eight to twelve men are furnished with swords and muskets, the latter being generally of a very old type, even matchlocks being not rare. These gunboats are always kept in the pink of condition and repair. The sails are of cotton canvas, sometimes colored blue, and must be constantly changed, as we never saw one in bad order. The crew see to it that the boat itself is always shipshape and spotlessly clean; in fact, when any one boards a gunboat one of the crew immediately presents a wet mop, on which the feet must be wiped. All this appears most striking in a country where the direct opposite, in the way of untidiness and uncleanness and lack of attention to repair, is the universal rule. How the gunboats ever escaped contamination I could not learn; but they have, and the traveller is thankful.

At night our boats were brought close together, with gunboats on the flanks to protect them from the petty river thieves. Watch was kept faithfully, sentries being armed with a loud bamboo rattle, which they sounded at intervals of every ten minutes. Everywhere in China the night watchman is thus supplied, with the idea of frightening away thieves. The practical result is, however, to give exact information of the whereabouts of the guard, and enable the thief to lie in waiting until the guard has passed on his rounds. It is the custom to give the attending guard a "cumsha" or substantial gratuity. On one occasion we gave a present to the crew of a gunboat the day before they left us. The captain, to show his appreciation, had double guards set that night, who sounded their rattles without cessation, making sleep an impossibility. After that we gave no more presents until we were sure that we would permanently part company with that crew.

It was not long before it became desirable to procure a horse to enable one of the engineers to ride. This was no easy matter, as horses are used but little. However, we finally found a man who could accommodate us, and early the next morning he brought around for our inspection an animal that he called a horse, but which, had its ears been longer, might have passed as a large donkey. Price, 40 taels. We looked him over,

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an operation not requiring much time, and bid 10 taels. The owner replied that 40 taels was his lowest price, but if we meant business he would say 35 taels, or would consider an offer. We assured him of our business intentions, and raised our figure to 12 taels. A horse trade is always an interesting ceremony, but how much more so under these circumstances, where a foreigner was to supply the victim! Each bid and counter-proposition was received with loud shouts of approval by the crowd, who offered advice freely and impartially to both principals, for they were divided in their desire to see the foreigner swindled and in their anxiety not to establish too high a market value for horseflesh. When the difference between the negotiators became so small that a trade was evidently in sight, it was suggested that we go within the temple where we had spent the night and conclude matters, and where at last we reached an agreement of 20 taels, saddle included. Our money was in bullion, for the tael is not a coin, but a weight of silver, and the closest approximation to 20 taels that we could make was 19 $\frac{74}{100}$, which our Chinese friend declined as not according to compact. We told him we would make up the difference by throwing in something, and for him to select. After inspecting our belongings he picked out an empty Apollinaris bottle, saying that he had owned a bottle once and had found it very useful, but some years

since it had been unfortunately broken. We told him that we too came from a country where the bottle was appreciated and highly valued, and for him to choose again. In the meantime our servants had packed nearly everything preparatory to the day's march, and the only portable thing left, and that of course had no value, was the rind of a pumaloe, a kind of orange about the size of a muskmelon. This empty rind he was offered, and, to our surprise it was promptly and gladly accepted. Whether he saw some special virtue in it, whether he had not recognized it, and thought it a peculiar foreign article, or whether it was done merely to "save face," on which so much store is set, I do not know, but the last we saw of that man he was hugging his rind like a treasure. Before we had seen the last of his horse, however, we felt that if the pumaloe rind had constituted the whole of the purchase-price we still should have been the losers.

It is surprising how closely the people in one section of the country pattern after those elsewhere, when one remembers the lack, almost absolute lack, of intercommunication. But in spite of the general sameness, which perhaps appears greater than it is on account of the uniformity in physiognomy of the people, with the Mongolian coloring and jet-black hair, there were many peculiar customs which appeared to be localized, as many of them were found only in

small districts, and travelled Chinese who accompanied me, said that they had never before seen similar things elsewhere in the empire. Of these the most singular was the carrying of small bamboo baskets lined with sheet metal and filled with



A Peculiar Custom by Chinese Women of Wearing Heating-Baskets

hot wood-ashes. Such baskets the women in one locality suspend from a belt beneath their short blouses. Sometimes the baskets are worn in front, sometimes behind, and occasionally in both places, according, apparently, to the fancy of the wearer. Children also made use of the heating

apparatus, but men only rarely. No matter how worn, the effect in all cases was both extraordinary and comical. To get a photograph of Chinese women is almost as difficult as to photograph a herd of wild deer. Women are supposed to keep away from any man, and of course a foreign man is specially terrible. The picture of the women and their baskets was obtained by cautious stalking behind some Chinese, while their attention was attracted by one of the members of my staff. The instant after the shutter dropped the group had scattered.

In farming methods the Chinaman in the interior is, of course, centuries behind. His grain he is accustomed to spread on the ground and drive over it his beast of burden, the water-buffalo, drawing a stone roller, in order to thresh it, while in some places I saw hay ricks built around trees as a centre support. Apparently the method of constructing them was to begin at the top and work down, instead of up, as do farmers elsewhere. Farming and boating are the Chinaman's great occupations, in which he most excels.

The horse is little used in China, as has been stated before, but when he is and he needs shoeing, the extensiveness of the ceremony makes up for any deficiency resulting from infrequent occurrence of the operation. Two straight poles are firmly planted in the ground, with a cross-arm at the top. Suspended from the latter, and

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fastened head and tail to the first two, the horse is finally secured, and then the farrier is ready to begin his work, to the delight of an audience usually of no mean dimensions.

But for ingenuity of adapting means to an end, his fishing arrangements excel all others. Instead of bothering with nets, which are apt to break and call for repairs, or with hooks and lines, which may not be easy to procure, the fisherman on most of the rivers in the interior makes use of cormorants—large black birds which are by nature fish-hunters, and which become by tuition very docile. He will start out on his piscatorial quest in a small boat, with from six to a dozen of his feathered helpers, to whom he has omitted probably to give a breakfast. Once on the fishing-grounds, the birds begin to dive for fish, but which, as their owner had tied a string around each neck, they cannot swallow. As each fish is brought to the surface, the boatman relieves the bird of its prey, and thereupon, according to the dictates of nature, it dives again. When the boat is full the fisherman removes the strings about the necks, rewards each bird with a fish, and returns home.

The southern and eastern portions of the province are not so densely populated nor so well developed as the central part, nor as the great tea-producing belt in the north. The streams are smaller, giving more difficult means of travel,

while the broken topography renders farming less profitable. These are, however, the mineral districts, where there is stored, awaiting development, incomputable wealth.

The last place of importance in Hu-nan is Chên-chou, a prefecture town, with its fine arched bridge of five spans crossing the Yu-tan River, and its picturesque old gate-ways with carved wooden lattices. It has a population of from five thousand to eight thousand, and is evidently still a prosperous place, although not now of the importance that it was in those days when the Che-ling highway, of which it is the northern gateway, was jammed with traffic.

The Nan-ling range is one of the great off-shoots from the Central Asian table-land and extends in a sharply marked position directly across the empire from West to East, and forms the southern boundary of the Yang-tze Valley. On the opposite side from the Yang-tze, water flows southward into the North and West Rivers and so to the China Sea. The mountains comprising the range are lofty and bold. There are three passes crossing it, which have been occupied by trade routes between North and South China. The most westerly of the three is the lowest; in fact so low that a canal across it has been in existence for many years, rendering it possible to go from the China Sea to the Yang-tze by boat. This pass is in Southwestern Hu-nan, but on ac-

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count of its indirectness and the shallow state of the approaching streams is little used. On the east is the Me-ling Pass, at the head of the Pei-Ho, and leads from Kwang-tung into the province of Kiang-si. It was this pass that Lord Macartney crossed with his embassy in 1796. The central and most celebrated of the passes is the Che-ling, lying on a line almost due north from Canton.

Between the heads of navigation of the Wu-shui River, on the south side of the Nan-ling range leading to Canton, and the Yu-tan, a tributary to the Yang-tze on the north side, is a distance of but thirty miles, so that commerce between Canton and any point in the Yang-tze Valley can be reached by boats, with this single and small exception. The highway, crossing the mountains by the Che-ling Pass, terminating at I-chang on one end and Chên-chou on the other, has therefore been the great trade route between North and South China for certainly three thousand years, and perhaps more—that is, during the time when the whole of history has been written. It stands to-day as one of the great monuments of China's past, compared with which other relics of antiquity seem but as things of yesterday. Many, many years ago this road was paved for a width of fifteen feet with large flat stones, ranging in size from one to four feet square. Deep in these stones there are hollows worn by the bare feet of the coolies carrying their loads like beasts of

burden, or there are dug actual holes where the feet of the ponies, jogging along with short steps, have struck. It was lined with shops and with inns serving accommodations on a cheap scale for coolies and teamsters, and on an elaborate scale for mandarins or rich Cantonese, who, if they



The Descent from the Che-ling Pass on the South Side

had the funds, could gratify their taste with any expensive luxury. But the opening of the Yangtze to commerce in 1861 seriously damaged the prestige of this route, for with goods going from or to Canton it was found more economical to ship by steam-vessel between there and Hankow, and be thence distributed. Since then its importance has been gradually diminishing, so that the

traffic now passing to and fro, although still considerable, is but a small fraction of what it once was. The rich merchant no longer frequents it, and the elaborately decorated inn erected for his entertainment is dropping to decay. Shops and resting-places for the coolies or pony-drivers are actually abandoned, and the great trade route, which for so many centuries has resounded with the almost continuous patter of the human foot or the clatter of the ponies' hoofs, is now becoming more and more disused, and stands, as so many other things in this country stand, an eloquent but silent witness of the past. It had been expected that we could utilize the approximate location of this highway for the route of the railway, but a careful examination revealed the fact that the natives had not found the true pass at all, which lay some three miles to the eastward, and about one hundred and fifty feet lower. For ten, twenty, thirty, or some other number of centuries the poor coolies have been carrying their loads, quite unnecessarily, up and down one hundred and fifty feet of elevation. What a waste of human energy!

Ten miles after crossing the range we reached the borders of Hu-nan, and passed into the province of Kwang-tung. On reaching the frontier-line, which crossed our path where it ran through a little village, a very pretty ceremony was performed. Our guard was, of course, composed of

Hu-nanese soldiers, but as we were about to pass into the viceroyalty of the "Two Kwang" (Kwang-tung and Kwang-si), they had reached the limit of their jurisdiction. Our Cantonese guard was on hand ready to receive us, and in their mushroom hats presented quite a different



Two Faithful Friends

appearance to the uniforms we had been accustomed to. The two bodies of troops, having saluted, the Hu-nanese soldiers passed over into Kwang-tung and lined up along the highway, and in like manner the Cantonese soldiers formed in Hu-nan. The Kwang-tung captain was then introduced. The Hu-nan general came up, "chin-

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chinned " his farewell, and then shook hands like a foreigner. When I came to say good-by to the two Hu-nanese soldiers who had formed my particular body-guard, who had carried my camera or my pack, and who had looked after my little personal wants in so many thoughtful ways, I was indeed sorry, for I was parting from two faithful friends. Then with one last look at Hu-nan, the journey across which I had regarded with so much anxiety, but where, with two exceptions, I had been treated with uniform kindness, courtesy, and attention by both officials and people, I signified my readiness to proceed, and said good-by to Hu-nan by saluting her soldiers as I walked past their front.

Taking Hu-nan, the closed province of China, as an extreme example, for there foreigners are practically unknown, nevertheless the general condition of life along the Siang River, the chief artery of travel and trade, does not differ materially from that found in the more frequented parts of the empire ; nor, in fact, does the undercurrent of human affairs flow in channels radically different from those in other countries. There is the usual struggle for success, attended with the ordinary run of victory or failure ; men rise and men go down. In Chang-sha there is the regular excitement always surrounding a political capital, while in lighter ways there are the festivities attending the Chinese New-Year's celebration, and

the occasional rendering of a Chinese play, for the Chinese as a nation take great interest in the drama. There are newspapers, and the telegraph, administered entirely by Chinese, puts the great cities in daily touch with other parts of the empire. The majority of the people have probably heard of the Japanese War of 1895, and the greater part of these understand dimly that China was defeated. Travelling merchants come from other provinces, and the river boatmen are constantly going to and from Hankow, or perhaps even to so distant a port as Shanghai, so that the people hear accounts of the doings of the outer world. If foreigners are personally unknown, their appearance is not; for the Chang-sha belle sees on her bottle of pomade the prevailing fashion in which her French sister does her hair, while the young man about town in Siang-tan finds in his package of American cigarettes a photograph of the latest favorite of the London music-hall.

In Hu-nan there are two distinct classes, those such as the above, who can enjoy life, and who have attained a position easily comparable with the best of conditions to be found anywhere, and those who, living in the more remote parts of the province, never come in contact with the outer world. As soon as a departure is made from the Siang River, such a difference is at once noticed, and there is reached along the eastern side of the province, where there is practically no trade and

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consequently no communication with the rest of the world, a condition of life that is distressingly depressing. Not that there is suffering or want, for everybody seems to have a home and enough to wear and eat, but it is life reduced to its simplest form, in which there is apparently lacking every desire for amelioration or even a knowledge or comprehension that such a thing is possible. Of education or religion or any aspiration toward a better or a higher life, or intercourse with the outer world, there is none. The soil produces enough food and an occasional surplus, which is sold in the nearest market-town, and thus serves to provide clothing and the other wants, which are of the simplest nature. There seems to be nothing in the way of social intercourse between the people, and life is merely a struggle, day after day, for a bare existence. From one year's end to the other there is no pleasure, no enjoyment beyond the mere animal instinct of living, and without a single event to break the monotony. And yet, it must be remembered that this is not a savage country, but one that had a high and complex civilization before the time when Rome was, and this civilization still remains among these people in the way-off corners, probably not much altered except that it may have become sadly worn.

On our journey eastward from the Siang, we made a short detour out of Hu-nan into the ad-

joining province of Kiang-si, and at the border line of the province came across an amusing specimen of Chinese reasoning, and a suggestive illustration of the attitude of the Hu-nanese toward their neighbors. The so-called anti-foreign feeling in Hu-nan is a misnomer; it is really Chinese exclusiveness carried to its logical conclusion, giving rise to an antipathy against all who do not live in the province, and to whom they apply the epithet of "foreigner" without discrimination. The people of Kiang-si, in order to defend themselves from the wicked inhabitants of Hu-nan, had erected, at the frontier, where the highway entered their province through a narrow valley, a massive masonry wall with a wide rampart and



The Wall and Gateway on the Border between Hu-nan and Kiang-si

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embattled parapet, and a gate-way with watch-tower complete—a most formidable-looking structure, and one that was practically impreg-



A Bridge over Dry Ground, with a Coolie Climbing the Approach Steps on the Left

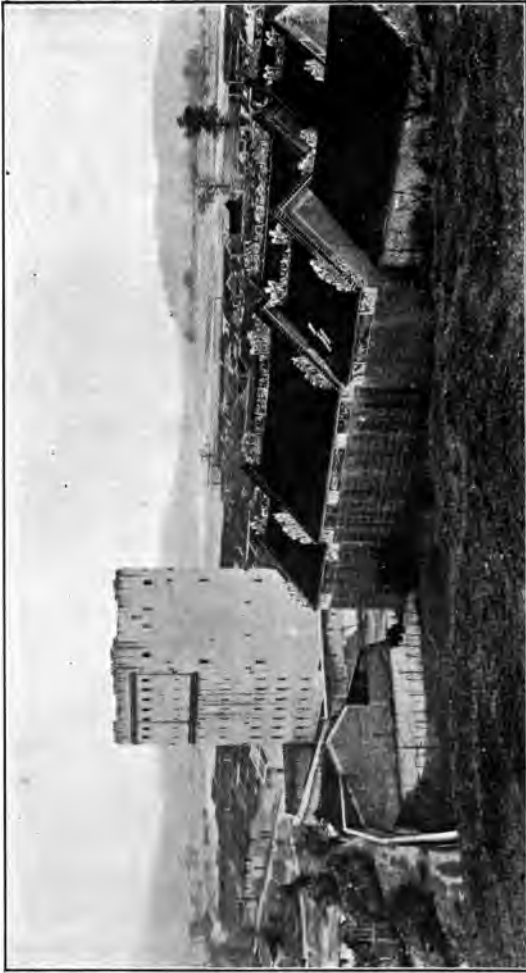
nable by direct assault by archers. Its length, however, was only about 1,500 feet, merely reaching from hill to hill, and as the flanking hills were low and easy of ascent, there was nothing at all to prevent an invading army from turning from their path but a few yards to either the right or left and marching unmolested, so far as the wall was concerned, around its ends. That the constructors evidently considered this a secure defence, in the way that the ostrich buries its head, there is apparently little doubt, but I could not help wondering whether the Hu-nanese had been similarly affected and so deterred from making an attack. But this is on a par with an old

bridge that we met on our travels. Once upon a time, when perhaps Elizabeth was reigning in England, this bridge crossed a stream, but the stream, unlike the natives, was capable of changing its course, and now the bridge spans dry land. The highway, however, still continues to cross the bridge, and the coolies, with their loads upon their backs, still climb the flight of steps at either end as their predecessors have done for centuries. The Chinaman always accepts things as they are, without inquiry or reasoning—actuality and precedent being to him always paramount.

Hu-nan : The Exit

Five miles from the borders of Hu-nan we reached Ping-shih, a flourishing-looking town of perhaps three thousand people, the principal reason of its existence being that it is a point of transference from boat transportation on the Wu-shui to land portage. The whole surface of this part of Kwang-tung, however, is very mountainous, and the population is quite scant. The difference from Hu-nan conditions was quite noticeable. While foreigners rarely visited Ping-shih, they were not entirely unknown, and therefore we were not quite the same object of intense curiosity.

The most striking thing of all was the pawnshops. These singular buildings, which are a particularly Kwang-tung institution—although the pawnshop is known everywhere in China—are built of masonry, in huge square towers, sixty to eighty feet on a side, and with a height of one hundred feet or more, presenting a most imposing appearance, suggestive rather of an ancient feudal castle, with the comparatively tiny houses huddling about the base, than of anything so essentially practical and commercial as a pawnshop. The construction and shape of the building are for protective purposes. The material of which it is composed presents a safeguard against fire, while its solidity, its great height, and fewness of



A Kwang-tung Pawnshop and Surrounding Village

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windows or other openings offer the greatest obstacle to successful assault by robbers. Within are numerous floors, on which the pawned goods are carefully stored after being neatly indexed. The ordinary practice of the pawnbroker in the way of high interest charges is the same here as in other lands, but the calling is regarded quite differently ; in fact, the pawnshop is looked upon as a blessing, the broker as a benefactor, and the presence of a high tower the indication of good business. If a town possesses more than one, it is taken as a sign that it is particularly prosperous, and places are described as being one, two, three pawnshop towns, as the case may be. The pawnshop partakes of the nature of a bank, the Chinese arguing that no one would borrow unless he can employ the capital with profit, and as the pawnshops are the means of furnishing capital, therefore the greater the number the greater the prosperity. As the Cantonese have always been the most progressive and energetic merchants of China, so the pawn or banking system of this province has become more highly developed than elsewhere.

At Ping-shih the expedition was again divided, the chief engineer preceding by boat to make a reconnoissance of the river and of the route following the stream *via* Sam-shui and Fat-shan while the survey party went overland, although sleeping on boats to within fifty miles of Canton,

where they left the river and struck directly for the city.

Kwang-tung is drained by three principal streams, of which one is the Tung Kiang, which flows to Canton from the east, and with which our expedition has nothing to do. The others are the Si Kiang (West River) and the Pei Ho (North River), with their respective tributaries. These latter rivers join at Sam-shui (literally "Three Waters"), twenty-five miles due west of Canton, the combined streams going to form the Canton River and the net-work of channels and small streams that intersect the flat land that extends to the sea. The West River is the most important, draining not only the western portion of Kwang-tung, but the whole of the province of Kwang-si, and is open for steam navigation, even at low stage, for shallow-draught vessels for some considerable distance, and, on account of the facility of navigation, has become an important trade route, with a treaty port of its own at Wu-chow. The North River, as its name would indicate, strikes north to Shao-chou, where it forks—the right-hand branch, carrying the name of Pei Ho, draining the Nan-ling Mountains on the south side from the province of Kiang-si, while the left-hand branch called the Wu-shui, drains the slope of the same range on the south side from Hu-nan. During the winter months the river is very shallow, shoals with not over one foot of water being

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of frequent occurrence to within a short distance of Sam-shui ; and even while following the tortuous and continually shifting channel, a vessel drawing two feet cannot proceed up the river from the junction more than fifty miles. The Wu-shui is very shallow—especially the upper waters—for the first fifty miles below Ping-shih. We were therefore compelled to take the smallest boats we had yet used. These little boats have a water-line length of about twenty-five feet, but on account of their peculiar overhanging ends, in order that they may be run up to the bank on a flat shore, are apparently very much longer. They are about five feet beam, are flat-bottomed, and are built in the lightest manner possible, the composing boards being only about three-quarters of an inch thick, without braces or frames, while, in order to give some stiffness, the sides at the top are curved inwards amidships, and are held apart by thwarts at the fore and aft quarters. The roofing protection consisted of hemispherical bamboo mats on light bamboo frames. The boats, when loaded, drew about three or four inches only, and furnished accommodations for two of our party to each one. It was not long after leaving Ping-shih before the reason for the design was apparent. During at least half of the year, the river is very low, and is nothing but a succession of quiet pools separated by swiftly running rapids, some of the latter being of no small force. In order to

navigate the worst places a large oar would be rigged on the bow, with which the boat was steered as well as with one at the stern. On approaching a rapid the crew would cease rowing and unship the oars while the two helmsmen, one in front and one behind, would prepare for their task. As the light boat feels the increasing current she begins to increase her speed. In front are two great masses of rocks, and between them a narrow passage of white foaming water—a veritable Scylla and Charybdis, with apparent equal certainty of destruction whether we hit the rocks or miss them, for surely no vessel as light as ours could possibly stand the strain with safety. On we shoot, straight for the rocks, when, just as a collision seems absolutely certain, down goes the bow oar, the boatman throws his weight against the inboard end, our boat's head swerves, and with a lurch she swings and clears the first danger by not over six inches, but only to get into the seething mass of foam. Surely now our frail craft must go to pieces; instinctively one looks at the face of the skipper, who, with stolid indifference, the characteristic of his race, betrays no sign that anything unusual is happening, but whose bright eye is fixed steadfastly ahead, and the keenness of the glance indicates that behind that eye, in spite of outward appearances, is a brain that is alert. The boat twists, she yields, her very bottom is seen to bulge upwards as it actually slides over the rocks, which

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are worn smooth by similar contact with many a sampan, then with a final leap she reaches the still surface of the pool ahead. It is only the lightness of construction and the lack of stiffness that makes the journey possible. A boat with a frame and braces would have been wrecked at once. In these runs no orders are given, there is no excitement, no shouting, but every man of the crew of four knows exactly what he has to do and does it. These Chinese river-boatmen make fine sailors. Before reaching the largest of the rapids, which is really a succession of several, our boats were beached and the combined crews went ashore to a little temple to do "Joss pigeon" to the river-god. From the fact that we passed the danger in entire safety, one feels compelled to assume that his godship was pleased with the fire-crackers and brown paper burned in his honor. As the crackers are sold by the priest in charge, and as a large number of them were set off, it would appear that the business of being a river-god is not without its financial attractions.

From Ping-shih to Lo-chang, the first town seen for a distance of nearly forty miles, there is one continuous cañon, furnishing the most beautiful scenery found anywhere along our march, and, for beauty and grandeur combined, is the equal of any river-cañon that I have ever seen. The stream varies in width from one hundred to five hundred feet. The hills, having a height of six

hundred to one thousand feet, run directly to the water without any beach or level shore. The country is absolutely wild, there being no population and no cultivation. Unfortunately, too, there are no trees except in a few places, the mountains having been long since stripped of their timber. It is possible, perhaps probable, that examination with a diamond drill will show that these hills are underlain with coal, as coal outcrops at Lo-chang, and again in the vicinity of Shao-chou. They are covered with a rich, strong grass, and are capable of supporting great herds of sheep or cattle.

At Lo-chang, a place of perhaps four thousand people, situated at the mouth of the gorge, we exchanged our little boats for a regular junk. The whole atmosphere of our surroundings was quite different from what we had been accustomed to. There are seen growing the banyan-tree, and other tropical vegetation. Women are working with men, especially in boats, and but few of them have the terrible self-inflicted deformity of pinched feet. The houses are of a type differing from that in the more northern provinces, and in the windows and from the balconies are seen growing green plants and flowers. Neither in Hu-peh nor Hu-nan had we seen a single evidence of an appreciation by the lower classes of natural beauty, and we had begun to consider the title of "Flowery Kingdom" as sadly misplaced. From Lo-chang

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onward we saw, in an increasing ratio, a desire on the part of the people to improve the attractiveness of their environment.

In point of time we were now approaching the Chinese New-Year, the greatest day, or rather period, in the whole calendar, for the attendant festivities are of a continuous character for three days, during which all business, even in the commercial centres, is absolutely stopped, while the effect extends over about two weeks before normal conditions are again resumed. The Chinese year is lunar, the beginning being marked by the first new moon following the passage of the sun into the constellation of Aquarius, imposing limits of January 21st as the earliest date and February 19th as the latest. In 1899 it fell on February 10th. On all sides were evidences of the approach of the fête. If no house-cleaning is done at other times, and usually that is the case, it is ordained by precedent that everything must be washed at this season. Along the river-banks were seen women with their trousers rolled up to their thighs, standing in the water alongside of their household furniture, giving their chairs, tables, and clothes-presses a good bath. Boatmen were pasting to the sides of their boats colored slips of paper with "good luck" mottoes or prayers, while the shops in the little villages were evidently doing a thriving business.

Forty miles from Lo-chang brought us to Shao-

chou, a walled city with seven to eight thousand people, the official residence of a taotai, a prefect, and a magistrate, the most important city in northern Kwang-tung. We arrived there on New-Year's eve. As foreigners were known here—some foreign missionaries being actually in residence—a walk ashore without a guard was possible, a luxury not enjoyed since leaving Hankow. Seasonable decorations were everywhere in plenty; the shops were loaded with fire-crackers, toys, house decorations (usually of red paper), and articles suitable for presents—for the latter are exchanged at this season of the year between all friends. At one time there would be seen a gentleman bringing to his home a chicken and other delicacies, preparation for the coming feast next day, and before which, having deposited them on his door-step, he would prostrate himself with all due ceremony. At another time we met a business man hurrying along with a preoccupied air, evidently finding difficulty in raising the funds to pay off his debts, which must be liquidated, in accordance with the Chinese law, before night-fall. The evening was quiet, but exactly at midnight the New-Year was ushered in with a deafening peal of fire-crackers from every junk and from every house, for no Chinaman is so poor as not to be able to afford his salute, accompanied by a general din of gongs, bells, and rattles.

On February 15th we passed out of Fat-shan

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Creek at Fati, and Canton lay before us, and the first American Industrial Invasion of China by an organized force was at an end.

Ten days later the balance of the party, which had necessarily made slower progress, arrived, and in spite of mournful prognostications to the contrary, the journey was finished, and with much better treatment at the hands of the natives than would a similar expedition of Chinese receive during a trip of equal length under similar conditions in the United States, or even possibly in Europe, due in great measure to the care taken of us by their Excellencies Shêng and Viceroy Chang Chih-tung, to both of whom in this and in many other ways I am much indebted.

Our ears were frequently assailed with shouts from the crowds of "Yang-kwei-tze," "foreign devil," or some similar epithet, but in nearly every case I am sure that such expressions usually meant little more than such terms as "John Chinaman" or "Yankee" do with us, because frequently I heard the shout of foreign devil raised by someone calling a crowd from within houses to the street to see the strange sight, and such people, when thus summoned, would return our bows with pleasant smiles or laughter. Sometimes sullen looks were seen, but rarely was anything thrown or deliberate discourtesy shown, and only once was any violence attempted. This single case occurred in southern Hu-nan, when we

had begun to consider that no special precautions were necessary, even among the famed turbulent Hu-nanese, so that I did not hesitate to detach myself from the party without a regular escort. One day I was thus passing the little market town of Wu-ni-pu ("five mud shops") where the weekly market had drawn from the surrounding country a crowd of perhaps two thousand. My attendants were but three unarmed soldiers and my chair bearers. On learning of my coming the crowd came out of the town and lined up along the roadside. A boy in jest started the cry of foreign devil, those near him took it up in similar vein with laughter. Others in rear, not seeing but hearing, also raised it, while those well at the back, hearing the noise, pushed forward to ascertain the cause. The pushing and the shouting excited someone to throw a missile, whereupon a quiet crowd unconsciously and quite unintentionally was converted into a mob. Fortunately they had nothing worse to throw than earth-clods from the ploughed fields, but which having started to do, they kept it up with energy and zeal. My little guard stood by me and urged me to run, as resistance against such odds was out of the question. To run I realized would encourage violence and invite stumbling, which would be fatal, as likewise a proposition to take refuge in a little temple at hand. The only chance lay in giving a certain orderly portion in the crowd time to get

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the disturbance under control, and in the meanwhile to protect my head with the collar of my coat and to hope that the crowd would not find any stones or bricks. After a somewhat *mauvais quart d'heure* order supplanted violence, and I was none the worse except for some dirty clothes and a stiff neck, which two days' time quite cured. After that, at the suggestion of the local officials, we went armed.

I asked the Chinese dignitaries why we had failed to experience the troubles that they had all feared so keenly before starting. The answers were threefold: we had shown no fear, and consequently the people feared us; we neither molested nor interfered with anyone, therefore the people respected us; and we paid regular prices for our purchases, and would not permit our attendants to steal, therefore the people liked us. There seemed to me to be another reason, the good-will of the officials. I am confident that the Government can, when it *wants* to do so, control the people, and is quite competent to bring about any desired reform. The trouble is that the existing clique realizes that with railways and other innovations its powers are at an end. One practical result of our trip is that missionaries have since penetrated without trouble into Hu-nan, a thing impossible before, and the province can now be considered as open as the other seventeen.

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Wherever we went we had the pleasure and honor of carrying with us the American flag, the first foreign flag to be seen in this portion of China, and alongside of it, in compliment to the country we were visiting, we flew the Imperial Dragon.

The scientific results were entirely satisfactory. In addition to determining the general location of the railway, we established the longitude and latitude of the various cities, discovering, as was to be expected, differences in their locations as usually platted. We noted the magnetic variation of the needle, locating the line of no variation where it crossed our path; we established the lines of drainage, both north and south of the Nan-ling Mountains, correcting many errors; but, above all, we discovered the true pass across the range connecting the head-waters of the Yu-tan with those of the Wu-shui, to which the staff gave the name of "Parsons Gap," and so marked it on our map.

In this work our difficulty lay principally in procuring reliable information in advance. The average Chinese, and certainly everyone in the interior, does not comprehend at all the meaning of the word accuracy—all his statements are "about." The unit of distance in China is a li, a distance which is approximately 1,825 feet, or something more than one-third of a mile; but the li (pronounced *lee*) differs in different parts of the empire, just as the tael or standard of value differs,

so that for ordinary usage the expression "li" is of little value, while for accurate computations it is worse than worthless, for it is misleading unless all the circumstances are known. Thus there are official li along certain highways specially devoted to travel, which are termed "official highways." On these coolies are paid for carrying merchandise at so much per li, and by common consent under these circumstances all distances are reckoned short, the ratio of the error between stations not being constant, and varying from twenty to as high as fifty per cent. Thus a distance which would actually measure, say, 20 li would be set somewhere between 24 and 30 li. On a parallel highway of equal length the true distance, or something approximating it, would be stated; hence we were always in a perpetual quandary and argument with the officials as to which would be the shortest route to follow when there was a choice. Then, to add to the complexity, in certain districts the distance is reckoned not wholly on the basis of length, but partly on the time required. Thus if the road from A to B is up hill, the distance from A to B might be 40 li, but from B to A only 30. Distances are also stated in multiples of 10 above 20, and in multiples of 5 between 5 and 20, and below 5 in single li—a custom arising from the fact that the surface is considered as divided into zones, the distance between the centres of the zones being so many tens of li. If the points in

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question are on the nearest limits of the zones, the distance given on the zone basis is too great by 10 li, or, if on the outer limit, too little by a like amount. All such distances are subject to further correction as to whether they are official or otherwise, and by the several other local conditions or even personal equations of the informant. If there were any rule in these vagaries it would not matter so much, but there is absolutely none.

Of maps we were fortunate in securing one of Hu-nan, which, considering it was a native production, was very good, and as a general thing fairly reliable, although once in a while its woful errors ran us into difficulties. The local maps purporting to give details were caricatures, and outdid the productions of Herodotus and other early European geographers. One particular map, which undertook to represent not the unexplored country, but an area of civilization, including the viceregal capital of Wu-chang and the metropolis of Han-kow, can be taken as a fair specimen of the lot. At this point the Yang-tze River runs almost straight. Had the local cartographer so shown it on his map, one of two things would have happened: either he would have been obliged to use a larger sheet of paper or the river would have run off the border. He very successfully and ingeniously avoided both difficulties by giving the river a graceful bend. The rest of his topography and details were

shown with equal fidelity. Yet the officials treat these things quite seriously, and in my own experience frequently such maps as these would be produced and actually used as a basis of argument.

In China there is no fixed nomenclature—even the country itself being without a name—and this lack of distinct and recognized appellations was a frequent source of difficulty. Of personal information from natives there was none obtainable on which any credence could be placed. A Chinese, unless he be a porter coolie or a boatman, rarely travels or gets during his life more than a few miles in any direction from the place where he was born. When trying to procure information concerning the immediate locality it was no uncommon thing to have a native, and even sometimes men of local position, say, “Oh, I have never been so far away as that,” or “I have never been across that hill, and so do not know what is beyond.”

Chapter
IV
My Chinese Impressions

IT is related in the analects of Confucius that one of his disciples put to him the question: "Is there one word upon which the whole life may proceed?" to which the Master replied: "Is not Reciprocity such a word?" If it were possible to find a word expressive of that curiously subtle thing, the Chinese character, perhaps Contradiction would furnish the keynote.

There is probably no nation so extolled and lauded by some writers, and so inveighed against and execrated by others, as the Chinese, and this, too, by observers who have lived in China for many years. This great divergence of opinion is due, I believe, to the spirit of contradiction in the Chinaman himself.

This spirit of contradiction is found not only in the frequently occurring examples of the Chinese way of doing things quite differently from the way that other people have found best, but more particularly in the cases where the Chinaman is so singularly inconsistent with his own apparent way of thinking and of the rules which he has laid down for his own guidance. He seems to be at the same time the extreme of economical and wasteful, practical and impractical, kind and cruel, honest and deceitful. No sooner has the observer

discovered and put in mental order a series of incidents that seem to establish a certain trait, when



Chinese and Manchu Ladies of the Upper Class

The two on the ends are Chinese, with their feet compressed. The third from the left is a Manchu, with the feet natural but wearing the peculiar Manchu shoe on a central pedestal. The second woman is a maid-servant, with her feet only partly compressed, as is usual with women of her class. On the right is a Peking cart, the private carriage of Minister Conger. This picture was obtained by having Mrs. Parsons walk ahead to attract the attention of the ladies to her foreign clothes

of a sudden he comes in contact with some new fact or action, which completely upsets all preconceived notions.

The well-known ways in which the Mongolian methods and reasoning contradict the Caucasian are both amusing and extraordinary in their com-

plete and direct oppositeness. With the Chinese white is the color of mourning, and the left is the place of honor. Men wear skirts and women wear breeches, while everyone is addressed with the family name first. The Chinaman talks of the magnetic needle pointing to the south—singular reasoning for one living in the Northern Hemisphere—reads and writes from right to left, and thus it goes through almost every detail of everyday life. But the most amusing instance is the practice of the night-watchman, who flourishes everywhere from Peking down to the small cities in the interior. Instead of going his rounds stealthily, to better detect thieves, which are not few, he equips himself with a bamboo rattle and a tinkling metal cymbal, which he sounds rhythmically as he walks his beat. In the still hours of the night it is perfectly easy to tell exactly where he is, and when he will pass in return a given point. The theory is that his fiendish weapons of noise strike terror into the hearts of all evil-doers, but I fear, judging from personal experiences, that the ways of evil-doers, contrary to the rule of Chinese opposite, are the same in all lands.

Self-contradiction is equally apparent, and must be continually expected and allowed for if we are to attempt to understand the Celestial and his way of thinking. Even his Government is a most bewildering mixture of the most absolute autocracy and liberal democracy.

The autocratic part is represented not so much in the will of one man, the ruler, for the system of government has tended more and more to seclude him from popular contact, but in the almost slavish observance and veneration for precedent. What is, is; and what has been done stands as an example for all time or until some extraordinary event establishes a new order. The personality of the ruler and of the leading statesmen, therefore, is not stamped upon the course of affairs, nor are the official personages of the same relative importance that they are in other countries. Government is largely a matter of custom and of precedent.

No dictator, no tyrant ever ruled with more iron hand than does Precedent in China, and the custom of obeying it is deep-seated and hoary with age. Even before the time of Confucius it was the rule, and his writings teem with admonitions to observe the Rules of Proprieties and Ceremonial.

The democratic side is shown by the fact that, with but few exceptions, rank is not hereditary, and that the meanest of the Emperor's subjects may not only aspire to but actually attain the highest place in his councils. Examinations form the basis of political preferment, and these examinations are open to all. But by one of those strange inconsistencies of contradiction which make the oldest of students of Chinese character

timid as to exact determinations, the Chinese, having elaborated the most perfect system of selection, lose sight entirely of the main object, and so conduct the examinations as to render them practically valueless in really determining the contestant's fitness for anything except writing involved essays on a text from Confucius. I met some Chinese of the official class, who were endowed by nature with strong talents that would have insured their rise under any circumstances and had already won the highest of examination honors, who told me that they were endeavoring to forget their Confucius as fast as possible and trying to learn other things.

In judging the Chinaman, allowance must be made for the point of view. He must not be looked at entirely from his stand-point ; if so, he has no faults ; nor wholly from ours ; for if so, he has no redeeming features. Take, for example, his standard of veracity. All Asiatics have the reputation of being cunning, deceitful, and untruthful, and in ordinary dealings the Chinaman is said to be no exception. On the other hand, in commercial intercourse he has the reputation of being so truthful and honest that foreign merchants frequently rely on verbal contracts and to an extent that they would not do with each other. It is quite impossible that the same man can be so wholly different. The contradiction must be more apparent than real. What is his point of view?

In ordinary transactions he is accustomed to speak in exaggerated phrases, to veil his meaning in obscure sentences, and to convey his thoughts in an optimistic way; such has been his whole education. He himself understands his fellows, or, at least, does so after much circumlocutory questioning. There has been no attempt to deceive, and, therefore, he would say no lie.

This is not the direct bluntness of the Anglo-Saxon; it may not be the best way, but it is the Chinese way, based on an experience of some thousands of years, and he is at least entitled to have his point of view taken into account. When it comes to practical considerations, like making a contract, he has learned that only the direct method and rigid honesty are successful, and therefore he governs himself accordingly and perhaps more conscientiously than other people with a so-called higher civilization.

In thinking of the Chinaman we frequently make the error of vastly underrating his mental ability, and regarding his stolidity and tenacity to his own ways as precluding him from grasping another's point of view. But even from my short experience I am convinced that such is far from being the case. The Chinaman naturally prefers his own way of accomplishing a given end, but that does not prevent him from seeing the line of thought and action of a mind trained in methods diametrically opposite from his. On

one occasion, when the regular nightly council of local officials was being held to arrange for the next day's march of the expedition, I stated my plans, a suggestion which immediately met, as was not infrequently the case, with their very strong opposition and elicited a counter suggestion that I must follow a highway in quite a different direction, for so the Governor had ordered. The officials were firmly but politely informed that the Governor was not the chief engineer, and therefore not responsible for the survey. When they realized that I was set upon my own course they adopted the usual Chinese custom of indirectness, and began to assure me that it was impossible for me to go the way I proposed, as there were high mountains and deep rivers intervening which were quite impassable. According to Chinese custom I should have accepted such circumlocution, although they not only knew it was untrue, but knew that I knew that it was untrue, because they were well aware that I had made a personal reconnaissance in advance to develop the feasibility of the route proposed. At this juncture one of the officials, who at the outset had behaved in exactly the same way by raising all sorts of absurd objections and then in the end doing without difficulty what he had previously insisted was impossible, leaned across the table and said in an undertone to his coadjutors: "Don't talk to that man about mountains and

rivers; he is not influenced by such phrases. When you talk to him you must talk to the point." Two weeks' intercourse had sufficed to make him understand direct, straightforward methods. One of these officials who that night had been chief in resistance accompanied us for four hundred miles, and developed into one of the very best men we had, dropping his indirect ways and talking "to the point."

The most striking trait in the Chinese character, and which is chiefly answerable for the present condition of the country, is exclusiveness. As a nation they have produced great things, but they have been for their own use and not for exchange with other peoples for other ideas. This exclusiveness has operated not only to shut China in from other nations, but has prevented that flow of thought from within outward and from without inward, a reciprocal action which is as necessary for the development of a nation as is variation in physical and mental exercises for the development of an individual. The teachings of nature show that a stationary condition is impossible, that motion forward or backward is always taking place, and as approach toward perfection is attained a new condition of life is brought about under a course of development. So life leads to death, and death is but a birth for a new life. This law is true for nations as well as for animals and plants. Every great nation of the past has expanded until

its limit of growth is reached, when it enters a period of decadence and finally comes to a natural death, giving rise, however, to new nations and new peoples. Here again China seems to be an anomalous contradiction. It is a nation which died centuries ago, but which has never been buried, and continues to remain above ground as a sort of vivified mummy. Everywhere in the interior where one turns, one is struck with this deadness and arrest of development, as it were, that occurred some centuries ago. Every writer on China regards the peculiar natural condition from his own point of view, and suggests as the cause the lack of his particular nostrum. The missionary argues that it is necessary to instil in the Chinese a high moral sense, and then all would be well ; the writer on material development calls for unlimited railways ; the military man for the reformation of the army and navy as the panacea ; while the commercial man claims that if enough treaty ports were opened China would soon take care of herself. Any one of these or other similar views is too narrow. A deficiency in moral sense, and the failure to appreciate the benefit of railways or unrestricted commerce, are effects, rather than causes, or certainly are not the prime causes. The nation is dead ; a new birth, a regeneration, a new life is needed ; and while each one of the urged reforms is necessary as one of the conditions to bring into

existence this new life, no one by itself is sufficient. To produce plant life it is not only necessary to have the seed ready to germinate, but there must also be the required conditions of light, heat, and moisture—no one in itself is enough, and without the proper combination of all three our seed will refuse to bring forth. Such is the condition of China.

This lack of life is evident everywhere and is interwoven in the whole fabric of Chinese existence. Take the writings of Confucius, on which all Chinese thought and reasoning is both consciously and unconsciously based, and it will be seen that even his key-note is dead. The tone is moral, the code of ethics is high, but his philosophy is lifeless, for he speaks of himself as "I, a transmitter and not an originator, and as one who believes in and loves the ancients." This doctrine he has taught successive generations, so that the Chinaman is too apt to regard the future as merely an opportunity to relive the past. But this can be overcome.

Seeds for a new life, better and stronger than the past life, even when China was the greatest nation in existence, are there ready to sprout; the potentiality is great; the people are by nature peaceful, law-abiding, industrious, frugal, hard-working, and patient—qualities absolutely essential to produce a great nation, and which under proper conditions must produce one, in the same

way that a healthy acorn under the proper conditions must give growth to a sturdy oak.

In examining the characteristics of a people one turns first to the status of education and to the nature and depth of religious belief, and in both of these this deadness is oppressively conspicuous. One day, while journeying along a highway in Hu-nan, I turned to a bright little boy of apparently about ten years who was in the crowd surrounding me, and asked him if he went to school. "Oh, yes," he replied, and in answer to a question what he studied, said, with a look that clearly indicated his surprise that anyone should ask such a question, "Why, the classics, of course." Not a word about geography or history, even of his own country, to say nothing of others; not a line of science; not a single thought of anything that could do him a bit of good or fit him to be a useful member of society, but merely the teachings of Confucius, who lived twenty-five hundred years ago. An illustration of what this leads to was well shown one night when the local officials of the village where we were stopping called, according to custom, to greet us and arrange for future progress. One of them, a dear old gentleman, who had a laugh that would have made his fortune on the stage in any capital of Europe, inquired what land I came from, if it was far from China, and then whether I came by land or by sea, each question being punctuated by a delicious laugh. To tell

him, who considered one hundred miles as a long journey, that I had come over ten thousand miles, was to give the impression of a gross exaggeration, as he had no idea of the size of the earth or where America was, as indicated by the question whether it was north or south of China. One of his companions, finding that his friend was quite at sea, finally summoned up courage and rebuked the questioner by pointing out that America was in the Western, and China in the Eastern, Hemisphere. After other inquiries the first man brightened up and said, "Oh, I know now where your land is; it is between France and Germany;" whereupon the second, who had been carefully watching our faces and so perceived that the other was wrong again, repeated his hemisphere remark with a most supercilious and superior air. As he ventured nothing more there was little doubt that that comprised his whole knowledge of the world's geography, although he had not shown whether he really knew what a hemisphere was. Yet these two men held important government positions, and one of them has since been promoted and is on the high road to still greater places of trust, and such men the people must look to and rely on for their guidance. But this state of affairs must not be confounded with ignorance. These men were ignorant in the sense of being uneducated according to our standards. From a Chinese point of view they were very

highly educated, and had spent an amount of time in acquiring their information that would suffice with us to take a man through a leading university and give him a Ph.D. degree. They had a vast amount of learning, but it was of no practical value. It was the teachings of the fifth



A Neglected Buddhist Temple

The roof-beams are elaborately and beautifully carved

century before Christ rather than the nineteenth century after.

Then, as to their religion: nominally they possess the Buddhist faith; practically the only religion they have is ancestral worship. Their Buddhist temples, as a general thing, are neglected, the idols dirty and broken, and even sub-

ject to sale by the priests if the traveller wishes to carry them away, and nowhere seemingly treated with any veneration or respect, except possibly by the boatmen, who have a sort of superstitious fetich, as is common to the sailor class in all lands. Their ancestors they venerate, and every Chinese consequently wishes to have a son who will worship at his grave as he has done toward his predecessors. In going across the country one sees occasionally a handsome grave, on which a certain amount of care and thought had been bestowed at the time of its construction, and possibly since; but when one contemplates the usual resting-place of departed Celestials, little hummocks of pyramidal shape, unmarked by any inscription, untended and unkempt, on one hand scattered about in more or less disorder, or on another hand huddled together, one is easily forced to conclude that ancestral worship cannot have any deep-rooted sentiment, and that it is, like the system of government, a matter of precedent, or, as the native picturesquely puts it in his pigeon English, "That b'long ole custom."

At Shanghai, Canton, and even in the interior, there are to be met large buildings, frequently of elaborate and beautiful design, called ancestral temples, where the records of past members of a great family are kept and the honors that individuals have won for the house are properly posted. Here the various branches of the family



Chinese Graves

can meet and worship before the little tablets bearing the names of their fathers and grandfathers. But such buildings have a purpose other than a purely religious one. They provide a place where, at stated times, the scattered members of the clan can come together and see each other. They have, therefore, a social, or rather a tribal, function as well as a religious one.

Reference was made above to the trait of exclusiveness in the Chinese character. No great principle ever stops abruptly in its effects, so this spirit of exclusiveness not only limits the external bearings of the empire, but affects the internal relations of the people as well. Carried out to the logical conclusion it has made the family the supreme unit. To his family, not merely his wife and children, but his family collectively, to the tribal or community relation, as it were, the Chinaman owes his first allegiance ; after that to the district ; then to the state or province ; and finally to the nation. In consequence, any real national feeling or pride, or any sense of genuine patriotism, or in fact of any patriotism whatever, is absolutely wanting. The nation as a whole is a great mass without cohesion, and inviting the comparison, which is so frequently made, to a huge jelly-fish. When the war between China and Japan broke out, the men in the interior, provided they were cognizant, which many were not, that a struggle was going on, declared it to be

that "Peking man's [Li Hung-chang] war," that he had got into it, therefore let him get out of it, entirely oblivious of the fact that they themselves constituted China, and that no matter who was the author or what the cause, war was on, and war with China meant not war with Li Hung-chang, but war with them. In the same way they have tolerated, with scarcely a protest, the giving away of their national territory. The man from the interior cares not a whit whether Germany occupies Shan-tung, or whether Russia has seized the Liao-tung peninsula — "that is the 'pigeon' [*i.e.*, business] of the Shan-tung man." On a journey of some thirteen hundred miles between points of civilization which our expedition in its various parts collectively covered, with the single exception of a tug belonging to the China Merchant Steamship Company which, according to the custom of that company, carried the Chinese flag, and which we happened by chance to meet on the Siang River, we saw not a single Chinese national emblem, except the one that I flew on my own junk alongside of the Stars and Stripes. From no official yamên, from no city wall or military camp, was it once displayed. No river gun-boat threw it to the breeze, nor did any body of troops carry it at their head. Flags everywhere were in profusion, and in great profusion of colors and design, but they were always of a local or personal character. Every gun-boat carried at least two



Flags were Everywhere in Profusion

beautiful red ones with huge white hieroglyphics—the name of the commander. The regiment or guard that marched with us bore standards on which was inscribed the designation of their captain. The flag of China was everywhere absent. There was but one man in that long journey found to do it honor, and that man was a “foreign devil.” Undoubtedly there were thousands who saw for the first time the flag with the yellow field and the blue dragon, which they supposed to be the fanciful and decorative creation of the foreigner’s mind.

The personal bearing of the upper-class Chinaman, even in the interior where he never comes in contact with the outer world, is kindly, courteous, and polite, and quite up to what is found in similar classes in other countries, to which we apply the term “civilized.” On my inland journey, when approaching a town or city, I was invariably met, at some distance outside the walls, by a subofficial representing the chief magistrate, who handed me the latter’s card and bade me welcome. A Chinese card is a piece of thin red paper, about six inches long and three wide, with the name printed in bold, black characters. There are fashions in cards in China as in Europe. Some high officials affect large cards as indicative of rank. Other persons, when leaving cards on persons of position, use characters of microscopic size as suggesting great inferiority on the part of

the caller, a very pretty compliment, but one whose sincerity, like other compliments, is open to question. Mourning is indicated by a small character in an upper corner. On reaching my quarters, usually a temple, the local officials immediately called, those of junior rank merely leaving their cards without troubling me, and



General Liu Kao-chao at Tiffin

those of higher rank sending in their cards and waiting for an interview if I desired one. The etiquette of leaving cards and immediately returning calls is more rigorous than with us. On first meeting with an official, conversation was naturally formal and stilted, but on subsequent occasions small-talk would flow as easily as the limitations of interpreting both ways would permit.

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In some cases, where acquaintance was developed by being fellow-travellers, we found among those people precisely the same spirit of companionship that existed among ourselves. External appearances and differences in environment do not affect human nature. General Liu Kao-chao, military commandant of Chang-sha, who journeyed with us for three hundred miles, by his genial and whole-souled character caused us to part with him with deep regrets, and his evidently unfeigned delight in his midday tipple of Scotch whiskey at tiffin will always remain a bright spot in a very interesting journey.

Chapter

V

Commerce and Commercial Relations

THE foreign commerce of China is carried on through and at twenty-nine Treaty Ports. Previous to 1840 trade with foreigners was much hampered owing to its being subject to local regulations, all of which were annoying, many of them ridiculous, and some actually jeopardizing to both life and property. In 1842 Great Britain, availing herself of the successful outcome of what is known as the Opium War, stipulated that as one of the indemnities, China should declare the ports of Canton, Amoy, Fu-chow, Ning-po, and Shanghai to be thrown entirely open to British trade and residence, and that commerce with British subjects should be conducted at these ports under a properly regulated tariff and free from special Chinese restrictions. Although Great Britain nominally secured for herself special considerations, she intended and actually accomplished the establishing of commerce between China and all other nations on a sound and liberal basis. The treaty of Nan-king was immediately followed by similar treaties with other powers, that with the United States being executed in 1844. Additional ports, decreed by treaties or other arrangements by the Chinese Government, have been added from year to year. At the end

of the year 1899 the Maritime Customs reported twenty-nine of these ports with several branch or sub-ports in addition. At nearly all of them there is a special reservation, called the foreign concession, where foreigners are allowed to reside and regulate their method of living in their own way. Although foreigners are permitted to dwell in the Chinese quarter if they so desire, the right to hold property in the concessions is usually denied to Chinese, and they are discriminated against in other ways.

Previous to 1860 the management of foreign commerce had been in the hands of Chinese officials, with the usually unsatisfactory result attending any official department handled by native overseers. In that year the business of the port of Shanghai was placed temporarily in the hands of English, American, and French Commissioners, who were able to so improve the receipts by efficient and honest management that the Chinese Government, recognizing the desirability of continuing foreign supervision, organized the Imperial Maritime Customs and placed the management of the whole foreign trade in the hands of a single Commissioner, called an Inspector-General. It appointed to this position Mr. Lay, succeeded in 1863 by Mr., afterward Sir, Robert Hart, who has continued in the control since then, and to whom is due the present very satisfactory condition of the management of this Bureau, to

which has since been attached, in order to secure efficiency, a Marine Department, covering light-houses and harbor regulations and the Chinese Imperial Post-office.

The ports open in 1899 were: Niu-chwang, Tien-tsin, Che-foo, Chung-king, I-chang, Sha-si, Yochow, Hankow, Kiu-kiang, Wu-hu, Nan-king, Chin-kiang, Shanghai, Soo-chow, Ning-po, Hang-chow, Wen-chow, San-tuao, Foo-chow, Amoy, Swa-tow, Wu-chow, Sam-shui, Canton, Kiung-chow, Pak-hoi, Lung-chow, Meng-tsz, and Sz-mao. Of these Niu-chwang is located in the north, at the terminus of the Chinese Imperial Railway, and is the gateway through which the trade passes from China to Russian Manchuria. Two ports, Tien-tsin and Che-foo, are situated on the Gulf of Pe-chi-li, while the next eleven on the list, Chung-king to Soo-chow, are on the Yang-tze Kiang or its tributaries. Seven ports, Ning-po to Swa-tow, are on the East Coast. Wu-chow and Sam-shui are on the West River. Canton is the great port of Southern China and the oldest seat of foreign trade in the country. Kiung-chow is on the Island of Hainan, and Pak-hoi, Lung-chow, Meng-tsz, and Sz-mao are on the Franco-China frontier of Tong-king. The last three and Niu-chwang are the only places not situated on important waterways. Of the total foreign trade about three-quarters is transacted through Canton, Shanghai, Tien-tsin, and Hankow, which are the great dis-

tributing points for the south, middle coast, north, and interior.

The importance of Canton, Shanghai, Tien-tsin, and Hankow, is fixed by geographical conditions. Canton is at the head of the Canton River, which is really the estuary for the combined flow of the West, the North, and the East Rivers, the three principal streams and consequent trade routes of Southern China. With its fine harbor and juxtaposition to Hongkong, it is, of necessity, and must always continue to be, the gateway to the southern part of the Empire. In like manner, Shanghai, at the mouth of the Yang-tze, is the controlling point for the whole of the central zone; while Tien-tsin, the port of Peking, is the entrance to the north, the northwest, and Mongolia. Hankow is at the head of steamship navigation on the Yang-tze, and at the junction of that stream and its principal tributary, the Han, and if the extreme western part of the country be omitted, which part is mountainous and very thinly populated, Hankow is approximately the geographical centre of the Empire.

Native vessels trading between native ports report at custom-houses administered by native officials, where the records are hopelessly confused, and which, as a source of income to the Chinese Government, will be referred to in a later chapter.

The foreign commerce of China, both import



Wall along Yang-tze Kiang at Wu-chang, opposite Hankow
In the foreground are mat-shed houses for boatmen. During high water these houses must be removed

and export, is growing steadily, having doubled since 1891, the figures for 1899 showing that foreign goods to the value of 264,748,456 Haikwan taels (\$185,324,000) were imported, and native goods to the value of 195,784,332 Haikwan taels (\$137,049,000) were exported, or a total commerce of 460,533,288 Haikwan taels.

Owing to the lack of internal communication, the distribution of Chinese commerce is singularly restricted. Of the imports more than one-half is confined to two classes of articles alone; thus cotton and cotton goods in 1899 accounted for 40.2 per cent., and opium, unfortunately, for 13.5 per cent. In like manner the exports, silk and tea, stand out almost without competition with other articles; these two together also aggregating more than 50 per cent. of the total. Silk provided no less than 41.8 per cent. and tea 16.3 per cent. Kerosene oil, metals, rice, sugar, and coal are other articles largely imported, and beans, hides and furs, mats and matting, and wool other exports.

Although the extent of the traffic entered at native custom-houses, or, at least, not passing through the Maritime Customs, cannot be ascertained, that it is considerable is well understood, as can be shown by the single item of the export of rice. The exportation of this article was in 1898 prohibited in order to prevent a possible shortage at home. The Maritime Customs, there-

fore, report no rice as having been shipped outward during that year. The Japanese Customs, however, report having received rice from China to the value of \$2,000,000 United States gold. It had been smuggled out in native vessels through the native customs and the Government deprived of revenue. An amusing explanation of this is given, which so thoroughly illustrates Chinese methods as to be worth repeating. As rice forms the greatest single item in Chinese food, any falling off in supply threatens a famine, the one thing the Government most dreads. Such being the case in 1898, stringent orders were sent to the Customs Tao-tai in Shanghai to prohibit any export of the grain, the greatest source of supply for which being the Yang-tze Valley, Shanghai is the natural point of shipment. On account of the power attached to it, and the opportunities offered, the position of Shanghai Tao-tai is one specially sought after, and it is generally believed that the price paid for a three-year appointment, in the way of "presents" to the Palace officials, is about 200,000 taels. Since the authorized emoluments are about 20,000 taels per annum, out of which expenses exceeding that amount must be paid, it is evident that great financial skill must be displayed by the official in order to make both ends meet. On receipt of the restraining order, the Tao-tai, under the advice of the syndicate who were "financing" him, held the order for some

days, during which time the energetic syndicate members bought all the rice in sight, put it in vessels, and rushed it abroad to Japan, a country which buys the inferior grade of Chinese rice for home consumption and ships abroad its own superior article. As soon as the embargo was published, the value of rice afloat at once rose and the Tao-tai syndicate cleared a handsome profit. This illustrates Chinese fiscal methods, and warrants the statement that the actual foreign commerce of the country is greater than the figures indicate.

China levies on its foreign commerce a tariff for revenue only. The rate charged on nearly all articles is five per cent. on imports and exports alike, although there are some special rates and a number of articles on the free list. The actual average rate on imports and exports runs from three to four per cent. It is the general opinion of merchants in China that, should it become necessary to add to the Government's income, this rate could be increased without any serious detriment to foreign commerce. In Japan the Government has found it necessary, in order to derive more revenue, to seriously increase its custom tariff, so that the present charges range from thirty to fifty per cent. *ad valorem*.

Foreign articles destined for consumption at the treaty ports or places of importation pay no further taxes. When, however, they are sent into the interior, they are obliged to pay internal trans-

portation taxes called "Likin," collected at various stations along the trade routes. These likin charges, although they form a perfectly legitimate method of taxation, are objected to by the Chinese quite as much as by foreign traders, on account of their uncertain amount, which, according to Chinese custom, is left largely to the official in charge, who collects as much as he can. The foreign nations, in order to obviate these difficulties, have arranged with the Chinese Government to permit foreign articles destined for the interior to pay a single tax of two and a half per cent. to the Imperial Maritime Customs and then to receive what is called a "transit pass" entitling the goods to pass the interior likin stations without further charge. Unfortunately these transit passes are not always respected by officials in the interior, unless they think that the shipper will appeal to a foreign government, and therefore the officials are apt to levy likin in accordance with their own needs, and of the total collected, but a small part finds its way into the public treasury.

The native merchant has no such advantage as the foreigner in securing immunity from likin extortion, and has to resort to all sorts of subterfuges to escape the impositions of his own countrymen, one of the most frequent of such resorts being to keep his goods under the name of a foreign merchant if possible. Another device was told to me by a customs official on the West River,

where the local farmers raise tobacco which is consumed mostly in Northern Kwang-tung. If it were shipped direct it would be charged en route a large and uncertain likin tax, the uncertainty of the amount being the worst feature, as it may easily convert an apparently profitable transaction into a serious loss. To avoid this the tobacco is loaded on a sea-going junk and shipped to Hongkong. From there the junk brings it back and enters it at the point of original shipment as a foreign importation. For this the merchant secures a transit pass under which he ships it to its destination. He has paid the freight and import taxes of five per cent. each, the transit pass fee of two and a half per cent., and the shipping charges both ways to Hongkong, and the expense of rehandling. These items he can ascertain accurately beforehand, and therefore prefers paying them rather than run the likin gauntlet, which may be from ten per cent. to fifty per cent. or more.

The Chinaman is by very instinct a trader, is quick to see and seize an opportunity to turn a profit, and has, what few other Eastern Asiatics have, a high sense of commercial honor. Although the great mass of them is poor, yet there is a wealthy class, and there exists, even in the interior, a demand for much more than the mere necessities of life.

Now, what have the United States done in the

past in this great country, how do they stand there to-day, what can they do and what should they do in the future? These are the considerations that most concern us.

To answer the first two of these questions, there are two sources of statistics which we can examine—the returns of the United States, and of the Imperial Chinese Maritime Customs. Unfortunately, both of these sources are rendered valueless for exact deductions because of Hongkong. This, as is well known, is a British colony, and one of the few places on the globe where actual free trade exists. Being a British colony, enjoying free trade, and possessing a magnificent harbor, it has become a great depot, or warehouse, where goods, whose ultimate destination, either in China or anywhere else in the Far East, is not definitely fixed, are shipped in the first instance, and thence rebilled to the point of consumption.

In this act their nationality is lost, for the returns of the shipping nation classes them as exports to Hongkong, while China, of course, treats them as imports from that place. The import returns of the Imperial Maritime Customs show that nearly one-half of the foreign commerce entering China comes from Hongkong. Thence many writers fall into errors, either by taking the direct trade between China and any other country as limited to the reported figures, or by classing Hongkong under the head of Great Britain

and Colonies. The conclusions reached in these ways are grievously wrong. Although foreign goods are trans-shipped from Hongkong to Japan, the Philippine Islands, Siam, and other parts of the Orient, yet at least three-quarters of all goods (of American probably a higher proportion) received there find their final market in China; so to determine approximately the exports from the United States, or from any other country to China, the only way is to add to the direct exports three-quarters of the shipments to Hongkong. And to determine the relative standing of the trade of several nations, we should deduct the Hongkong trade from China's total as shown by the returns of the Imperial Maritime Customs, and then compare the reported direct imports or exports. This last calculation will not yield the actual amount of trade by about one-half, but it will show with fair closeness the percentage of trade secured and the rate of increase. I have in this manner obtained the figures for the year 1893, the period just previous to the Japanese War; those of 1883 and 1873, respectively the tenth and the twentieth year preceding 1893; and those for 1898, the fifth year following, and also for 1899, the last complete year of normal trade conditions existing before the Boxer revolution. This table shows the import trade of China exclusive of Hongkong and the relative standing of the leading commercial powers, the actual trade of which is not as

stated, for the table does not include shipments through Hongkong.

DIRECT EXPORTS TO CHINA.

	1875		1883		1893		1898		1899	
	Hk.	Tls.	Hk.	Tls.	Hk.	Tls.	Hk.	Tls.	Hk.	Tls.
Total, except Hongkong	44,202,000	45,863,000	72,435,922	116,737,079	146,652,248					
Great Britain	20,991,000	16,930,000	28,156,077	34,962,474	40,161,115					
India	16,709,000	17,154,000	16,739,588	19,135,546	31,911,214					
Japan	3,207,000	3,738,000	7,852,068	22,581,812	31,414,362					
Continent of Europe..	662,000	2,385,000	5,920,363	10,852,073	13,405,637					
United States	244,000	2,708,000	5,443,569	17,161,312	22,288,745					

In the above table all the Continental powers of Europe are grouped as one. From this it will be seen that the export trade of the United States, an insignificant amount in 1873, has now outstripped the combined exports from the whole Continent of Europe, and will be soon contesting for second place with India and Japan. Had it not been for sudden increased shipments in 1899 of certain special articles like coal on the part of these countries, which articles China can and should produce, the United States would have passed the Indian trade and be close on to that of Japan. In point of exports from China the United States trade in 1899 had reached a point surpassing that of any other country except Great Britain.

But along what lines have these increases been made? Do they represent only a greater outturning of raw material—the direct products of the soil—or of manufactured articles, carrying

with them the results of American ingenuity and American labor, a form of export trade always the most desirable?

Taking the full list, there were, according to the United States Government classification, exports in 1893 under fifty-seven heads, but in 1898, according to the same classification, exports under seventy-six heads. The greater part of the increase in the five years (amounting to a total of \$6,091,613) was due to manufactures of cotton, which increased \$3,558,794; to raw cotton, which increased from nothing to \$370,670; to manufactures of iron and steel, including machinery, \$416,048, and to oils, chiefly kerosene, \$1,055,797. The manufactures of cotton, which in 1898 amounted to \$5,193,427, reached, during the next United States fiscal year (1899), \$9,844,565. That is to say, the value of cotton cloths alone was, in the year 1899, almost as large as the value of the total American imports into China during the preceding year of all articles of whatsoever nature. This class of goods, the products of our New England and Southern mills, is the greatest single item of American commerce, and has already reached a point where, in certain grades, it dominates absolutely the Chinese market.

Taking Drills, Jeans, and Sheetings, the three great items of cotton goods consumed by the Chinese, and examining the trade of the three northern ports of Niu-chwang, Tien-tsin, and

Che-foo, American goods comprise of total receipts at the first : ninety-eight per cent., and at the second and third ninety-five per cent., the small remaining balance being divided between the English, Indian, Dutch, Japanese, and other manufacturing nations. But quite as extraordinary as this there must be kept in mind the fact that of the total exports to all countries of American manufactures in cotton cloths, the Chinese market consumes just one-half.

Another article of American commerce that figured very small in the early returns, but now shows a great and increasing importance, is flour. It is shipped almost wholly to Hongkong, and thence forwarded to Canton, Amoy, or other southern Chinese ports. In the fiscal year ending June 30, 1898, no less than \$3,835,727 worth was exported from here, and during the corresponding period of 1900, a value of \$4,502,081. Wheat is not grown in Southern China, and American flour has captured the demand, just as American cottons have done in the north. Next to Great Britain and Germany our best customer for American flour is China.

Such is the state of our Chinese trade to-day, and no one can find fault with its present condition and its recent development. But what of the future?

The success of the American commercial invasion depends absolutely on the maintenance of

the existing status. China, in the liberality of the regulations affecting foreign commerce, is second to no other nation. In levying a tax, amounting to less than four per cent., she gives preferential duties to none, special privileges only as compelled by the stress of force in Manchuria and Shan-tung, and extends a freedom of welcome to all. It is true that nations occupying Chinese territory make so far no invidious distinction between their own and other people; but it must be remembered that their tenure is only nominal, and while the title to these lands remains vested in China, it would be difficult, in the face of existing treaties, to impose discriminating rules. Let Russia, however, become legally, as she is virtually, possessed of Manchuria; let her Trans-Siberian railway be completed, and let her claim openly as her own, not only Manchuria, but also the metropolitan province of Chi-li, is it to be supposed for one moment that the present freedom and equality of trade that China offers will be maintained? If anyone believes this, let him talk with those in China who direct the course of Muscovite affairs. These officials, when in a confidential mood, will explain that the Trans-Siberian railway is a Government enterprise, and that it is much more important for Russia to give low and special rates to Russian cotton and other manufactures which the Government is fostering at home than to look for a direct profit from the operation

of the railway. And yet Manchuria and the north-eastern part of China are to-day the best market for American goods. During the year 1899 no less than \$6,297,300 worth of our cottons alone entered the port of Tien-tsin, and \$4,216,700 worth entered the port of Niu-chwang in addition. The latter amount was for consumption in Manchuria, Chinese and Russian. It is interesting to note that the whole import trade (including exports through Hongkong) from Russia, Siberia, and Russian Manchuria to the whole of the Chinese Empire amounted to less than the imports of two grades of American cotton goods at Niu-chwang alone. When, therefore, Russia seized Lower Manchuria, the country most interested next to China, whose territory was being despoiled, was not Japan, who was being robbed of her fruits of victory; was not Russia, who was adding another kingdom to her empire; was not Great Britain, the world's great trader, but it was, little as it was appreciated, the United States. The American interests in seeing commercial equality maintained, far and away transcend those of any other nation.

Foreign trade in China to-day is confined exclusively to the treaty ports located along the coast and up the Yang-tze River. When goods are shipped to China, they are resold by the foreign houses resident in these treaty ports to Chinese merchants, and by them in turn are retailed

in the interior. So far, therefore, as the foreigner directly is concerned, his trade is confined simply to the outer edge of the country ; to him the interior is a *terra incognita*. The success of a commercial invasion depends, not on these treaty ports, not on the purchase of goods along the outer edge of the country, but on the possibility of reaching directly that great mass of population which lies far away from the sea, out of reach of existing means of transportation, and practically buried in the interior. If they cannot be got at, or if, when reached, they cannot and will not trade, then it is not worth while to consider any general forward movement.

In the course of my journey in the interior of China, I went through the province of Hu-peh, which the Yang-tze Kiang traverses; the province of Kwang-tung, lying along the China Sea, and, between these two, the province of Hu-nan, which practically had not been traversed before by white men. Here evidently was virgin soil, and its condition can, therefore, be taken as a criterion of what the Chinaman is when unaffected by foreign influences. Even here I found that, although the foreigner's foot might never before have trodden the streets of the cities, his goods were already exposed for sale in the shop-windows.

In thinking of the Chinese, especially those in the interior, we are wont to consider them as uncivilized ; and so they are, if measured scrupulous-

ly by our peculiar standards. But, on the other hand, they might say with some justice that we are not civilized according to the standards that they have set for themselves, founded on an experience of four thousand years. With all its differences from ourselves, a nation that has had an organization for five thousand years; that has



Road-side Shrine in which Papers are Burned

used printing for over eight centuries; that has produced the works of art that China has produced; that possesses a literature antedating that of Rome or Athens; whose people maintain shrines along the highways in which, following the precepts of the classics to respect the written page, they are wont to pick up and burn printed

papers rather than have them trampled under foot; and which, to indicate a modern instance, was able to furnish me with a native letter of credit on local banks in unexplored Hu-nan, can hardly be denied the right to call itself civilized. In the interior—in those parts where no outside influence has ever reached—we found cities whose walls, by their size, their crenelated parapets, and their keeps and watch-towers, suggested mediæval Germany rather than Cathay. Many of the houses are of masonry, with decorated tile roofs, and elaborately carved details. The streets are paved with stone. The shops display in their windows articles of every form, of every make. The streams are crossed by arched bridges unsurpassed in their graceful outline and good proportions. The farmer lives in a group of farm buildings enclosed by a compound wall—the whole exceeding in picturesqueness any bit in Normandy or Derbyshire. The rich mandarin dresses himself in summer in brocaded silk, and in winter in sable furs. He is waited on by a retinue of well-trained servants, and will invite the stranger to a dinner at night composed of ten or fifteen courses, entertaining him with a courtesy and intricacy of etiquette that Mayfair itself cannot excel. Such are actual conditions in parts of China uninfluenced by foreign presence, and so far the civilization of the interior is a real thing. That the Chinaman allows his handsome buildings to

fall into disrepair ; that his narrow city streets reek with foul odors ; that the pig has equal rights with the owner of the pretty farm-house ; and that the epicure takes delight at his dinner in sharks'



A Hu-nan Farm-house

fins instead of terrapin—these are merely differences in details ; and if they are faults, as we consider them to be, they will naturally be corrected as soon as the Chinaman, with his quick wit, perceives his errors, when the opportunity to study Occidental standards comes to him.

Chang-sha, the capital of Hu-nan, is one of the most interesting cities in the whole Empire, as marking the very highest development of Chinese exclusiveness and dividing with Lhassa in Tibet the boast of shutting its gates tightly in the face of foreign contamination. In a previous chapter an account was given of how the present conservative governor had closed the schools organized by his more liberal predecessor, and

had tried to root up the budding movement toward reform and progress. But he made one interesting and highly suggestive omission in allowing the electric-light plant to continue. When, at the end of our first day at Chang-sha, as I stood on my boat watching the city wall, the picturesque roofs, the junks on the shore and the surging crowd slowly lose their distinctness in the twilight, and then saw them suddenly brought into view again by the glare of the bright electric arcs as the current was turned on to light the narrow streets, I smiled as I realized the utter impossibility of stopping the onward march of nineteenth century progress, and that the Chinese themselves, even at the very heart-centre of anti-foreignism, are ready to turn from the old to the new.

In the shop-windows at Chang-sha there are displayed for sale articles with American, English, French, German, Japanese, and other brands. One shop, I noticed, displayed a good assortment of American canned fruits and vegetables. This is the condition of affairs, not in Shanghai or Amoy, open ports, but in the most exclusively Chinese section in the whole Empire. That the Chinaman will buy, that he will adopt foreign ways, there is no question; and he is just as ready to make the greater changes in his life that must result from the introduction of railways as to buy a few more pieces of cotton or a few more tons of steel.

But in order to buy more, the Chinaman must be able to sell more ; for no matter what his inclination may be, unless he has something to give in return, he cannot trade. The exports from China have been expanding gradually, and in step with the imports. In 1888 they were 92,401,067 taels ; had increased to 116,632,311 taels in 1893, and had further advanced to 195,784,332 taels in 1899. The two great items of Chinese export, as was shown above, are silk and tea. The output of silk is increasing steadily, especially in the manufactured form. The amount of tea exported, however, is not on the increase, being about the same that it was ten years ago, the tea trade having been adversely affected by the competition of Japan, Ceylon, and India, where more favorable transportation facilities have given advantages. Both tea and silk, however, are staple articles, with no chance of substitutes being found, and the world's demand for both is steadily increasing. The possibility of enlarging the output of silk is great, for there are in Northern Kwang-tung alone large areas of land capable of producing mulberry, that are lying idle at present because there are no transportation facilities.

The idea we have of the interior of China as over-peopled, and with every square foot of land under cultivation, is entirely without foundation, except possibly in certain portions of the great loess plain in the north. There is a great

amount of land, capable of producing crops of various kinds and of supporting a population, that to-day lies fallow and untilled. Given the means of sending their produce to the sea and so to the foreigner, the people of the interior will see to it that the produce is ready.

Then there are vast mineral resources that are practically untouched. China, with coal-fields exceeding in quantity those of Europe, imported last year no less than 859,370 tons of coal, valued at \$4,477,670 gold, nearly the whole of which came from Japan. With railways to bring the output of the mines to market, there will not only be no importing, thus permitting at least that amount to be expended for other foreign goods, but there should be a large export of coal to Hongkong for foreign shipping, and to other Eastern countries for local consumption. In addition to the coal, there are beds of copper, iron, lead, and silver that, to-day untouched, are only awaiting the screech of the locomotive whistle.

In short, the resources, both agricultural and mineral, are at hand to permit a foreign commerce to be carried on—to pay the cost of building of railways and to provide sustenance for a commercial invasion.

But as yet China has made no effort to develop her latent powers. As was shown, the bulk of her exports are confined to two articles, due to her people not utilizing their natural advantages

in diversity of soil and climate. Each locality produces that single article which gives the best local result, without considering broad market conditions. Thus in the south it is mostly silk and rice; in the central zone rice and tea, and in the north millet and wheat. Every bit of valley land is cultivated, but the hills are let go waste. There are great areas of grazing land where some day the Chinese will let herds roam, producing beef and hides, which they will turn to commercial profit; while on other hill-sides, as I saw being done in places, they will set out forests, and arbor culture will be well suited to their patient ways. As yet they have worked their lands only with a view to home consumption; there are many ways in which they can devote them and their energies to furnish export articles for the imports they will buy.

The position of the United States in China is peculiarly advantageous, because, in the first place, China regards our country as friendly in the desire to protect rather than despoil her territory, and because, in the second place, other nations have been willing to see ours come forward when they would have objected most strenuously to the same advancement on the part of one of their own number. The men who guide our national affairs and foreign commerce should always see to it that China's confidence is not abused. But as for the friendliness of other nations tow-

ard us in relation to China, so soon as the pressure of American trade begins to be felt by them, efforts will be made to thwart it if possible ; and it must be remembered that to-day all the machinery of commerce, in the way of banks, transportation companies, cable lines, and other forms, is in their hands. When the meeting of the American and European invasions takes place, unless we have an organization, a base and rallying point, a tangible something besides mere labels on boxes or bales as representing American force, the struggle will be a hard one, for the native is apt to judge his associates by the outward visible signs, and with a natural tendency to deal with the strongest. In this respect commerce in the Far East stands, and will stand for a long time, on a different footing from that of commerce in Europe.

In order to be thoroughly successful, to expand our trade far beyond its present boundaries, we should make a careful and intelligent study of the Chinaman in his tastes and habits. If we wish to sell him goods, we must make them of a form and kind that will please him and not necessarily ourselves. This is a fact too frequently overlooked by both the English and ourselves, but one of which the Germans, who may be our real competitors in the end, take advantage. For example, at the present moment, if a careful study were made of Chinese designs, the market for American printed goods could be largely broadened. It is

not for our people to say that our designs are prettier ; the Chinaman prefers his own, and he will not buy any other. The United States Minister to China, talking upon this subject, gave me a striking instance of foolish American obstinacy. The representative of a large concern manufacturing a staple article in hardware, let us say screws, had been working hard to secure an order for his screws, which he knew were better than the German article then supplying the demand. At last he obtained a trial order, amounting to \$5,000, which he cabled out ; but it was given on the condition that the screws be wrapped in a peculiar manner, say in blue paper, according to the form in which the native merchant had been accustomed to buy them. Was the order filled? Not at all. The company cabled back that their goods were always wrapped in brown paper and that no change could be made. The order then went to Germany. To the American concern an order for \$5,000 was of small moment, perhaps ; but they overlooked entirely the fact that this was the thin edge of the wedge, opening a trade that could be developed into tremendous proportions. This instance is not isolated, for, unfortunately, the reports of all our consuls are filled with parallel ones.

A study must also be made of the grade and quality of the article shipped. It is no use to send to China, to be sold in the interior, tools, for in-

stance, of the same high finish and quality that our mechanics exact in their own. A Chinaman's tools are hand-made, of rough finish and low cost. In the interior cities one sees a tool-maker take a piece of steel, draw all the temper, hammer it approximately to the shape of the knife or axe, chisel or razor, or whatever other article he may be about to make; then, with a sort of drawing-knife pare it down to the exact shape required, retemper it, grind it to an edge, and fix it in a rough wooden handle. This work is done by a man at a wage of about ten cents a day, and this is the competition that our manufacturer must meet. In spite of the difference in cost of labor he can do so, because his tools are machine-made, and are better; but he must waste no money on unnecessary finish.

As an example, the case of lamps is directly to the point. The Chinaman fairly revels in illumination; he hates the dark, and everywhere, even in the smallest country towns wholly removed from foreign influence, it is possible to buy Standard oil or its competitors in the Chinese market, the Russian and Sumatra brands. The importation of illuminating oils is increasing tremendously. In 1892 it was 17,370,600 gallons, and in 1898 it was 44,324,344 gallons. But what of the lamps in which this oil is burned? In 1892 the United States sent to China lamps to the value of \$10,813, and in 1898 to the value of \$4,690. That

is to say, lamps are one of the few articles which show a decrease. While the consumption of oil had increased more than two and one-half times, the importation of American lamps had decreased in almost the same ratio. This was not due to the manufacture of lamps in China, but to the German and Japanese manufacturers making a study of the trade and turning out a special article. These lamps—and I saw them for sale everywhere, even in unexplored Hu-nan—have a metal stand, generally of brass, stamped out from thin sheets, with Chinese characters and decorations; and were it not for a small imprint of the manufacturer's name on the base, they would be considered of Chinese make. They are inexpensive, of the kind desired by the Chinaman, although perhaps not for sale in Hamburg or Berlin. On the other hand, the American article, much more handsome, from our point of view, but also more expensive, is of the same style as is sold on Broadway in New York.

There is no need to multiply examples. There awaits the American manufacturer an outlet, especially for tools, machinery, and other articles in iron and steel. He will find a demand for the smaller and lighter machines, rather than for the larger ones. That is to say, he must appeal first to the individual worker who exists now, rather than aim at the needs of a conglomeration in a factory which will come about in the future. The

tools should be simple in character, easily worked and kept in order, and without the application of quick-return and other mechanical devices so necessary for labor-saving with us. Light wood-



A Chinese Saw-mill

The teeth of the saw are arranged to cut on the up stroke instead of on the down, as in other countries

working machinery can be made to supplant the present manual-labor methods; and a large field is open for all kinds of pumps, windmills, piping, and other articles of hydraulic machinery.

Cotton goods of the finer grades, as well as the

coarser which are supplied, household articles of all kinds, glassware, window-glass, wall-paper, and plumbing fixtures will find a ready market, as will also farm equipments, such as light-wheeled vehicles and small agricultural implements of all kinds. In these, as in many manufactured articles, American trade has as yet made little or no impression; and yet the American article has an acknowledged superiority over any other foreign make.

It is necessary for us also to study the Chinaman himself. The English and American traders make but little attempt to learn the language, and therefore frequently fail to come into personal contact with the native merchant. They are inclined to leave such negotiations to be conducted through a compradore, a native in the employ of the firm, who makes all the contracts, and who guarantees to his firm all native accounts, receiving a commission for his services. The German, and especially the Japanese, merchants, on the other hand, make a great effort to come into direct relations with those with whom they trade. They are still making use of the compradore system, but within reasonable limits. As to which course is preferable in the long run there can be no question. Our houses should adopt the suggestion made in the report of the Blackburn (England) Chamber of Commerce, "to train in the Chinese spoken language and mercantile customs youths

selected . . . for their business capacity. Such a system," the report adds, " would give us a hold over foreign trade in China that present methods can never do."

Finally to be considered, there is the official representative of the United States, the consul. It is bad enough, as our practice is, to send consuls to France, or Germany, or Italy, who are unacquainted with the language of the country. But how much worse to send as our Government agents to China, the nation most difficult of all to come into relations with, men without any idea, not only of the language, but of the customs and the idiosyncrasies of the people.

This is not a reflection upon our present staff, many of whom are excellent and worthy men and who are now acquainted with the characteristics of those to whom they are accredited. But under our system, by the time a man understands his duties, he is removed. Nowhere else in the world is there so great a need for a permanent consular service as in China.

The British Government long ago established a separate consular service for the East, entirely distinct from that elsewhere, so that a man once in the Chinese service stays there, and is not likely to be transferred to a European or American post. Secretary Hay has lately made a beginning toward this end by proposing to establish a school at Peking. If the idea is not carried out now,

circumstances will compel its adoption later. We should awake to the realization of our opportunities, and unite for the invasion, not only of China, but of other Oriental lands as well.



A Military Officer and Two Privates

Chapter
VI
Finances of China

THE ability of the Chinaman to contradict himself reaches the maximum in matters of finance. This strikes the observer as singular, for the Chinese have no equals in their understanding of the use of money, in their ability to husband it and make it go far, and in their economical and saving habits. Yet they have elaborated a monetary system which, for cumbersome and downright wastefulness, is without an equal.

This lack of progress is rendered more extraordinary by the fact that bank-notes, one of the greatest steps in the way of making financial transactions more convenient, originated in China, where they were known probably as early as A.D. 800, or about eight centuries before the device was reinvented in Europe. In the first place there is no standard of value; the nearest approach being a tael, which is subdivided decimally into maces, the mace into candareens, and the candareen into li. But these things exist in names only, and not as coins, for the tael is but a weight of silver bullion. This would be serious enough if there was only one tael, but, as a matter of fact, there are over sixty in different parts of the country differing in value as much as ten per

cent., the nearest approach to a standard being the Haikwan tael as used in the Maritime Customs. When, therefore, a native merchant wishes to pay a debt, it is not only necessary for him to know the price, but to know the tael that the price is expressed in, and to have at hand a set of scales to weigh his broken bits of silver, while a discussion as to the "touch" or fineness of the metal offered may readjust the whole transaction.

There is, however, a Chinese coin, the cash. This is of copper, round in shape with a square hole in the centre to permit the pieces to be strung together. It is a coin of great antiquity. The earliest forms were about five inches in length and something less than an inch in width, shaped like a small knife and went by the name of "knife" cash. These latter coins were in use as early as 2,500 B.C., and owe their form probably to the fact that at that time the martial spirit predominated, and a man's knife was his most valuable possession, and therefore he made his currency in the same shape. Later the knife-cash coin was changed to the "bell" cash, which is taken to indicate that the people had become more civilized and that agricultural pursuits were now dominant. This form of coin began to come into use about 2,000 B.C. They are about 2 to 2½ inches in height and 1 inch or more in width, and are shaped somewhat like a bell with a hole at the top. The present value of the cash, which is

made of copper or brass, is very small, about twenty of them being required to make an American cent, so that values expressed in cash, while sounding enormous, are really of small moment. Thus an account of 50,000 cash represents but \$25 gold, while to pay a bill of \$10, the services of a wheel-barrow and an attendant are required. For convenience in handling, one hundred cash are put on a string and then ten hundreds are tied together in two parallel strings of five hundreds each, the whole string of 1,000 being called a tiao, the value of which is approximately one silver dollar, but depending on the varying exchange between copper and silver. The system of cash as a standard of value is awkward enough in theory, but in practice it is worse on account of the varieties of size of individual coins, giving rise to "big" and "little" cash, eight of the former equalling about ten of the latter. As remelting of coins and counterfeiting is common, the careful Chinese has to examine every tiao he receives. At the treaty ports the foreigners introduced the silver dollar from Mexico, and an attempt has been made to coin for use in China dollars by other countries, notably the American experiment of the trade dollar. The Chinaman, however, would have none of it. He had been accustomed to understand the Mexican dollar, and when he met with other coins he cast them into the melting-pot. A beginning to straighten out the trouble

with its attending annoyances, inconveniences, and losses has been made by the establishing of local mints by some of the viceroys where they strike silver dollars of the weight and fineness of the Mexican dollar and subsidiary silver coins of 50, 20, 10, and 5 cents each. In keeping with the lack of centralized national effort, these coins are not of national character, but bear the imprint of the coining province. They, or some coin based on them and struck by the central authority, will probably become eventually the standard coin of the country, and the present system will be given up.

The problems of China's financial status and resources, rather than those of her monetary system, are of greater world importance, especially as some sort of Government assistance, in the way of building railways, opening mines, and developing the country will be found necessary and desirable in somewhat the same way as has been done in India and Japan.

Owing to the entire lack of statistical records, it is a difficult matter to obtain accurately either the resources or the disbursements of the Chinese Government. The funded debt of the country, however, is ascertainable, as such obligations have been taken by foreigners.

Previous to the war with Japan, the funded debt consisted of two issues of bonds, bearing date 1886 and 1887 respectively; the former for 1,855,108.82 Shanghai taels, and the other for

50,000,000 German marks, subject to reduction by sinking fund provision. Since the war the Government has been obliged to contract further loans. The existing funded indebtedness is given in detail in the following table.

The net amount of China's debt outstanding, exclusive of the railway debt, for which there is actual property of at least equal value in existence as an asset, is, therefore, £50,304,989. On the gross sum the total annual payments for both interest and sinking funds are £3,319,624, or exclusive of the interest on the railroad loan, which is self-supporting, £3,079,624. The debt of India, whose population is about the same as China, is about £135,000,000, or, deducting the value of the Government railways, £56,000,000, and the debt of Japan about £50,000,000. It can be seen, therefore, that in spite of the disastrous result of the Japanese War, the debt of China is not a large or burdensome affair.

The several sinking fund and interest payments on each of the above issues have been promptly met when due. To furnish the sums required for these payments and the other sums requisite to meet the expenses for maintaining the various branches of the Government, the Imperial Treasury has at its hand: firstly, the net returns of the Imperial Maritime Customs, which are, however, pledged specifically as collateral for some of the above loans; secondly, the net receipts of the Im-

CHINESE GOVERNMENT LOANS.
OCTOBER, 1900.

Name of Loan.	Original Amount.	Annual Redemption in Sterling.	Outstanding in Sterling.	Annual Interest.	Date of Final Payment.
7 Per Cent. Silver Loan of 1886 E.....	£250,000	£8,163	£124,597	£8,722	1917
5½ Per Cent. Gold Loan of 1887.....	245,000	24,510	49,019	2,696	1902
7 Per Cent. Silver Loan of 1894.....	1,453,333	10 equal drawings, commencing 1905.	1,453,333	101,733	1914
6 Per Cent. Gold Loan of 1895.....	3,000,000	15 equal drawings, commencing 1901.	3,000,000	180,000	1915
H. & S. B. C.					
6 Per Cent. Gold Loan of 1895.....	1,000,000	15 equal drawings, commencing 1901.	1,000,000	60,000	1915
Chartd. Bk. "Cassel Loan."					
6 Per Cent. Gold Loan of 1895.....	1,000,000	15 equal drawings, commencing 1901.	1,000,000	60,000	1915
Natl. Bk. of Germany, etc.					
4 Per Cent. Gold Loan of 1895.....	15,820,000	£200,000*	14,120,590	632,800	1931
French Syndicate guaranteed by Russia.					
5 Per Cent. Gold Loan of 1896.....	16,000,000	166,000*	14,507,675	800,000	1932
H. & S. B. C. and D. A. Bk.					
4½ Per Cent. Gold Loan of 1898.....	16,000,000	115,000*	15,049,775	720,000	1943
H. & S. B. C. and D. A. Bk.					
5 Per Cent. Ch. Impl. Ry. Gold Loan, 1898.	2,300,000	40 equal drawings, commencing 1905.	2,300,000	115,000	1945
5 Per Cent. Lu-han Ry. Gold Loan, 1898..	2,500,000	Semi-annual drawings, com. 1909.	2,500,000	125,000	1928
Totals.....	£59,568,333	£513,673	£55,104,989	£2,805,951	

* These issues retired through a Sinking Fund. In addition to the proportion stated being drawn, the interest on the whole loan is paid, and the surplus interest over that due on outstanding bonds is used as a further redemption fund.

perial Chinese Railway; thirdly, various sources of taxation.

As there is absolutely no system of accounting, or of making detailed reports, it is impossible to give even a close approximation of either revenue or disbursements, except in the case of the Imperial Maritime Customs. From such information, however, as is obtainable, the resources of the Government under the above three heads will be briefly stated.

Although the receipts of the Customs from import and export duties have been gradually increasing, in proportion to the increase in the import and export trade, on the other hand there has been a falling off in the receipts from opium likin, to about the same extent as the increases in the duties, so that the revenue of this department has varied but little for the past ten years, except that the receipts for 1899 show a sudden increase of about 4,000,000 taels over the previous average, distributed fairly evenly through the several sources of income. The report for the year 1899 gave the gross receipts as follows :

	Hk. Tls.
Import duties.....	8,437,471
Export duties.....	10,235,968
Opium likin	4,748,243
Coast trade duties	1,763,757
Transit dues	835,830
Tonnage dues	640,191
Total	26,661,460

or equivalent to about \$18,900,000 gold.

The expense of maintaining this department is not published, but from reliable information it is estimated to amount to about 3,000,000 taels per annum, leaving 23,500,000 taels as net profit. This last sum, the equivalent of about £3,500,000, is in itself almost enough to meet the services of the Government loans. An increase of only ten per cent. in the duties would make it ample.

The net earnings, over expenses, of the present Imperial Chinese Railway amounted to about 1,000,000 Mexican silver dollars, prior to its extension beyond Chung-hou-so, near the Great Wall, or, at least, such were the net returns as shown by the Chinese book-keepers, for, although the management of operations was in English hands, the revenue was received by native officials. A loan of £2,300,000 was contracted partly to provide funds to pay for the extension to Niu-chwang and thence to a connection with the Manchurian extension of the Russian Trans-Siberian Railway. The work was completed shortly before the "Boxer" uprising, when the railway was largely destroyed. No complete statement of operations was obtainable, but the traffic was apparently sufficient to much more than pay the interest charges. When reconstructed, this line will return to the Chinese Government, which is the owner of the stock, a handsome profit over the interest on the bonds, which are held largely in London.

The third source of income, namely, the various forms of taxation, is, of course, the most important, but, on the other hand, the most difficult about which to obtain reliable or even satisfactory information. The methods of internal taxation are complex and wasteful. The Imperial Board of Revenue at Peking makes out each year a budget for the expenses of the coming year, and proportions the total thus ascertained among the various provinces in accordance with what is considered their ability to pay, and the governors of the various provinces are then informed of the amount which they will be required to turn into the Imperial Treasury.

The Governor then distributes this amount, or such additional amount as he sees fit, among the tao-tais, prefects, and magistrates in his province. If the Governor or any other official pays in eighty per cent. of his assessment, no comment is made. If his return is less than that without adequate excuse, he is censured, and if he exceeds the full amount, he is publicly commended. As there are no accounts kept at any stage of the proceedings, the possibilities for stealing on the part of sub- or even high officials are practically unlimited, and there is no question but that there is collected from the people of China a very much larger sum than the Imperial Government reports as receiving. A part of this amount is deliberately stolen, and a part of it is wasted by the ridicu-

lously cumbersome and expensive methods employed.

The most fruitful source of revenue is the land tax, payable partly in cash and partly in grain. As illustrating the wasteful methods in vogue by the Government, frequently the actual money in silver bullion is forwarded to Peking, and even when the tax is remitted by draft, the latter is taken to Peking by a Chinese official, involving, of course, according to Chinese etiquette, the necessity of being accompanied by a large and expensive retinue.

The land tax is payable partly in money and partly in grain. The portion of the tax payable in grain is settled by actually sending the grain to Peking. Of course, the loss and waste in so doing, in addition to the cost of handling and storing it in Government granaries, is necessarily enormous. Were this grain sold in the open market, and the cash remitted, the net result would be much greater.

Next to the land tax the greatest source of Government revenue is the tax on salt. The sale of salt in China is an absolute Government monopoly, the importation of foreign salt being prohibited by treaties at the request of China.

As the production of salt is one of China's greatest industries, and as the principles involved are well illustrative of native methods, a short description will be of interest. The country at large

is divided into seven districts, in each of which salt is produced by evaporation from sea-water or from deep brine wells, as in Sz-chuen, and salt is not allowed to be carried from one district to another, no matter what the resulting economy might be. Salt so produced is sold to regularly appointed Government officials. In order to dispose of the salt, the Salt Commissioner of the district issues "warrants," each warrant entitling the holder to purchase so much salt. These warrants are perpetual and are personal property, and disposable at any time by sale, or by will on the holder's death. The number of warrants outstanding is supposed to be fixed, a rule frequently violated in spite of the protests by the warrant owners. The warrant owner, having purchased his quota of salt, can select any place in the district as his point of sale, whither he must transport his salt and place it in a Government warehouse, where it is sold in order of entry, at a price fixed by the Salt Commissioner. On the completion of the retailing, the warrant is returned and the holder may repeat the operation. Apparently the plan is most just to everyone, both seller and buyer, as well as to the Government, which receives an income through percentages charged. As a matter of fact, the whole arrangement is most expensive, as entailing in many cases long hauls and shutting out certain districts where salt can be produced very cheaply. The oppor-

tunities for helping friends in granting warrants or in allowing their warrants to take precedence over those of men less friendly are not neglected by the Salt Commissioner, so that this position is one much sought after, and when secured the holder is considered on the way to wealth. Under such circumstances, in China as elsewhere, it is the people who finally pay all bills.

Next to the salt tax in importance is the likin tax, levied, as was explained previously, on the inland transportation of goods. None of these likin stations keeps a record, so once more the opportunity for stealing and waste is great.

In addition to the above, there is the revenue received from the native custom-houses, from special taxes on opium and miscellaneous sources. The actual receipts of the Government under these various headings can be taken approximately, as follows:

	Tls.
Land tax, in money	25,000,000
“ “ “ grain	7,000,000
Salt tax	14,000,000
Likin tax	13,000,000
Native customs	1,000,000
Opium tax	2,500,000
Miscellaneous sources	6,000,000
	68,500,000

which, with the net return of the Maritime Customs, give a revenue of 95,000,000 taels, or about \$68,000,000 gold per annum.

The principal thing for which the Government of China is likely to incur further obligations will be in the line of railways or other internal improvements. The railways created by these obligations should be self-sustaining, and, therefore, practically not add to the Government's burdens.

Should, however, it become necessary, there are many ways in which the Government can, under proper financial administration, increase its receipts. The following are some of the opportunities:

1. Maritime Customs charges, which, as pointed out above, amount to an average of something less than four per cent., can be materially raised without interfering with Chinese trade.

2. The Native Customs can and should be consolidated with the Maritime Customs Bureau. No department, such as Native Customs, entirely in the hands of Chinese officials, returns the full receipts. This fact is strikingly brought out by Mr. George Jamieson, British Consul at Shanghai, in a pamphlet published by him in 1897 on the "Revenue and Expenditure of the Empire," the best monograph on the subject, and to which the author is indebted for part of the information in this chapter. As in the case of the provincial governors, so the Native-Customs tao-tais are "assessed" by the Board of Revenue certain amounts each year, which amounts or proper excuses must be forthcoming. Having met the

assessment, no one scrutinizes the methods or actual collections. Mr. Jamieson records that the Shanghai tao-tai who was "assessed" 65,980 taels, reports as having received 65,991 taels, or a surplus of 11 taels, equal to about \$8. A wonderful piece of accurate estimating on the part of the Peking officials! As Mr. Jamieson says, "It needs but a glance at the forest of masts that line the banks of the river (at Shanghai) to show that the native junk traffic is still of very considerable proportions, and that the total duties of the year as stated are altogether too ridiculous. Such a sum must represent more nearly a week's collection than a year's." The Governor of Che-kiang in the same year did even better than his Shanghai confrère, arranging his accounts to show a balance of 40,000 taels, the exact amount required! These are instances of what is taking place all over China, in every Government office where money is handled. The official class is not only corrupt and dishonest to a point that we can scarcely conceive, but they have been at it so long, and the system is so perfect, that it has ceased to cause comment or even to be thought of, except as something quite legitimate.

3. The introduction of railways will increase both the internal and external trade, thereby adding to the Government revenue, both from likin and Maritime Customs.

4. The whole method of tax gathering can be

reorganized so as to save an enormous amount of waste and stealing. There is probably little doubt but that the people of China now pay at least twice as much and probably more than the Imperial Government actually receives. In this connection it is interesting to compare the land and salt taxes of China and India, where the conditions, in regard to population and comparative wealth, are quite similar:

	Tls.
Land tax—India.....	100,000,000
China.....	25,000,000
Salt tax — India.....	33,000,000
China.....	14,000,000

In like manner, the internal tax on native opium, which now amounts to about 2,500,000 taels, should, by those who have studied the problem, amount to from 15,000,000 to 18,000,000 taels. As the latter sum is the one which the people probably pay, the difference between the payments and the reported receipts is lost by stealing or waste.

5. Post-office Receipts.— A little over a year ago the Post-office Department was organized as a sub-department of the Maritime Customs. Previous to that time each separate commercial district of China maintained its own local post-office. It is yet too early to note the beneficial result of this action. There is no doubt, however, that after the new system has become thor-

oughly well established and further extended, it will work a profit to the Government, especially as the management is under the control of foreigners.

There is one consideration in regard to the general stealing of public funds, or the system of "squeezes" and "presents," as it is euphemistically called, that must be kept in mind; which is, that the official salaries paid to Government officers are ridiculously small, and in many cases actually insufficient to meet the ordinary disbursements for clerk hire and other entirely proper expenses which the incumbent has to pay out of his stipend. This compels him to procure funds as best he can, and as the insufficiency of salary is understood by everyone, the principle and necessity for stealing can be said to be recognized officially and publicly. Of course, once started it is carried to the utmost extreme, and under such conditions that, even if the official is perchance reasonably honest, anything like economy is out of the question. Should Chinese officials be paid proper compensation, the expenses of the general and local governments would be much greater than they are now, but by getting competent and honest men the returns would be still more increased; besides which, it is possible to bring about a still greater reform in abolishing the existing terribly wasteful, expensive, cumbersome methods and instituting therefor a simple direct

system. Japan has already carried out a system of reforms such as is outlined above, showing that it is possible for an Oriental nation to have its financial methods put on a solid basis. China can do the same. Without increasing the burdens of the people, but by a mere reorganization of methods, it is possible to produce a much greater net revenue than the various public treasuries receive, and one quite sufficient to meet any and all legitimate requirements. As the country becomes more opened, as trade grows, as industries are multiplied, there will come a general rise in all values, returning a corresponding increase in Government income without inflicting hardships on the people.



"Bell" Cash

This coin is over 2,000 years old

Chapter
VII
Chinese Construction

IT must always be kept in mind that the twentieth century development of China will be along lines Chinese and not European; that is, it will be in conformity with native characteristics, modified by modern ideas. This would be an unnecessary truism were it not apparently lost sight of at times by those planning for China's development, and not always remembered by foreigners in their general relations with the Chinese Government and people. It is therefore pertinent to inquire what is the condition of their art of construction, wherein are the abilities of the Chinese sufficiently advanced to-day, and wherein must their resources be supplemented in order to bring up the industrial development of the country to the new standard.

Everyone knows that the Chinese once led the world in scientific and material development, but that they were acquainted with the principles of good engineering design was a surprise to me. At the seaports where foreigners have resided, or even in those portions of the Empire into which foreign ideas might have penetrated, it was expected to see structures bearing the imprint of modern skill in design or construction; but it was not expected to find such things in the unexplored

interior, remotely or entirely removed from outside influences, and of such self-evident age as to stamp them as genuinely Chinese, both in workmanship and plan.

The structures that impress the engineering observer most strongly are the bridges, the pagodas, the city walls, and certain details of building construction. The arch, beautiful from the scientific as well as the æsthetic point of view, is generally believed to be of Roman origin, and is considered to be one of the evidences of their advance over other nations. It was not known to, or at least never used by, the Greeks; and although the shape appears in certain specimens of Hindoo architecture, it is of false variety.—that is, a succession of protruding corbels. In China, on the other hand, we find it of most widespread and general application, and examination shows that the principles involved are thoroughly understood, as the arches are composed of a complete ring of voussoirs, radially jointed and of proper proportions, making it therefore a true arch and establishing beyond question the Chinaman's complete understanding of the scientific principles on which it rests.

On the other hand, the general use of the design in all parts of the country and the undoubted antiquity of so many of the existing examples clearly demonstrate that it long antedates any possible foreign suggestions, and go a long way to establish it as of Chinese origin, which, however, like



A Very Old Arch in Eastern Hu-nan, Previously Unexplored

printing and gunpowder and so many other inventions and discoveries, never passed beyond the national borders.

The largest application of the arch principle is in the building of bridges, where spans of thirty to forty feet are common, and single spans of fifty feet were seen. Longer spans than these, though perhaps existing, are not usually required, as those streams which can be bridged do not, as a rule, call for single openings larger than will suffice to pass small boats. The arches are usually of the full half-circle, with the spring above the ordinary flow line. The arch joints are cut close and filled with hard, firm mortar, while the spandrels are always built independently of the arch, and usually of inferior workmanship, indicating clearly that the designer understood the theory. The piers frequently have V-shaped ends up stream, evidently to diminish scouring action and to prevent drift trash from catching, rather than for the more usual purpose as ice breakers, for such additions are common even in the southern districts where ice is unknown. The roadway is guarded by carved railings in the case of the more elaborate structures, or by a solid parapet, some of the latter that I saw being composed of concrete. These arches have a grace of outline based on proper proportion, a solidity in appearance resulting from good construction, coupled with a very evident sound application of



Ping-hsiang Bridge

theory to practical uses in accordance with the requirements of local conditions—considerations that stamp them as construction works of a very high order, although their size, as compared with arches in other lands, may be small.

Take the illustrations of the Ping-hsiang bridge, and the one marked "A beautiful single span." In the former let the reader note the arch lines; the proportions existing between the arches and the piers; the cut-water ends to the latter to prevent drift catching; the carved stone railing, supplementing but not detracting from the lines of the main structure; and finally the shrine on the centre pier, indicating that although the constructor was compelled to place a pier in midstream, that nevertheless he had the courage to emphasize it, and that by making it a feature of the design he justified its location. In the other structure, crossing a stream flowing from the Cheling Pass to the China Sea, we have a design admirably meeting in every respect the local conditions. The stream is of no great importance, so that a central pier and two spans would have answered as a mere bridge, but such would not have been a well-considered design. On one side the ground is much higher than on the other; which is overcome by spanning the brook with a bold single arch, whose rise is the same as that of the high bank, with steps on the lower side. Either of these beautiful structures would have done credit to any



A Beautiful Single Span

architectural engineer brought up in the most fastidious school of Europe. They both are of essentially Chinese origin, the former of some antiquity. Probably neither of them was ever seen by foreigners before my trip.

The freedom that a designer takes when he is sure of his principles, has caused some of the Chinese arches to take extraordinary shape, such as the single span near Peking, carried to a height seemingly out of all proportion, but intentionally so in order to pass boats with short masts; and yet, such a design, in a locality without wheeled vehicles where a short excessive gradient is not a serious matter, not only meets the requirements of economical planning, but adds the charm of irregularity, which, in a country distinguished for sameness and lack of contrast, is especially attractive.

The Chinaman is very much like a cat—he objects to getting his feet wet; and as he carries his own loads, which he thinks he can do more cheaply than by horse or carriage, he sees to it that all streams are bridged. The arch he uses nearly always in the large structures, and employs it down the scale even to small culverts; although, when he begins to deal with little openings, he frequently makes use of stone stringers. If suitable stones can be procured he does not hesitate to be bold, as some beams I measured were thirty feet long and fifteen inches deep. In other in-



Arch near Peking

stances the effective spans were made shorter by placing corbels beneath the ends of the stringers, and occasionally intermediate supports were furnished by framed bents of long stones, exactly like the ordinary American timber construction.

But the most remarkable bridge I saw was a wooden cantilever, in the eastern part of Hu-nan, where no white man had ever previously been ; a bridge remarkable, not only for its extraordinary design, but also for the fact that it was of wood, a material on account of its scarceness rarely used for heavy construction. This bridge consisted of six spans, with a length of four hundred and eighty feet and a width of twenty feet, paved with cobble-stones, while over it is erected a frame to carry awning-mats in summer. The substructure is masonry piers in good condition, but evidently of good age, while the superstructure is of wood and a genuine cantilever in design. The timbers which compose it are about ten inches square, laid in alternating layers in the direction of and across the line of the bridge. As will be seen from the illustration, each longitudinal layer projects beyond the one next below, and the series of such projections builds out the cantilever arms until the opposite ones are near enough together to be spanned by a single timber. The superstructure is not so old as the substructure, the timber having been undoubtedly replaced, possibly many times ; but it was, when visited, in hor-



A Small Bridge

The figures are those of soldiers carrying two-handed swords, except the last, who is the trumpeter of the military commander

rible condition of decay. At the time of my visit, an attending mandarin, knowing its rotten condition, requested that our party should cross it in detachments, so as to divide the crowd and avoid concentration. It will stand, however, without repairs or attention—as all structures in China are allowed to stand—until some day an extra-large crowd will be too much for the rotten timbers to hold up and it will collapse, with great loss of life.

From the point of view of artistic and essentially Oriental design the pagoda possesses the most interest. These singular constructions, of which nearly every city possesses at least one, fairly dot the surface of the country. Their purpose appears to be twofold—either as monuments commemorating the virtues or the munificence of some departed benefactor, or as agents of “féng shui” (literally “wind and water”), the spirit genius of good and evil, which, if properly propitiated, will ward off pestilence and famine, and permit only prosperity and happiness to visit the neighborhood. These very curious towers are of great antiquity, Chinese records authenticating their origin at least as far back as the early part of the Christian era. In size they vary from the little ones, which are nothing more than roadside shrines, to what was once the most beautiful and largest—the celebrated porcelain pagoda of Nanking, destroyed in the Tai-ping rebellion. This extraordinary structure had a height of two hun-



Wooden Cantilever Bridge at Li-ling, over the Lu Ho

dred and sixty-one feet, was built of masonry and covered with glazed tiles of many colors, and was a monument to native skill in erection as well as to artistic sense in design. Unfortunately, most of



Pagoda near Wu-chang

the large pagodas are being allowed to crumble to decay, although some are tended and give hope of standing for other generations to admire. The prominent ones vary in height from one hundred to two hundred feet, are usually octagonal in plan, with straight but tapering sides, and always are



Chinese House Construction—a Combination of a Wooden Frame and Brick Walls

composed of an odd number of stories ; although sometimes these stories are double ones, as in the case of the Wu-chang pagoda, one of the most beautiful and best preserved in the country. They were always built plumb, and if now in bad condition, it is the result of lack of care and the ravages of time and not of original faulty construction. Chinese houses conform to certain general types ; the pagoda, therefore, in its wide range of size and of decorations, from the severely plain stone structure to the one covered with colored tiles, marks one of the few breaks in the characteristic national rule of uniformity and furnishes an interesting construction study.

The method of putting up buildings with a rigid frame and then encasing them with thin masonry walls is supposed to be something essentially American ; but, like so many designs claimed as modern, this, too, finds a universal application all over China. Although the Chinese have everywhere at hand brick-making clay, the product is not good, owing to their unfortunate tendency to false economy—which, in this particular case, takes the form of deficient burning. To give sufficient rigidity, house-walls have to be made thick, and thick walls, they found as we have found, encroach seriously on floor space ; therefore, they have developed “cage construction.” The materials employed are usually round timbers, connected by mortise and pin joints, while



The Famous Wall of the Tartar City, Peking, with One of the Gate-towers

the roof truss is a peculiar and ingenious combination of beams, taking load near the abutments only. The accompanying illustration shows such a building in process of being encased.

If the arches display a knowledge of theory, the houses are ingenious applications of practice, and the pagodas are an appreciation of the beautiful. The walls, without which no large city in China exists, and which reach their maximum in Peking or in the even more famous Great Wall, are an evidence that our Oriental friend was equally at home with large construction. These great structures, with their massive proportions (as in the Great Wall, with its length of fifteen hundred miles, across wild hills and desert valleys), with their keeps and arched gateways, with their parapets and moats, fill the observer with admiration.

It is said that a nation's character is shown in its architecture. This seems eminently true in China, for no matter where one goes the same general outline, varied slightly by local conditions, meets the eye, and wherever a new building goes up it takes the same form as the one it displaces, so that one feels that not only is everything the same throughout the country, but that it is just the same now as it was ever so many years ago, which is probably the fact. But if the architectural form illustrates the Chinese lack of originality and progress of development, the con-



The Great Wall of China

struction of their houses illustrates the regrettable side of their abilities—the want of thoroughness. In all their work they use poor material and workmanship, so that their buildings will not stand close inspection, and soon succumb to the ravages of time. China is consequently singularly devoid of antique buildings. In addition to the original defects in construction, the little care that the buildings receive is exceedingly distressing; even in Peking such artistically beautiful structures as the Temple of Confucius or the Hall of Classics—perfect types of Chinese architecture—are actually dropping to pieces for need of a few repairs. This deficiency in appreciating thoroughness and the necessity for maintenance will be found one of the greatest obstacles to be overcome in industrial development.

The engineering progress of the Chinese has been along static rather than dynamic lines—that is, they have learned how to construct bridges, erect pagodas, and concentrate their forces to build a wall fifteen hundred miles long, but not how to construct a machine, or to do any of the things the basal principle of which is *movement*.

Perhaps this is due to the similar traits that we find forming the framework of the national character; or, perhaps, it is due to the dread of displacing manual labor and the baseless fear of depriving their fellow-men of work. But no matter what the cause may be, this marks the cleavage line along

which foreign inspiration in the art of construction will find an outlet for development.

In solid, stationary structures, the Chinese can supply their own needs unaided; but the field for producing those aggregations of engineering and mechanical skill based on the theory or application of movement, especially of economical movement, lies unbroken and the soil is rich. The idea of economy of movement is absolutely lacking in the Chinese—a singular circumstance, as there is no other nationality so strongly economical, even to the point of parsimony. This trait is shown in their dwellings, in their clothes, and in all their details of living, except in those where movement is the main theme. The development, in which foreign ideas will predominate and foreign aid be required, will be, therefore, along this line, and will show itself primarily in methods of moving people and goods—namely, in means of transportation; secondly, in the methods of moving the great untouched mineral wealth from its existing subterranean hiding-places to the surface, that is, in mining; and thirdly, in all matters of construction whose parts are moving—namely, machines.

The first of these is self-evident, and will be taken up in detail in another chapter. The development has already begun. The second, mining, is about to begin, but is dependent on one form of the devices under the third head—the means of

moving water. The third class is general in its character and will include all kinds of machines.

The science of handling water is practically unknown in China, the Chinese pump being a most crude and uneconomical device, and wholly incapable of raising water to a height above that of a few feet, and the lack of proper and efficient devices has absolutely prevented the development of China's mineral resources. Mining by native methods has consisted in sinking a shaft or an inclined drift down the vein until water was encountered, or until coolies could no longer raise the load on their backs, a limit in the latter case of two hundred feet. When one of these contingencies is reached the mine is abandoned. In order to develop the mineral wealth, the first requisite is a pumping plant; the second, of much less importance, is elevating machinery.

It is difficult to imagine a great country without good pumps, but such China is. The native device consists of flat paddles attached to a wooden endless chain turning over two sprocket wheels, on one of which pedals are fixed. One or two men, sitting on a frame over this wheel, work the pedals with their feet and thus by pulling on the chain, elevate the water. The water supply of the crowded cities depends on hundreds of coolies constantly passing to and fro carrying the water in buckets from the river, for all cities are located on rivers, and there is no attempt at any sort of

fire protection, except such as can be done with hand-buckets or by tearing down houses in the path of the conflagration.

As the whole system of Chinese farming seems to depend on the areas that can be irrigated, there is imposed a limit to such lands as can be reached by natural flow, while low lands, subject to frequent inundation, are abandoned. For all these purposes the foreign pump will find an enormous field of application and will prove to be an important element in Chinese development.

If, therefore, I were asked to enumerate the relative importance of engineering development, I should say—means of transportation; hydraulic machinery; mining; and then, those machines which can compete against a very low-priced manual labor, and which can, if possible, enter a field of work not now undertaken, such as electric lighting, or enter the existing fields so as to change present conditions without too violent or immediately revolutionary effects.

Chapter
VIII
Inland Communication

FROM one end of the Chinese Empire to the other there is not an instance of a road whose quality would be termed in any other country as even moderately good. China's rivers and waterways are her highways, and it is on them that she relies for means of internal communication. In the way of rivers and sea-coast, nature has been most liberal. Her coast line is as long as both the Atlantic and Pacific coasts of the United States—that is, as long as the distance from Florida to Maine added to the distance from Southern California to Washington, and from it there are noble rivers penetrating to the very western confines of the Empire.

No attempt has been made by the Chinese of their own motion to improve the rivers by removing their bars or deepening their channels in order to render them more navigable. Such a course for the general good is still far beyond Chinese comprehension. Along the coast and for short distances in the estuaries, the Government, through the agency of the Maritime Customs and Sir Robert Hart, has established and maintains light-houses, has located beacons and buoys marking channels and dangerous places, while other Governments, principally the British, have sur-

veyed and charted the coast and harbors ; but all such work, even when done by the home Government, is of foreign inspiration. Up the rivers where the traffic is wholly Chinese, nothing of the kind has been attempted. The streams are filled with bars and bowlders and other obstructions, and the loss in time, property, and life which they cause is something terrible. If a picture of Chinese river-navigation is desired, accurate in its details, true in color, and not exaggerated in its tale of suffering, most of which is quite unnecessary, it can be found in Mr. Little's work, "Through the Yang-tze Gorges," or in "The Yang-tze and Beyond," by Mrs. Bishop. Both tell of the Great River, where for some four hundred miles west of I-chang it has laboriously cut its way through the mountains in deep gorges, the grandeur and wildness of whose scenery is surpassed nowhere. Into these gorges huge bowlders have tumbled from the sides above, and in places even the cliffs themselves in by-gone ages have slid off and fallen forward. The bowlders and the débris have never been removed, but are left lying where they fell, and over and around them tumbles and boils the Yang-tze, already a river of some two thousand miles in length, which bears down, and even up, against such difficulties, the out- and in-commerce of all Western China. On other streams where shoals are the worst enemy, the great losses and dangers are eliminated, but the

delays and their costs are not. As one journeys along a Chinese river at its low stage in winter, there is scarcely a moment when there is not one junk hard aground with her crew pushing and struggling with their bamboo poles to get her off. It would be bad enough if these laborious and exhausting methods were resorted to only occasionally and unexpectedly, but such terrific waste of human energy is uncomplainingly accepted as quite regular and inevitable. It is almost incredible that the strongest opposition to an amelioration of their own condition through improved methods of transportation comes from these very boatmen.

In the summer, when the rivers are in flood, unless there is a favorable wind to aid in stemming the swift currents, the same struggle is repeated; while at night, during both winter and summer, all traffic ceases, owing to the uncertainties of navigation, and yet, these are China's main arteries of trade, transportation, and inland communication, and it is extraordinary to what extent they are employed in spite of the entire failure to improve their navigation or remove natural obstacles and impediments. Being the chief lines of travel, on them are located the great cities, for with scarce an exception every town of importance in the Empire is situated on some sort of a navigable waterway, and no matter where the traveller goes in the interior, he will find along



The Siang Kiang
A typical river-scene. The boats are all carriers of merchandise

the river front of the cities he visits, a veritable forest of masts and a solid raft of hulls.

A great deal has been said and written about the improvement of the rivers of China and the introduction upon them of steamers of type somewhat similar to that used on shallow American rivers or on the Nile. Advocates of such proposals have pictured the running of steamboats up the Yang-tze to Chung-king, sixteen hundred miles, and on about seven hundred miles more on such tributaries to the Yang-tze as the Siang, the Han, and the Kan. Southern and Southwestern China it is proposed to reach by improving the West and other streams for distances aggregating, possibly, one thousand miles; while the Yellow or the Pei Rivers are to provide permanent means of steam communication in the North. Constructively such a proposition is entirely feasible. The rivers of China can be improved, but their improvement will cost a great deal of money. Practically, however, it is out of the question until the Chinese people have been educated to consider the undertaking and maintaining of such works in a light different from that which they do now. Obviously, it is impossible that such work could be done by private corporations, for there would be no means of preventing open competition, when the expensive work would be completed; it would, therefore, have to be undertaken under Government direction and expense. If so, the

funds must come from general taxation or special boat charges. To levy a general tax for matters of general utility is something so unheard of that no Government would dare do it until the people by gradual experience in other ways with similar experiments had learned to see the benefits. To levy a special tax on boats, that is, on the class who would be most directly benefited, would be equally unpopular and impossible. The junkmen would reply that they do not complain, which is quite true, and they would say that to make transportation easier would deprive many men of employment who are now hired as crews, and the consequent saving would result finally not to the junk owner's financial benefit, but in the lowering of freight charges to consumers, a matter in which they have no interest. Such reasoning may be illogical, but it must be remembered that it is believed by the Chinese to be sound. But even if it were possible to have the streams canalized or deepened, who will pay the dredging and maintenance charges, for all the rivers of China are of such a nature that constant deposition of alluvial matter is taking place? If a Chinaman will not repair his house, in which he alone is interested, is he likely to stand the expense of maintaining rivers in which his interest is so remote and indirect as not to be discernible? To improve the rivers requires united effort, and a united effort for the good of others is an altruistic policy which

it will take a long time to make the Chinese understand. As an engineer, who has looked into the feasibility of doing this very thing, I am convinced that it will be easier and better, as has been found in other countries, to build railways on the banks rather than to try to improve the streams.

For coast and sea-going work the Chinaman uses a junk of large and strong proportions, and on the rivers one more adapted to the particular needs. Except for use on the lower reaches of the Yang-tze, where deeper water permits some latitude in construction, the up-river boats are of one general type. The hull is flat-bottomed and constructed of heavy planks, with a stout half-round timber at the deck line, to serve as a guard when the boats are banging together at landing-places. The bow and stern are square, and the latter is curved upward to form a poop. The hull is divided by transverse wooden bulkheads into water-tight compartments. It is a singular and interesting fact that Marco Polo noted this very useful device when he was in China in the thirteenth century, and, after giving a minute description, so that there is no possibility of his mistaking it, shows the intent by stating, "The object of this is to guard against accidents, which may occasion the vessel to spring a leak." Staunton's account of Lord Macartney's Embassy in 1796 again reports it, as did Abbé Huc some years



A Freight-boat Being Poled Against the Stream

later. The bulkhead was introduced in European ship building in 1840 as a brilliant and new idea. Thus it is that at almost every turn in this queer land one meets with some device which we regard with pride as a modern invention, but which the Chinese have employed so long that its origin is forgotten.

A deck load can be housed under curved covers of bamboo matting resting on permanent frames. Under these covers the crew of five men or more also find quarters, while the owner and his family reside in the stern. There are one or two masts, according to the size of the boat, standing without stays and carrying large sails of cotton canvas or light bamboo mats. Of boats of this description there are tens of thousands, and they pass and repass in endless processions. Usually the boat itself is kept in fair condition, but the same cannot be said of the sails. A new sail is scarcely ever seen, and many of them are so dilapidated as to cause wonder at their being set at all. But a Chinese never considers time as of value; he feels no incentive to keep his source of motive power in repair, but goes on using it as it is until it can be no longer hoisted.

Even when his attention is called to the loss of time involved, he will make the amusing reply that should he go faster, no higher freight rate will be paid, and what could be done with his crew during the time saved? On one occasion



A Sail That May Have Seen Better Days, but Which is by no Means a Unique Specimen

when making a river trip, where a fixed price had been agreed on for the journey, I found the junk to be equipped with bad sails. On complaining to the captain, he said he had better ones, but that he was keeping the new ones safe at home!

Boats rigged like these, without keels, and of shallow draft, cannot make headway when both wind and current are adverse. When this occurs, or when the wind fails entirely, recourse is had to poling, rowing, or the more laborious method of "tracking," which consists in dragging the junk by means of a rope of twisted bamboo fibres attached at one end to the masthead and at the other to yokes over the shoulders of the crew ashore.

On rivers where rapids are moderate, but which are too great to be overcome by a single crew, it is the custom for boats to wait until a united force has been collected sufficient to pull each one up against the current. On such rivers as the upper Yang-tze, where the rapids are very strong, there are "tracker" settlements providing sufficient extra labor always at hand to help ascending craft. Two hundred and fifty men or more on the tow lines are frequently required.

The Chinese junkmen form a distinct class by themselves and in some localities are under special laws. Their boats are their houses, on which they are born, live, and die. The women do not bind their feet, and take their turn with the men



A Female Skipper

at the helm, sail, oar, pole, or even track line, in addition to doing their own work of preparing the meals for the crew and looking after the finances of the institution. When things go wrong, and in accordance with Chinese custom, all begin



The Equality of Sex. A Man and a Woman at the Oar

to shout and each one to work on his own account and so nullify the labor of someone else, then the strident notes of the voice of the Amazon skipper will rise above the other din, and, finally, but not until after the use of language, whose rhythm and force suggests that of the old style deep-sea sailor, will she succeed in drowning the orders of the

others and bring about some sort of effort in unison.

On reaching points where the shallowness of the water stops the passage of such junks as draw more than two or three feet, cargoes are transhipped to smaller boats ; and this goes on until finally little *sampans* (literally, "three boards"), boats of the flimsiest description, drawing four inches or less, are employed to carry goods to the very extreme of river navigation.

In the south, there is found plying on the waters that intersect the province of Kwang-tung and its neighbors a form of large junk, called a Canton River boat, with a large sail, and in addition a stern-wheel like a Mississippi River steamboat. They are worked by crews of natives ranging from twelve to thirty-six in number, according to the size of the craft, and each carries a hundred or more passengers. For more speedy transit, and contrary to the common belief that the Chinese does not appreciate quickness, there is the "slipper" boat, so called from its resemblance in form to that useful article. These little boats are very light in construction, and are propelled by four oarsmen, either men or women, of whom three stand up and push on the oars, while one sits down and pulls. The passengers lie at full length in the toe. A speed of eight miles an hour is attained.

Arduous, however, as is the task of transport-



A Cantonese Slipper Boat

ing goods from, say, Shanghai or Canton into the interior by means of river navigation, it is as nothing compared with the labor required to deliver them at a destination removed from the water-way. This is done almost wholly by coolies travelling on foot. The horse is little used, except in Northern China. Where men receive as wages but five to ten cents per diem, the horse cannot compete, especially when he has not, as with us, the economy of cheaper living, for in China both men and horses are grain fed.

The vehicle for land transportation, both for goods and passengers, varies in different parts of the Empire. On the great plains in the north, which, by their nature, have permitted the construction of passageways, that by way of euphemism are called roads, we find a springless two-wheeled cart drawn by a little pony or ox, which form the sole means of transportation in Peking. They are the essence of torture to ride in, but the badness of the going will permit nothing else. On the great trade route northwest from Peking, camels in caravans are employed. As the region of the great plain is left, the horse and cart disappear, and the wheelbarrow takes their place. The Chinese barrow, of course, differs from its European namesake, but is not without very excellent qualities. As used in Central China, the wheel is large, being about thirty inches in diameter, with the body of the vehicle balanced

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on the axle, and on both sides of the wheel like an Irish jaunting car. In some cities, like Shanghai, these wheelbarrows are for hire like cabs by the natives, and as little or no load comes on the wheelman, it is not an infrequent sight to see him pushing four fares at a speed of four or five miles an hour.



Fast Freight by Wheelbarrow

In the up-country of the Yang-tze Valley such wheelbarrows are the great means of fast freight transportation. On them the farmer will take his supply of produce to market, or if he has to take his wife along, for she with her small feet cannot walk, he will usually place her on one side and possibly a dead hog that he has slaughtered that morning on the other side in order to balance her weight.



The Author Travelling in an Official Chair

As the Yang-tze is left and Southern China is approached, it is interesting to note the gradual discontinuance of the wheelbarrow ; its wheel gets smaller and takes a position farther forward, more like the western machine, and, at last, it disappears from use entirely.

The rich or official Chinese on a journey always uses a sedan chair borne by two, three, or four men, according to his means and station, and followed by a line of coolies carrying the miscellaneous lot of goods and encumbrances supposed to be necessary for his comfort. Such a man never walks, as it would be quite beneath his dignity to do so. On my own trip it was with the greatest difficulty that the attending officials could be persuaded, if they really ever were, that it was possible for a man to prefer the freedom of being on foot to the cramping restraint of the little box of a chair.

But whether in the north or in the centre or in the south, if the Chinaman is unable to call to his aid the springless cart or the wheelbarrow, he has at all times at his service his own back, and the greatest part of the country's commerce is carried in two baskets, each of which is suspended from a bamboo pole resting on the shoulders of some coolie. In a Chinese city the last thing one hears before dropping to sleep is the "he-ho" sing-song of the poor, hard-working coolie, as late at night he is carrying his loads through the narrow

streets below, and again the first thing in the morning it is this same ceaseless song that greets the ear. On the roads, uphill and down, day after



Boy Carrying Coal from the Mines to the River

day, he plods along carrying his loads of rice, tea, silk, or opium from his little farm to the market-town on the river, and takes back with him an equal burden of Lancashire or New England cottons, of Russian or Pennsylvania oil, or other articles of foreign import. I have seen even coal carried for ten to fifteen miles, up, over, and down a range of eight hundred feet of elevation before it could be loaded into boats to find its way down the Yang-tze. This would be bad enough and expen-

sive enough if only the coolie had a decent road on which to walk. But if no care is taken of the waterways, even still less attention is paid to the landways, there being no central authority by which highways are laid out and maintained.



A Typical Road on Top of a Dike Between Rice-fields

As each land-owner has to give up to the general public a portion of his too small farm, from which donation he derives, so far as he can see, but a small personal benefit, he usually does so by giving a strip along one side of his tract, or on the

top of one of the little dikes forming the rice-field terraces. In either case, as neither the farm lines nor the rice-field dikes are straight, the road, so called, winds its way in and out, increasing the normal length by at least one-half. In width



A Road Paved with Stone Slabs Showing the Groove Cut by Wheelbarrows

it is rarely more than that required for two men to pass. In districts where there is a heavy concentrated travel, some of these roads have been paved with cobble-stones, or if it is a section

where wheelbarrows are in use, they may have been laid with longitudinal stone slabs, in which the wheels of countless barrows have cut a groove several inches in depth. A few of the great roads, such as the one leading to the Ming Tombs, northwest of Peking, or across the Che-ling Pass in the Nan-ling Range, were, many years ago, carefully paved with stone; but it is now nobody's business to make repairs, and these great monuments of a past constructive era are dropping into decay. In the north where wheeled vehicles are used, the roads, in order to accommodate them, have to be wider than the narrower paths in the south, and as the soil is of an alluvial nature and not fitted for road-making, the general condition of affairs is even worse.

No better picture of the method of constructing the Chinese road and its lack of maintenance can be found than that given by Dr. A. H. Smith in his "Village Life in China." In referring to the fact that the ordinary road is but wide enough for one vehicle, so that when two attempt to pass, it can be done only by trespassing on the crops, he writes: "To prevent this, the farmer digs deep ditches along his land, but when he drives his own cart he, too, becomes a trespasser; thus a state of chronic and immitigable warfare is established, for which there is absolutely no remedy. Where land is valuable and is all of private property, road repairs are out of the question.

There is no earth to repair with, and without repair the roads soon reach a condition beyond the possibility of any repairs. Constant travel compresses and hardens the soil, making it lower than the adjacent fields. In the rainy season the fields are drained into the road, which, at such times, is constantly under water. A slight change of level allows the water to escape into some still lower road and thus a current is set up which becomes eventually a brook and then a rushing torrent. It is a proverb that 'a road one thousand years old becomes a river, just as a daughter-in-law of many years' standing, summers into a mother-in-law.' "

Such are the lines of communication everywhere in China. Such are the difficulties and obstacles to be overcome and surmounted at tremendous personal cost by the Chinese in maintaining not merely his foreign commerce, but that which is many fold greater, his own internal commerce. What the cost in humanity is can be understood only by seeing the labor required; what it is in money can easily be imagined, and that the charge for transportation runs as high as ten cents to fifteen cents per ton per mile is not surprising. To talk to the Chinese of the wasteful and unnecessary expense is useless. They must be shown by practical example that their methods are actually detrimental. What that practical example is and how it can be shown will be told in another chapter.

Chapter
IX
Railways

THE preceding chapter gave a description of the transportation facilities of China and the condition in which they are allowed to exist. The state of affairs is quite anomalous. In other countries, including Japan, good high-roads were constructed and maintained long before railways were thought of, thus permitting internal trade to be carried on, if not with the economy and speed of steam, at least with reasonable despatch and cost, against which railways, when introduced, were obliged to compete. In China there was, and is, nothing of the kind. It is not a question whether any line or system of railways can stand the competition of existing canals or high-roads, but whether it is best *ab initio* to improve rivers, to lay out roads, or to build railways. The answer to this question is not difficult to find. It is idle to expect any initiation from the great inert mass of Chinese inaction, and the sole hope for the beginning of a revolution of existing methods lies in finding some way in which the foreigner can levy a direct tariff in return for his services, where no expense will be incurred by the Chinese themselves previous to the charge for actual services rendered, and where the direction of the maintenance of the facilities created will not be

under Chinese control. This can be accomplished practically only by railways, and not by improving rivers or making highways, even if the latter would satisfy the requirements of modern commercial conditions. In China, therefore, we shall see railways built first, followed by highways and eventually by improved rivers, as might naturally be expected in the country where the order of things is always reversed.

When about 1860 the opening of the interior of China was first seriously considered by foreigners, the extraordinarily favorable conditions for railways was at once appreciated, and from then to now there has been a constant outside pressure on the Chinese officials and people to overcome their national antipathy to change. But it was not until 1876 that official consent was obtained for the first line. This was projected to run nine miles, from Shanghai to Wu-sung, at the junction of the Whang-poo and Yang-tze Rivers, on the former of which Shanghai is situated. The line was constructed with a thirty-inch gauge, and, although it traversed a perfectly flat country, it was given an absurdly tortuous alignment, in order to avoid graves, special tracts of land, houses, and similar obstacles. The Chinese regarded the construction with apparent indifference. But foreigners, although knowing that in itself the line had no great importance, nevertheless hailed the project as the opening of the door to future railway operations.

Almost immediately after its completion, the Chinese Government bought it, an act that was believed to indicate that they were ready to take up railways. It was true, for they took up this one and threw the rails, cars, and locomotives into the river, and with them went all hopes that an era of Chinese development toward occidental civilization had arrived. After this disappointment railway construction languished, and China continued to get along, as she had done for many centuries, and as indeed she does still, with junks, sampans, ponies, and coolies. Some statesmen, by means of memorials to the throne, urged upon the imperial authorities the advisability of making a change and adopting a new order of things; but the memorials were referred to some Government board, where they were conveniently pigeon-holed.

But the first actual forward step was in connection with the Kai-ping coal-mines, eighty-four miles northeast of Tien-tsin. This fine deposit of really excellent bituminous coal required an outlet to market. In 1881 the construction of a small tram-way was begun to transport coal a few miles to a river, whence it could find its way by junk to tide-water. This little tram-way, projected by the native proprietors to be operated by horses, was the real beginning of the Chinese railway system. The work was intrusted to an English engineer, Mr. C. W. Kinder, to whose courage and persist-



The "Rocket of China" and Mr. Kinder

ence the present status of railway development in China is largely due. He began, unknown to the Chinese, the construction of a small locomotive, made up mainly from parts of old machines that he could obtain on the ground. This engine, appropriately named the "Rocket of China," was actually put in service on this colliery tram-road during the first year of the road's operation, and served to convert it from its original character into a real steam railway.

By demonstrating to the Chinese owners the great economy of steam traction, this engine appealed to their pocketbook reasoning, the nearest way to reach the native mind, and so won for itself a permanent place.

Step by step, mile by mile, the little railway was extended, first to Tien-tsin; then in 1893, ninety miles, to Shan-hai-kwan, the point where the Great Wall of China runs into the sea; and by 1899 forty miles farther, to Chung-hou-so, with construction projected, and at this writing just completed, to Niu-chwang, where connection is to be made with the Chinese Eastern Railway, the Manchurian branch of the Russian Trans-Siberian road.

That the railway has become a permanent institution in China there is, of course, no question. The energy of the Government in pushing the construction of its own system proves that the day of tearing up rails, as was done on the Wu-

sung line, is past. It is, indeed, the opinion and confident belief of all who have investigated the subject, that the time is at hand when the actual system that is to cover the Empire with its lace-work of steel may not only be projected on paper but be actually begun in practical construction. Matters of this kind, however, move slowly in China. Although the Northern Railway had proved its commercial desirability and success, it was not until the war with Japan had shown the helplessness of the country, by reason of the entire lack of rapid and certain means of communication, that measures were taken looking to decisive action. The country was divided into two sections, called North and South, but with no exact delimitations, over each of which there was installed an official with the title of Director-General of Railways; and railways were talked of and projected for the length and breadth of the land.

Up to the year 1896, connection between Tientsin and Peking, a distance of eighty miles, was maintained either by junks on the Pei Ho or by ox-carts. In that year, however, the railway between these two places was begun, and completed in May, 1897. We thus have a line, about five hundred miles long, running from Peking to its port, Tientsin, and thence northeasterly through the Great Wall, which is owned by the Government and was constructed by it under the direction of Mr. Kinder and through the instru-

mentality of English banking houses. This railway, which owes its inception to the ingenuity and courage of Mr. Kinder, and its completion to its nearness to Peking, whereby its benefits were forced upon the attention of the imperial authorities, has been the pioneer of like improvements in China. Considered on its merits, its importance arises from its connecting the capital of the country with the coast, and forming the highway between China and the Russian Trans-Siberian Railway, rather than from its being a great factor in local development. In this latter respect the Imperial Railway will be exceeded by other lines.

In the chapter devoted to the consideration of commerce and trade conditions, the importance of the four great points of distribution, Tien-tsin, Shanghai, Canton, and Hankow, was shown, serving respectively the northern, central, southern, and interior sections of the Empire, with Shanghai as the chief port of original entry. The commercial supremacy of these points is irrevocably fixed by geographical conditions, and necessarily the lines of primary importance in China's future railway system will be those connecting them.

As it happens, the four places are about equally distant from each other, say seven hundred miles, except that Hankow lies midway and in line between Canton and Tien-tsin. In the past, China has been able to carry on her commerce because these four cities enjoyed water connections. But

modern conditions require a more certain and speedy means of communication. Especially is this the case at Tien-tsin, where the port is closed by ice for nearly one-third of every year.

Agitation for concessions for these lines followed closely on the conclusion of the Japanese War, the first one granted being awarded in 1897 to a Belgian syndicate for the construction of the link between Hankow and Peking, or rather with a junction with the Tien-tsin-Peking line just outside of the capital, and this was followed in 1898 by a like concession to the American syndicate for the construction of the section joining Hankow and Canton. These two railways when completed will form an almost direct north and south line, from Canton, the great southern port, to Tien-tsin, the northern port, and Peking, the capital, through Hankow, the metropolis of the interior. Such a line would divide the Empire proper into about equal portions east and west, and as it will cross the Yang-tze River at the head of large ship navigation at a point midway between its terminals, the combined railway and the river will approximately quarter the Empire. Moreover, these two railways, considered as one, will constitute the backbone of the future railway system of China. Work on the line has passed the stage of beginning. The American half has been surveyed, and construction on the Belgian section has progressed from both ends. In 1896, construc-

tion, at that time under the direction of the Government, was begun southerly from Peking, and in February, 1899, had reached Pao-ting Fu, a distance of eighty miles. This section shortly afterward was turned over to the Belgians to operate, who have since extended it thirty miles more, and built, but not yet commercially operated, twenty-five miles north from Hankow, with other construction pending.

In the meantime the reconstruction of the destroyed Wu-sung line was decided upon. The work was undertaken by Shêng Ta-jen, the Director-General of Imperial Chinese Railways of the South, was completed during 1898, and put under contract to be turned over at cost to an English syndicate when so required by the latter.

Of what I have above mentioned as "primary" lines the Canton-Hankow-Peking connection is provided for. On two of the others, a beginning has been made. A concession has been awarded to an English syndicate for a railway from Shanghai to Nan-king, the initial step toward a line between Shanghai and Hankow; and from a point on the Yang-tze, opposite Chin-kiang, which latter will be on the Shanghai-Nan-king Railway, a concession has been awarded for an extension north to Tien tsin, thus forming the Tien-tsin-Shanghai connection. This latter line, whose length is about seven hundred and seventy-five miles, is divided between English and German

interests, the latter contracting for the northern part through Shan-tung, four hundred and seventy-five miles, and the former undertaking the balance between Shan-tung and the Yang-tze, three hundred miles. The remaining primary line, that between Shanghai and Canton, is still in abeyance, and this will be slower to develop than the others, as it is paralleled by deep-sea navigation, and moreover has to cross the successive drainage lines that run to the coast, making construction expensive. Its possibility is indicated by concessions for the terminal ends being already awarded to a British syndicate in a surveyed route from Shanghai to Ning-po via Hang-chow, two hundred miles, and in another project from Canton to Kow-loon, one hundred miles.

Such are the main stems either under actual construction or under more or less serious consideration. Lines of secondary importance already projected are numerous. The "Peking Syndicate," an Anglo-Italian combination, which controls a large area of coal-fields in Shan-si and Shen-si, claims railway rights, under a general clause in their concession, amounting to about nine hundred miles, ramifying through the provinces named, connecting with the Belgian and British lines and the Yang-tze in order to bring their coal to market. On these, however, nothing has yet been done. The Germans in Shan-tung are at work building a local system connecting their

port at Kiao-chow, while the French in Kwang-si and Yun-nan have secured concessions aggregating about four hundred miles, to extend their own Tong-king railway into the two provinces named. Of these latter the construction of the line from Lang-son on the frontier to Nan-ning Fu, one hundred miles, is now in hand.

There is one element in the Chinese railway situation, however, whose importance is second to no other, which of necessity will continue to be a great factor in the future, and that is the presence and participation of the Russians. Their interests have been concentrated in the construction of the Trans-Siberian system, the obtaining of outlets on the Pacific coast and the eventual extension of its rails into Chinese territory. To these ends there has been no wasting or scattering of Russia's forces or energies. In point of view of money spent and results accomplished, Russian attainments vastly exceed those of all the other nations combined, but it is often somewhat difficult to decide whether their operations are on Chinese or Russian soil. The line to Vladivostock traverses what is nominally Chinese Manchuria, for 1,000 miles, while the branch known as the Chinese Eastern, from Kirin to Port Arthur and Ta-lien-wan, strikes north and south through Manchuria, which is still considered Chinese territory, but where Russian influence, through the Port Arthur lease, is being im-

pressed on the people gradually, but none the less effectually. This line will have a length of about four hundred miles, of which one hundred and twenty-five miles between Port Arthur and Niu-chwang are already built. In addition, Russia claims, as conceded, branches from the Belgian Hankow-Peking line, aggregating four hundred and eighty miles.

The figures relating to concessions, and in fact any statements in regard to them, are necessarily vague and uncertain and constantly subject to change. But few actual surveys have been made and the maximum mileage in each case is usually claimed. On the other hand, the terms of the concessions are guarded as closely as possible, so that it is difficult to ascertain what has been actually granted. Some so-called concessions may not have been finally executed, while perhaps, although not likely to be the case, there are others in existence which have not been made known.

Summarizing the figures, such as they are, we find the present status of Chinese railways to be about as follows :

<i>Constructed:</i>	Miles.
Chinese Government system	534
Belgian concession	135
British concession	10
German Shan-tung concession	10
Russian Manchurian lines	125
Total	814

Under construction:

	Miles.
Belgian concession	55
French concession	100
German concession	96
Russian Manchurian lines	375
Chinese, part of American concession.....	10
Total	636

Concessions granted to foreigners, including the above:

	Miles.
British, including Peking syndicate	2,000
American	900
Russian, excluding 1,000 miles of Siberian railway	880
German	800
Belgian	700
French	400
Total conceded	5,680

We have thus in China, including the Russian branch in Manchuria, only about eight hundred miles of railway serving a country whose area is nearly half as large as that of the United States, and whose population is said to be 400,000,000. Lines aggregating 20,000 miles could well be built during the next ten years with profit.

For the construction of these and other lines recourse must be had to foreign capital, aided by the Chinese Government. Although the Chinese Government itself, under English advice and financial assistance, has been able to construct and

successfully operate over five hundred miles in and about the "metropolitan district," the task of constructing and organizing the great system that is already so imperatively needed is one from which any government might well shrink, especially one so conservative and opposed to innovation as that of China. On the other hand, while there is a large amount of private wealth in China, native capitalists have not been instructed in the idea of combining in large joint-stock companies, and therefore the initiative must devolve on the foreigner.

The concessions referred to are a means to overcome these difficulties, permitting the Government to give, which they began to do in 1897, to foreigners the right to construct and operate railways. These concessions clearly state, however, that the title to the property thus to be created remains in the Government (according to Chinese theory, the Emperor is the owner of all things), and that the money required for construction is to be advanced by the foreigner as a loan. In order that the latter may recoup himself for this loan, he receives bonds guaranteed, both as to principal and interest, by the Government, bearing five per cent. interest, payable in the current gold coin of the foreigner's country. These bonds are issued at such a reasonable discount as to pay the expense of making the issue to the investing public, and limited to such an amount as is neces-

sary to pay only the legitimate cost of construction, so that the purchasers of the bonds receive a security based on positive value and without the usual "watering." The time of the loan varies with each concession, but is usually between forty and fifty years. During this time the control of the property, so far as financial matters are concerned, is vested absolutely in the foreigner's hands, and, so far as local matters are concerned, in a board in which the foreign element and influence predominate. To pay the foreigner for his labor he is entitled to receive a certain proportion, usually twenty per cent., of the net earnings, if any, after meeting operating expenses and interest. The bonds are redeemable at a price fixed in the contract of concession, so that, in the event of the credit of the Chinese Government improving, the first issue may be refunded at a lower rate. At the end of the fixed period and on repayment of the loan the foreigner's interest will cease entirely, and the Chinese are to take over the management. Other provisions require the foreigner to maintain a school of instruction; to consider Chinese on an equal footing with foreigners for appointment; to permit natives to invest in the securities; to transport Government troops and munitions of war at half rates; and, in the event of war between China and another power, not to give aid to the enemy. On the other hand, the full power of the Government is

pledged, in addition to its financial guarantee, to protect the foreigner in the full and unrestricted right, according to the terms of the concession, to use and enjoy the fruits of his labors.

This combination, wherein there is secured, on the one hand, the knowledge, experience, and financial assistance of the foreigner, and, on the other, the support, both moral and actual, of the Government, when a permanent one is established, is a most happy one. It assures security to the investor, and obtains for China not only the possibility of rapid development, but the eventual return to the hands of her own people of the properties which her credit in the first instance created. As the Government liability is limited to five per cent. on the actual cost, it is not expected that it will be called on for any payment, as each railway should earn net, above operating expenses, at least that return.

The danger in the method lies in that, owing to the fact that the securities issued for the construction of railways are guaranteed by the Government, promoters will not consider sufficiently well the earning power of the lines they project and will build lines either not immediately needed or more rapidly than local trade conditions can assimilate, and so place on the Government a yearly burden of interest in excess of the net returns. This risk must be guarded against by patriotic and wise care on the part of the Chinese officials,

and by cautious and conservative investigation on the part of the foreign projectors.

The political aspect of the situation is unique, since we see established on the soil of another country the people of six different foreign nations, with rights and privileges granted and guaranteed by the local Government, a situation which may contain the germs of future complications. Looking at it from the strategical point of view, we see the control of all the country north of the Chinese province of Chi-li absolutely in Russian hands. South from Tien-tsin, German interests are paramount, while between these and the Russians there stands the Imperial Chinese Railway system as a buffer. The land approaches to Shanghai from the north, west, and south have been secured by the English. Hankow, as respects the north and east, is under the Belgian domination. The American concession secures the approaches to Hankow from the west and south, and to Canton from the west and north, that is to say, it controls the southwestern quarter of the Empire. On the other hand, the French have established themselves in the south and southwest, while the Japanese are understood to have eyes on the coast opposite Formosa.

Some of the railway projects in China have been prompted undoubtedly much more by foreign politics than by commercial motives. As long as other nations have a foothold on Chinese ter-

ritory under the thin guise of "leases," and either claim to have a voice in the administration of local affairs through "spheres of influence" or are possessed with the fear that their rivals may in some way secure special favors, the various European powers will endeavor to put themselves in advantageous positions, either to seize territory in the event of a break-up, or to prevent others from doing so. There exists a general belief in China, which repeated authoritative denials seem, curiously enough, to strengthen, that Russian influence was behind the Belgian syndicate in procuring the railroad concession from Peking to Hankow, the theory being that Russia's design is either to form, ultimately, a through line from St. Petersburg to the Yang-tze River, or to have something ready to offer in trade for other concessions in the north of more immediate benefit to herself and of less threatening aspect to Great Britain. Whether true or not, this supposed Russian "move" was immediately met by the British Government despatching two parties to China under the charge of army officers to prospect for a route for a railway controlling the Yang-tze Valley, usually considered as Great Britain's "sphere," and connecting with the Burma system. One of the lines projected follows up the Yang-tze from Hankow to Chung-king, and thence to Burma. The other runs across the northwest corner of Hu-nan, and

through Yun-nan, by a more direct route, to the same objective. They would have a length of about 1,700 and 1,550 miles respectively. They could be supported only as a political necessity, for while a part of each would traverse a rich, productive and remunerative territory, neither as a whole would be profitable for many years. The other nations that have political interests at stake are Germany, who appears to be content to develop the resources of Shan-tung as a local venture, and France, who, branching out from her Anam and Tong-king possessions, is desirous somehow to reach across the Empire and clasp hands with her Muscovite ally in the north. No sadder thing could happen, not only for China, but for the world at large, than to have some such scheme of interference or European division become a reality.

- Two questions, each of vital importance, present themselves in connection with possible railway development. Firstly, will the Chinese permit their construction, or will the national antipathy to innovation and superstitious fear of violation of ancestral tombs prevent the introduction of so revolutionary a thing as a railway? Secondly, if constructed, will railways pay?

The principal opposition to railway construction in China has come largely, I believe, from the official class, which has realized quite well that on the introduction of modern means of communica-

tion, and the general enlightenment of the country that would inevitably follow, its power would be broken and its prerogatives greatly reduced. Of course, there exists among the people a strong prejudice against any innovation, but this prejudice can be, and is, easily overcome wherever the innovation has official support and encouragement. The general popular opposition to railways in China is double, being partly religious and partly through fear of competition against manual labor. Being ignorant, the common people are naturally superstitious, and every district has its sacred hill or its holy river wherein resides the spirit of the local protecting deity, which, if interfered with, dreadful disaster will result. An amusing instance concerns an island in the interior on which it was necessary to make some excavation in the course of railway work. At once the literary gentry were up in arms, explaining that the island was really a fish who kindly kept watch over the adjacent city, and that if an excavation were made the fish's backbone would be cut and he would die. Such is one form of popular and superstitious opposition. Another formidable obstacle is found in connection with the graves of ancestors, which are the most important outward evidence of Chinese religion. Unfortunately, these graves are not placed in regular cemeteries but are scattered more or less broadcast over the surface of the country, so that it is impossible to run

a railway line without frequently interfering with them. At first this objection seemed fatal, and the earlier lines were given an alignment that would prove seriously detrimental to important railways. When the matter became acute in the construction of the Imperial Railway in the north, the question was taken up for settlement on a business basis, and eight taels was reached as a sort of tariff to compensate the resident for the disturbance of each dead ancestor and to pay for the removal of the latter to a new resting-place. Experience has shown that this charge was somewhat in excess of actual cost, for not only has opposition practically ceased, but a new business has sprung up. It is found that if the natives learn in advance of the location of a new line, that the more enterprising among them, if so unfortunate as not to have a family burying-ground in the way, will borrow from their neighbors the temporary loan of a few grandfathers whom they will quietly re-bury in advance of the work. The charge of eight taels seems sufficient to pay the expense of the double handling, with a commission to the owner of the ancestor, and yet leave an attractive profit to the borrower.

A more reasonable objection to the building of railways is the fear that the coolies, who now carry their goods and produce over their poor highways on their backs, one hundred pounds at a load, or the junkmen who now take weeks or

perhaps months to move a cargo of American kerosene a few hundred miles, will be deprived of their means of support and existence. This was urged to me by intelligent local officials and merchants, who appeared genuinely desirous to know what a railroad was and what its effects would be. When it was explained to them that similar fears had been found to be groundless in other countries, and that railways, instead of decreasing, gave increased employment at higher wages by diversifying and developing new means of trade, the local merchants and land-owners almost without exception seemed satisfied and urged my speedy return. The native prejudices, although strong, are not by any means insuperable, and can be conquered by tact, firmness, and money.

In order to give an answer to the second question, that is, as to whether the financial returns will pay a sufficient profit on the investment—for it must be remembered that the Chinese natives are very poor and apparently have no money for travelling—let us first turn to China's more advanced neighbors and see what they have done with their railways.

On one side we have India and on the other Japan. While the Hindus and Japanese are races different from each other and from the Chinese, the differences are not so great as to destroy the usefulness of the comparison. They are all Eastern

Asiatics, with many institutions—and even religions in part—in common; their countries have dense populations, while they themselves possess a natural disinclination to change established ways, a strong and almost bigoted desire for hand-labor methods, and a more or less deep suspicion of foreign ideas.

The Indian system of railways is of many years' growth, and has now attained a length of 25,000 miles. It may be urged that this gets its strength, and therefore has reached its development, through British, and not native, sources, and consequently is not a fair guide for comparison with proposed railways in other Eastern countries. It is, of course, true that the original incentive and the power of promotion was of foreign origin; but it is equally true that, unless the great mass of people in the locality concerned will patronize the newer systems of transportation—no matter how energetically promoted and extolled—the latter will not be profitable, and if the first lines do not pay, no subsequent ones will be built. The Indian system does pay, in spite of very heavy cost in construction, and pays chiefly through the receipts from those classes who usually are not supposed to have the means at hand. The receipts of the whole Indian system amount to \$4,000 gold per mile, while the receipts of the "standard-gauge" portion are more than \$5,000 per mile, with the chief lines showing results as high as



Khojack Tunnel on the Sind-Peshin Railway, India

\$11,000 gold, which may be contrasted with an average of \$6,000 per mile for the railways in the United States. These figures, too, are obtained in a country where the natives are as poor as any to be found on the Asiatic continent, and where a heavy mineral traffic, such as that in coal, is not obtainable, as it is in the more favored Eastern countries.

The Japanese railway system, however, is quite free from the objection that may be brought against the Indian railways as standards of comparison, because here we have all the usual oriental conditions without foreign pressure, except perhaps in the case of such foreign engineers or others as may have been retained from time to time for advice. Hence, in the Japanese system we find an example by which we can judge of the possibilities of development as to the capacity of the Eastern Asiatic not only to adapt himself to new conditions, but to take up the construction and management of so essentially an occidental idea as a railway, and also of his own initiative to suggest, promote, and carry out new lines.

The case of Japan is peculiar. Prior to the visit of Commodore Perry, in 1853, it was a country practically closed to the outside world, and was therefore far behind its neighbor, China, which had been carrying on trade with foreign nations for over three hundred years. In 1870 there was undertaken the construction of a line from Tokyo,



Japanese Passenger Train

the capital, to Yokohama, the chief port, a distance of eighteen miles, whose operation was begun in 1872. In 1893 the system had grown to 1,871 miles, and at the present time there are in actual operation about 4,000 miles.

These railways are of three kinds: first, the Government line, which constitutes the main stem, from Tokyo westerly along the coast through the great centres of trade and population, Yokohama, Kyoto, Osaka, and Kobe; second, private lines, built with the aid of a Government subsidy; third, private lines, without Government aid. Of the existing mileage, about nine hundred miles belong to the Government and 3,100 miles to private companies, of which the most important is the Nippon Railway Company, whose lines run east and northeast from Tokyo. The early Japanese lines were built by foreign, usually English, engineers and operated by foreign managers. But nearly all the foreigners have since been replaced by Japanese officials, and no new ones are engaged, the natives having amply demonstrated their ability to do all the work of planning, constructing, and operating.

The principal lines are double-tracked. Such single lines as exist are operated according to the English system of the train staff; and as the enginemen are natives, at wages averaging \$12 per month, some such mechanical method, instead of the American system of telegraph despatching, is



Typical Large Railway Station in Japan

a necessity. The track is of the American type, with flat-footed rails on wooden cross-ties and stone ballast. The rolling stock is of the European design, with cross compartments in the passenger cars and freight equipment of the "truck" order. The locomotives, on the other hand, are both European and American. In order to suit the passenger cars the stations have high platforms, and the buildings, though simple in design, are effective and usually models of neatness. Passengers are not admitted to the platform except with tickets, and are not allowed to cross the tracks except by an overhead bridge. The train schedules are generous in regard to frequency of trains, and call for speeds of from twenty to thirty miles per hour. Trains are usually on time.

The results of operation are in every way satisfactory, and are sufficient to completely dispel any fear that the Oriental races will fail to appreciate modern conditions when they have become used to them; for it must be kept in mind that it is only within the last few years that Japan has attained commercial prominence, and that it was but a short time since she occupied a position inferior to other Asiatic peoples. The Government lines earn per mile per annum about \$8,000 gross, while the private lines, many of which are located in the sparsely settled and mountainous districts, succeed in averaging \$3,500; but, owing to the



Typical Small Railway Station in Japan

low cost of labor, the ratio of operating expenses is much less than is found in the United States, ranging from forty per cent. to fifty per cent., thus giving a higher net return than is usual with equal gross receipts on railways in the United States.

Japan being insular, the railways there are subject to junk and steamer competition, and as the Japanese coal-mines are located on the sea, such traffic is almost exclusively water-borne. The former condition deprives the railways of through freight, and the latter of coal and similar classes of heavy goods, except to interior points. To American eyes the anomaly in the returns is the fact that passenger receipts exceed those from freight, the ratio of earnings on the Government lines being about as three to one, although on the private lines, where the population is much less dense, there is a nearer approach to equality. The same state of affairs is found to exist on the Indian system and on the Imperial Chinese Railway so far as it is built, thus indicating the existence of similar conditions of life throughout all the Far East. Contrary, therefore, to the ordinarily accepted belief, the Oriental is by nature a traveller when he gets the opportunity. and the extent to which he will travel is enormous. On the 660 miles of Government lines in Japan, there were carried in the year 1898 no fewer than 28,000,000 passengers, an average per mile

of 42,000. The average number of passengers per mile of railway in the United States is about 3,000. Taking a more striking comparison, the whole Japanese system, Government and private,



Passengers Getting on a Train in China

in 1898 aggregating 2,468 miles, carried 84,040,963 passengers, while the New York Central Railroad, in the same year, with 2,395 miles—or almost exactly the same length of line—carried 24,074,254 passengers, the relative density in favor of the Japanese being thus more than three to one; and

this in spite of the fact that the New York Central had the benefit of including among its passengers all the traffic received from Western, New England, and other connecting lines. Even when making a comparison as to passenger mileage, the volume of business is found to be in favor of the Japanese system in the proportion of two to one, the passengers carried one mile being in one case 1,438,014,632, and in the other 712,115,222.

Nor are the rates of fare at which this business is done so very low; in fact, some of the charges are high enough to excite the envy of the ordinary American traffic manager. In India there are four classes of passenger accommodation, the rates per mile ranging from 0.3 cent to 2.4 cents gold. In Japan there are three classes, the charges being 0.7 cent for the third class, 1.4 cent for the second, and 2.1 cents for the first. These last rates, adopted one year ago, are an increase of one-third over the previous figures, it being found that the natives demanded better facilities and were willing to pay for them. On the Chinese Imperial Railway the rates are $1\frac{1}{2}$ cents for first-class and $\frac{3}{4}$ cent second-class, at which prices, considering the shortness of the line, an enormous business is done. Although the rates for the lower classes seem low, it is to be remembered that the accommodations offered are of the simplest and cheapest character, passengers in China being transported in open gon-



Japanese Railway Freight Station

dola cars. The charges for first-class travel in all the countries referred to are seen to compare favorably with American charges, again bearing in mind that the heavy, expensively decorated American coach is unknown in the East. But freight rates are proportionately higher, the larger charges being rendered possible by competition with man-carried transportation, in which necessarily the cost is great, even in spite of the very low wages paid. In India the freight tariff per ton per mile ranges from 1.6 to 5.5 cents; in Japan on ordinary goods from 1 to 2 cents with reductions for large consignments, and in China from 1.2 to 2.25 cents. In 1898 the average charge per ton per mile on the whole Japanese system was 1 cent, as compared with 0.6 cent on the New York Central.

It would appear from these figures that two popular beliefs in regard to traffic conditions in the Far East are fallacious; viz., that the natives are too poor to afford to pay for modern facilities, and that they will not travel freely. The facts are otherwise. Their poverty is partly due to the high charges the deficient native methods inflict, which prevent any movements except those of great inherent profit which can afford the traffic expenses while in the interior of any of the countries here concerned none but the rich can gratify their desire to travel. Where the only facility afforded to the poor man is to walk, it be-

comes a condition as fatal to general movement in China as it would be in any other country. As a simple example of what the Chinese will do when they have the opportunity, the reports of the Canton Customs Office show that the steamers between Hongkong and Canton carry annually nearly 1,000,000 passengers, a daily average of 2,500, in addition to a large but cheaper travel by native junk, of which no record is kept.

The electric trolley car is a form of railway development which as yet has made but little headway, but which is certain to attain great success, being peculiarly suited to the needs of the Chinese on account of the density of population, and the inherent tendency of the natives to prefer short journeys, and journeys made at all hours, rather than at fixed intervals on a regular schedule. The electric tram-way has recently secured a foothold in Japan, in Siam, and in a few other isolated points; a few years hence will see its general use.

One curious and unfortunate feature in connection with Asiatic railways is the diversity of gauges, with the entailed certainty of all the inconveniences, delays, and unnecessary expenses that were experienced in the United States until a uniform gauge was at last adopted. The gauge of the Japanese system is 3 feet 6 inches, which is found to be inconveniently small; but as all the lines are alike, and as no outside connections are possible, it is not likely that any change will be

made—at least, not for a long time. On the Continent the conditions are more complicated, and such that some day will certainly give trouble. The Russian Trans-Siberian Railway, and the Chinese Eastern Railway (which is the extension of the former through Manchuria, still nominally Chinese territory) to Port Arthur and to a connection with the Imperial Chinese Railway, has a gauge of 5 feet, in accordance with Russian standards. The Indian railways, on the other hand, have an assortment of gauges, one of 5 feet 6 inches, mis-called the “standard gauge,” being used on the principal lines to the extent of about 14,000 miles. Again, a gauge of 1 metre is in force on over 10,000 miles, while odd gauges of 2 feet and 2 feet 6 inches are found on a number of short lines, aggregating, however, nearly 1,000 miles. The Chinese authorities on the Imperial system in the north, and on the Shanghai-Wu-sung line, have adopted the European and American standard of 4 feet 8½ inches; and as the same dimension is being followed by the Belgians on their Hankow-Peking line, and will be used on the English and American concessions, a standard is thus formed that will ultimately dominate the Empire, and which in the end the exigencies of traffic will compel the Russian and Indian railways to adopt.

The time will come, and perhaps at no very distant day, when it will be possible for a traveller starting, we may say, from Paris, to traverse North



Second-class Train on the Imperial Chinese Railway

Europe by way of Berlin and Moscow; and to proceed thence through Siberia; south to Peking and China; across India, Persia, and Asia Minor; by car-ferry over the Bosphorus; and thence through Austria and the Tyrol back to his starting point, without changing cars.

In style of construction the Chinese railways are a compromise between European and American lines. They are all single-track lines, except the division between Tien-tsin and Peking. The track is of the American type; the locomotives are partly American and partly English; and the cars, both passenger and freight, are an adaptation of both the American and English patterns, made to conform with local conditions, and in their construction to come within the facilities of local shops, for all the rolling stock, except the engines, is home-made.

As a field for the future, China stands pre-eminent on account of its size, its population, and its well-known but undeveloped mineral wealth, and offers chances and opportunities that are to be found nowhere else in the Orient.

The Japanese, in his essentials, does not differ radically from other Eastern Asiatic races. Starting from a point much inferior in the way of commercial development to that attained by the Chinese, he has built up, the greater part by his own individual and unassisted efforts, a railway system that can take rank with the railways of any other



First-class Train on the Imperial Chinese Railway

Passengers being supplied with food at a station

country. What he has done the Chinese can do, and will do, especially seeing that the conditions for success on the mainland, with possibilities for through traffic and vast mineral deposits awaiting rail transportation outward, exceed those of insular Japan.

Chapter X The Yellow Peril

THERE are two questions in regard to China that are frequently raised, which merit attention on account of their being supported by a belief that appears to be quite wide-spread. One is whether it is not dangerous commercially to supply the Chinese with factories, mills, railways and other modern means of constructing, by means of which, operated by their cheap labor, they will be able to flood the world with articles at a price lower than they can be manufactured elsewhere, and thus close our own factories, or compel our laborers to work for less pay. The other question is whether it is not dangerous politically to teach the Chinese modern methods, lest they will devote their energies to making arms and ammunition and overrun the world as Genghis Khan did, and make us all vassals of the Son of Heaven. Both questions are based on a fear of the so-called Yellow Peril. Let us take them up separately.

The basis of the first is the prevailing low rate of wages. Although China is a land of surprises and contradictions, the law of supply and demand still remains true. A man is paid five cents a day, because he is worth no more, and because there are more men seeking employment than the

scant diversity of occupation offers opportunities. Wherever in any country the number of occupations is limited, the rate of wages is low; thus a man receives less for his labor in the rural districts, where the variety of pursuits is small, than he does in the cities, where it is great. Likewise wherever labor is specialized, so that the output of the article made is increased, wages rise; wherever labor is not specialized, wages fall.

The extremes of the less desirable of the above conditions are those which exist in China. Ordinarily the man obtains his bare living in the hardest possible manner. If a farmer, he not only raises his own food, but he spins his cotton or his wool for his clothes; he constructs his own farming implements and makes his own houses. If he be a laborer in his native cities, he does the most menial of work, such as carrying water, hauling loads, and doing things that with us are accomplished by animal or machine. We know of our own experience that wherever that is the case, wages run low. The same thing is true in China. Take any one of the treaty ports where there are enough foreigners residing to make a settlement, wages will be found rising, and rising in proportion as there are activity and diversity of occupation. The more cotton mills, the more silk filatures, the higher are the wages paid. When, therefore, China has reached a condition in which she can invade us, it will be found that the

labor conditions will have adjusted themselves to a new level.

It is very difficult to argue against the proposition that it is unwise to develop a country that some day may surpass us in trade. Yet the discussion cannot be left in the condition that the burden of proof rests properly with the affiant, for those people who doubt the wisdom of the policy would consider such a course as conceding the argument. The proposition itself, if carried out to a logical conclusion, would mean that the world at large would be better off commercially if a nation like Germany for instance were absolutely destroyed or relegated to barbarism. Or to put it in another form, have the iron masters of England been ruined by the growth of Pittsburg? Has the cause of civilization or the commercial interests of other nations been injured by reclaiming what is now the United States from the Indian tribes who once possessed it? If this reasoning is objected to as not being parallel, in that the development of the United States was due to an overflow from European countries and was not the result of transforming an already existing population from a state of non-production to one of active competition, let us turn to the East for an illustration that is exactly parallel. We will pass over the customs returns of China, which indicate unmistakably a growth in import trade commensurate with that in export, and take

up Japan. In this we find a country having a dense population, and one where the natives but a few years since were far behind the Chinese of to-day; where the prevailing rate of wages was lately equally low, but whose rapid rise into the ranks of great nations is the marvellous wonder of the age. It is not so very many years since Japan was tightly closed to any and all external relations, and even within a decade it looked to other countries for such manufactured articles as it consumed. Through wise statesmanship, new industries have been developed, trade nurtured, a merchant marine established carrying the flag of Japan into all ports, while its cities, like Osaka, Kyoto, Nagoya and Yokohama, might be mistaken, if judged by their factory chimneys and active life, for some bustling cities in our own nervous West. If there be anything in the Yellow Peril, here surely is an opportunity where its evil effects can be seen. Here is a country, oriental in temperament, developed largely through its own energy, and which is not, as the United States may be said to be, a second Europe. What are the facts? In 1891 the United States sold to Japan goods valued at \$4,800,000, and to about the same amount in 1895. In the five years intervening since the latter year, the phenomenal growth in Japanese industrial life has taken place. Instead of the consumption of foreign articles diminishing, as the alarmists would

have it, the imports from the United States have increased by leaps and bounds, reaching in the fiscal year ended June 30, 1900, nearly \$30,000,000, an increase of about 600 per cent. In 1891 our sales to China amounted to \$12,000,000, or more than twice those to Japan, while in 1900 our exports to the former were about \$21,000,000, or an increase of less than 100 per cent. In short the advantage and benefit to the commerce of this country are greatest in connection with that oriental nation which developed the most. An increase of wages in Japan has taken place in comparison with the increase in trade, as was shown to be the case in China on a smaller scale. A few years ago the supply of farm hands was much greater than the demand; to-day there is difficulty in procuring enough to gather the crops, the men being attracted to the cities by the higher wages paid, and the cheap labor of Japan is fast disappearing. But even in spite of the difference in the ruling rate of wages, in manufactured cotton goods the United States is able to compete successfully with Japan in China, although in the matter of raw material the two nations stand on the same footing, as Japan imports American raw cotton to be manufactured in her own mills. On this point the Chinese Customs Report of 1898 says: "Japanese sheetings show an immense decline, said to be due to inequality in texture, which handicaps them, in competition with American goods."

The Japanese labor is cheap because it is not as efficient. When it is equally experienced, intelligent and reliable, it will receive corresponding compensation. So it will be in China. The theory that would keep a large country, embracing an area equal to that of Europe, from the blessings and comforts of modern civilization, is based only on the idea that trade is not mutual and that the only customer to be desired is he that will buy but cannot sell.

The second form of Yellow Peril fear rests on the density of Chinese population. The popularly conceived picture of China is one where the population has grown to the actual limits that the land can support, and that the "Yellow Terror" needs but the suggestion and the means to burst his bonds, and then from sheer necessity for the acquisition of more space will overrun Europe. Let us review briefly the facts in the case and ascertain what is the basis for the belief that the population is either as great as it is popularly supposed to be or that the land is actually over-crowded.

According to Williams, the first Chinese census of which there is any reliable record was one taken in the year 1331 A.D., which placed the population of the Empire at something less than 60,000,000. The first census to which any credit can be attached, however, was one reputed to have been taken in the year 1711, placing the population at less than 29,000,000, or about one-half of what it

was said to be 400 years before. Although there is considerable doubt as to whether this census included the whole of the Empire, the general looseness of statement in regard to the population is to be noted. In 1812 an elaborate Chinese census was said to have been compiled, placing the population of the country at 362,000,000, and in 1868 a Russian statistician named Vassilivitch estimated it at 405,000,000. In 1881 figures collected through the Maritime Customs officials gave a total of 380,000,000, being a decrease since 1868 and an absurdly small increase since 1812. These last three censuses so called are the ones that are generally accepted as approximating the population of the country, and from which, relying on a normal rate of increase, the present population is generally assumed to be about 450,000,000. Such are the primary facts. Now what is the evidence in support of their reliability? Of course no actual count of the people in China has ever been undertaken in the same correct and careful manner that the regular count of foreign nations is periodically made. The Chinese officials attempt to keep a record of their people, which is done, not by counting heads, but by ascertaining the number of families in each small district, and then by multiplying the number of families as reported by an average, assumed to give correctly the number of persons per family. In this manner the supposed population in any given district

is estimated. These figures are reported from time to time to the higher provincial officers, in order to determine the population of each province for taxation purposes, and it is on such figures that the great Chinese census of 1812 was made and the subsequent figures of Vassilivitch and the Chinese Customs compiled. If this method were pursued faithfully, even approximately, the general result would be somewhere near the actual facts, but we know that the Chinese, of all peoples in the world, are the most inaccurate. Whenever a Chinese makes a statement it is invariably preceded by the word "about," and an accurate statement of figures or statistics is something entirely beyond his comprehension. His very system of counting stops at ten thousand, and when he wishes to use numbers above that, he is compelled to count by so many tens of thousands. The methods of written arithmetic and of recording figures are unknown to him. When he wishes to work out an example in addition or subtraction, or perform any other arithmetical solution, he does so, not with the figures before him, but on a counting machine. To him, figures, or rather accuracy in handling them, mean nothing, but when he does use figures, he not only expresses them as "about," but invariably makes an overstatement. If a distance between two points is required, the figures given will always be in excess. If the price of an article is asked,

it is always one greater than the real one, and even in stating his age, where one would naturally look for accuracy, he increases the actual figure by one year, by considering that the child is one year old when he is born, and thus it goes through all cases where he has to handle numbers. Such being the case, his own statements in regard to population cannot command our acceptance without corroborating evidence. As has been shown above, what might be termed the internal evidence of the figures themselves is far from convincing, for not only do the totals fail to show any correlation, but the details of the provinces also are sadly at variance. Thus the province of Kwang-tung, where facts are easily ascertainable, was shown in 1812 to contain 19,175,000 people, and was given 19,200,000 by the Customs estimate in 1881, while Sz-chuen, the extreme western province, much less travelled than Kwang-tung, was credited with 21,000,000 in 1812, with 35,000,000 in 1881, and with over 70,000,000 now. There has been no such disproportionate growth. The most important of these censuses is, of course, that given out by the Chinese Customs. But the Maritime Customs Bureau had no means of ascertaining the population except through taking the Chinese figures and making such allowance in them as seemed proper for local discrepancies. The officials of the Customs are located at the treaty ports, where, of course, the greatest

concentration of population exists, and where the outward evidence would seem to support the estimates of a dense population.

Various writers on China have discussed this question of population from both points of view. Williams, in his "Middle Kingdom," says: "Whatever may be our views of the actual population, it is plain that these censuses, with all their discrepancies and inaccuracies, are the only reliable sources of information. . . . As the question stands at present they can be doubted, but cannot be denied; it is impossible to prove them, still there are many grounds for believing them. The enormous total which they exhibit can be declared to be improbable, but not shown to be impossible." From this, Williams goes on to reason, although showing his own doubt, that we should accept the figures until they can be proved to be untrue.

Dr. A. H. Smith, who probably knows China and the Chinese as well as any other writer, in his recent book on "Village Life" supports the idea of density of population as shown by the Chinese census, by giving results of actual counts in certain districts in the province of Shan-tung, which would seem to bear out the official figures. Among other critical observers, Mr. Colquhoun states his belief, when comparing India and China, the population of the former being fairly well known, that the population of the latter would

seem to be about 350,000,000, although admitting that other persons who have examined into this question have put the population below 300,000,000. An American, General James H. Wilson, who has travelled extensively in the northern part of China, which is probably the most densely populated portion, doubts the figures as stated by the various authorities and considers that 360,000,000 would be the maximum limit that he would believe. Other authorities can be quoted in a similar strain, the general summary of such opinions being that we should not doubt the Chinese figures until they are disproved, and that although the population appears to the writers to be great, it may not be so great as the census states. Such is the defence of the theory of great density of population. Of all the statements made, that possibly of Dr. Smith is entitled to the most respect, but his figures were taken from the province of Shan-tung, and on a portion of the great plain, where naturally the population is most dense, as there the greatest facilities for raising crops and supporting the population exist. As his work, that of a missionary, lay principally among villages and places where most people live, it is possible that even he did not make an allowance for the vast areas of waste ground which are to be found all over the Empire.

While the portion of China actually inspected on my own journey and on other trips to the

north and elsewhere is small as compared with the whole, nevertheless the districts seen were certainly typical and contained the great centres of population. From what I saw I am forced to believe that the density of the population of China has been most grossly exaggerated. Nowhere, not even on the plains surrounding Peking, did I see anything approaching a condition of overcrowding. On all sides there was evidence in abundance that the soil could support a very much larger mass of people than it does at present, and my own attempts to secure figures relating to the population of the districts through which I travelled, convinced me that no reliability whatever could be placed on Chinese figures. In some cases it is true the local official presented me with a tabulated statement showing the population of a district, but when these figures were compared with figures for an adjoining district, and where in each case I was able to make at least a comparison as to the relative density of population of the two, the evidence of unreliability was so great that I was forced to discredit them both. In the majority of cases, inquiries as to population were productive of no results at all. As Dr. Smith himself states, such a question usually provokes the answer of "Who knows?" or "Quite a few." In one case in my own experience an application made to the local magistrate (the man who should keep in his yamên a

record of the number of families) as to how many people lived in his district, he replied, "Many tens of thousands." After he was pressed for greater detail, he replied that he had told me that there were "many" tens of thousands, and he appeared to really believe that the word "many" gave me an accurate answer to my question. When it is recalled that such men as these are those who gather the basal figures for any census, and bearing in mind the general inaccuracy and looseness of statement characteristic of the Chinese, it seems to me that their figures of population should be set aside as almost unworthy of serious consideration. The burden of proof is undoubtedly on the Chinese, and as there is no direct evidence to support their claim, and much to make one doubt it, the whole question seems to be fairly open for un-biassed investigation.

In other countries the average density of population depends largely upon the concentration of people in great cities. Of the total population of the State of New York, more than one-half of it is concentrated in a small area, covered by the City of New York. Of the population of England, one-fifth of it is comprised in London alone; and if the population of all cities of over 50,000 in any country are removed from consideration, the average number of people per square mile will be found to be very low. It used to be supposed that the cities of China were exceedingly popu-

lous, Peking being credited with a population of several millions. This is now known and generally admitted not to be the fact, and Peking, instead of being one of the largest cities of the world, evidently does not possess over 700,000 inhabitants.

Taking, for example, the provinces of Hu-peh, Hu-nan, and Kwang-tung, along whose chief trade routes, and consequently most densely populated sections, my journey led me, of these Hu-peh is usually credited with something over 30,000,000. The only large centre of population of Hu-peh is Hankow, which, with Wu-chang and Han-yang, cannot have more than 1,250,000. While there are several other cities in the province, with possibly from 50,000 to 100,000 people each, there is no other very large aggregation of people. Hu-nan has an area of 75,000 square miles, or just about one and one-half times as much as the State of New York. The former is credited with 22,000,000 and the latter with about 7,000,000 of people. My journey through Hu-nan is comparable with a trip from New York to Buffalo, along the line of the Erie Canal and the New York Central Railroad. On the first there are but two really large cities, Chang-sha and Siang-tan, to offset New York, Albany, Schenectady, Syracuse, Rochester, Buffalo, and intermediate points. It is impossible to see how there can be a relative density per square mile of more than two to one in favor of

the Chinese province. Kwang-tung is given 30,000,000, approximately, on an area of about 80,000 square miles. The northern part is mountainous and almost bare of people, and no crowding is apparent until Canton is approached. If the district of Canton, including Fatshan and the other places in the vicinity, be credited with 5,000,000—a most generous allowance—there would remain 25,000,000 to be made up by the smaller cities and villages. If these places should average 2,500 people each, there would then be needed 10,000 of them. I am quite sure that no such number can be found.

While I have no means of forming any estimate of the actual number of people to be found in these three provinces, I am convinced that the originally reputed figures are more than twice too great. This view of overestimating on the part of the Chinese is corroborated by the report of a commission sent by the Chamber of Commerce of Lyons, France, in 1895, to investigate the trade conditions of certain parts of China, notably the provinces of Yun-nan and Sz-chuen, in which the French Government claimed special commercial privileges. In order to acquire information they subdivided their main body into several parties, and thus in their two years' work covered all the principal routes. Of the province of Yun-nan, they speak as follows:

“There is the same uncertainty in the matter of

population. In spite of the authorities, we are forced to believe that the figure of twelve millions is too great, and that one of seven or eight millions would come closer to the truth, although a missionary who had travelled much throughout the province gave an estimate of from four to five millions."

The province of Sz-chuen, which is the largest province in China, has assigned to it a population of 73,000,000. The French commission state that they discard, without hesitation, the above-named figure, and give as their estimate from 40,000,000 to 50,000,000, but add that the Customs authorities at Chung-king and the missionaries estimate the population at from 30,000,000 to 35,000,000.

We thus have a careful estimate made by men who can hardly be accused of pessimism, giving but sixty per cent. of the usually quoted figures. In addition to this they felt constrained to point out that the missionaries, who probably know the country better than anybody else, estimate the population on a basis of from thirty to forty per cent.

The foreigner gets his idea of the overcrowding of China by a cursory trip through the streets of a Chinese city like Canton. These streets are narrow, being but from eight to twelve feet wide, and are consequently crowded, but he must remember that the widest one of Canton's business streets is narrower than a single sidewalk in

New York, and that any one of the latter city's thoroughfares carries many times more people than any one of Canton's streets. The net increase of population in a country like China is out of all proportion to the net increase in countries with a modern civilization, and, therefore, a comparison with European or American figures, as is so often made, is out of question. Although the Chinese are prolific, there are many causes that operate to prevent a rapid net increase. Diseases like small-pox and typhoid are rampant, being encouraged by the vile sanitary conditions existing everywhere. Medicine, proper diet and nursing of the sick are things unknown, so that, when a native falls seriously ill, death is almost certain to result. The actual death-rate is, of course, unobtainable, as no statistics are kept, but all who have lived among the Chinese report that it is enormously high, especially among young children. Then there are extraordinary causes to reduce growth, such as rebellions and famine. Rebellions periodically have swept over the Empire, leaving in their wake a tremendous death-roll. The Tai-ping rebellion alone is supposed to be responsible for the killing of 15,000,000 Chinese.

In spite of what has been claimed, in spite of what has been written, I cannot see how it is possible for 400,000,000 people to be found within the limits of the Chinese Empire, and that, therefore, the overcrowding of the country by its so-

called teeming millions is a myth. What the actual population is, it is impossible to say; but if an accurate count were taken, I should be very much surprised if the results were much above 200,000,000, nor would I be incredulous of the result if the figure fell below that amount. Even this figure, however, would give an average density of population about six times greater than that found in the United States.

This question of population naturally leads to the consideration of a possibility of the Western World, or at least Europe, being overrun by the Chinese. In this connection it must be remembered that mere force of numbers no longer constitutes the chief requirement for a successful military movement. The occasions when peoples have been conquered by others of a much lower civilization belong to a period when the so-called hordes were opposed by forces but little better armed than they, and when it was practically a struggle of man against man. Modern mechanical appliances in war and transportation have almost obliterated the value of disproportion in numbers. Against such appliances hordes and mobs are of little avail. The days of Genghis Khan and the Saracens, when each man carried only his spear or sword, and when the force was not too large to be able to subsist off the country, are gone forever.

An oriental army attacking Europe would have

to consist of several millions of men, weighed down with rifles and ammunition, artillery and ordnance, and the other heavy impedimenta of modern warfare. Thus encumbered—for the whole of the equipment would have to be carried from the starting-base—this huge, unwieldy army would have to cross into Europe by one of the three land routes, for an attack by water would be impossible. These routes are: southwesterly across Burma into India, northwesterly across Siberia, or directly west across the high table-land of Central Asia; in any case a distance of at least 6,000 miles. In either of the first two, the attacking force would be met by defending forces constantly in touch with their base of supplies, through their own railway systems, and which on retreating would form a greater concentration. The attacking force would be under the disadvantage of working further and further from its base, with its line of communication being thus constantly lengthened and attenuated, and maintained only by the constructing of new railways as it progressed, for, of course, the defending force, if defeated, would destroy their lines of communication. The last of these routes, that across Central Asia, would involve a march across a high and mountainous country, where there is practically no population, no means whatever of feeding and supporting the gigantic army required, and where the combined Europeans could

leave climatic conditions, starvation, and other natural causes to protect them from the advancing foe.

To be able to carry out such an invasion there would be required tremendous preparation, the development of industrial enterprise, and the consequent bringing up of the people to a high standard of civilization. When that point is reached, the people themselves will shrink from general warfare, as other civilized nations do now, since their interests at home will transcend any possible gain to be obtained abroad. This reluctance in the case of the Chinese will be further enhanced through local racial prejudice, diversity of language and temperament existing among themselves, as developed by climatic conditions, varying from the temperate to the tropical.

The only way in which the yellow races can conquer the world, either commercially or actually, will be, not by force, not by hordes, but by peacefully developing a higher civilization as the Western World has done. The contemplation of future generations receiving from the Far East a betterment in condition and a higher civilization is one that does not appear to contain many terrors.

Chapter

XI

China in the Twentieth Century

IN the preceding chapters there has been presented a brief review of the greater and more important conditions underlying and leading up to such industrial development in China as is found to exist at the close of the nineteenth century. I have endeavored to let the reader see the country, the people, their ways of doing things, what has been accomplished and the difficulties in the path of further progress, as these appeared to me. But what of the future? We have seen that the Chinese are absolute and unthinking slaves to precedent and established custom, and how in lieu of a practical and serviceable education they still continue to memorize the doctrines of Confucius, who, in his day, merely put into permanent and imperishable form the teachings of those whom even he called the ancients. Are these habits so firmly fixed after five thousand years of practice that they cannot be broken? Or in spite of all, does there exist in the Chinese character the latent trait of mobility? The Chinaman was once an engineer of no mean ability. Is he going to let things rest as they are, or will he set about to learn the newer application of science, especially modern methods of transportation, the direction in which he is most deficient? Will he

appreciate the benefits of railways and steam-boats, of mines and metallurgy, of factories and machinery, of steam and electricity? Such are the questions that the critic asks after a survey of the past and present, but which questions are not subject to an exact reply. In spite of difference in surroundings and appearances, of personal characteristics and idiosyncrasies, the Chinese are actuated by feelings, reasonings, passions, and motives similar to those of other human beings, so that it is justifiable to assume that similar causes will bring about similar results. The development of China, assisted at first perhaps by outside influence, but eventually carried on by the impulses of her own people, is as sure to come to pass as in the case of other nations; and when at last it has broken down completely the wall of exclusion and isolation, the progress that will follow will produce great results, aided as it will be by the mineral wealth of the country and the industrious habits of the people.

Japan in less than fifty years has risen from a condition far inferior to that of China to one where in every walk of life she justly receives the admiration of other nations. What Japan has done there is nothing to prevent China doing. But before any regeneration of China can take place, there is one institution that must go, and will go, and one institution that must come, and will come. The first is the present official class, and their

method of governing, and the last is modern education, the great prerequisite for a social revolution, and on which all rehabilitation of the people, including even their religion, will rest. These two are so interdependent that it is difficult to distinguish between cause and effect, but certain it is that the weakening of incompetent rule and the spread of occidental education are each at work to secure the accomplishment of the other.

In no country is the gulf between the governing and the governed so wide and deep as it is in China. As has been explained, the former appreciate that their powers, perquisites, and opportunities for getting rich depend on maintaining the existing condition of affairs. No great or lasting advance is possible while the present system of officialdom and officialism continues. In this respect China resembles Japan as the latter was when opened to the outside world by Commodore Perry, and down to the overthrow of the Shogun and the attending feudalism. When these surviving relics of by-gone centuries were swept away, and the power to govern and to act was concentrated in the hands of the Mikado, Japan's regeneration began. There are men in China who are able to see beyond the immediate limits of their personal ends, and who can patriotically consider the needs of their country, and there is rapidly growing among the people an appreciation of wrongs suffered, and a possible betterment

to be obtained. This movement will eventually gather momentum sufficient to break down before it the barriers of ignorance, superstition, and selfishness that now impede its progress. In the achieving of this result outside help will do some good, but the greater aid will be secured through the education of the people. Of education, the seeds have been planted, and some of the fruits are already being gathered. The work of disseminating modern learning is being carried on freely by the missionary bodies, but as a general rule under a policy that is steadily becoming more liberal in treating education as something which, though possibly leading to, is in itself distinct from, religion, and a policy which therefore recognizes in schools no difference between those professing Christianity and those adhering to native beliefs. Similar good work is also done through the agency of a society which is especially organized under foreign and native patronage, for the purpose of Diffusing Knowledge, and partly by the labors of the Chinese themselves. This last form is the most encouraging and promising sign. At Peking there was established a well-organized college under imperial sanction and support, where Chinese students could obtain a very liberal education. At Shanghai there is another college, maintained through the personal liberality of Shêng Tajen, and at other points throughout the Empire there are similar institu-

tions. The several thousand students attending the various "foreign" schools, although perhaps but a small portion of the whole population, nevertheless are sufficient to attest the successful and permanent establishment of occidental education. Every student that leaves one of these schools becomes, as it were, a spore centre, whence a little circle of new thought germinates and spreads, and thus the progress and effect of education will proceed, gathering strength of its own accord.

Two little incidents that came under my own notice will illustrate the spirit that animates the Chinese who have taken up this question of education. The closing of the so-called foreign schools at Chang-sha was followed by earnest efforts on the part of the authorities to blot out if possible all the effects of their teachings, and to this end the native instructors were ferreted out and compelled to leave the capital. During my stop at Chang-sha there came to my boat a messenger who left a package and immediately disappeared. On opening it, it was found to contain a Chinese work on geometry, with the card of the native author who had been on the school staff. He left no address and gave no way in which his gift could be acknowledged. Probably he was hiding somewhere in the city and trying to eke out an existence by some lowly trade, and biding his time with a firm confidence that the hour would come again when he could resume his teaching. Hearing

that a foreigner, and that foreigner, a man like himself, of scientific training, had at last reached Chang-sha, he knew that in him he would find appreciation, and therefore sent his little work with an author's pride. He sought no other reward than the pleasure he took in the knowledge that the thought would be understood. If, as I believe, he did not dare make any more open recognition, then the very simplicity of the act indicated the spirit that, when necessity requires, suffices to make the martyr.

On another occasion a high-class mandarin who accompanied me during part of the journey, asked for advice as to where in China he could best send his two sons to receive a Western education, adding that he had been burdened all his life with useless knowledge and therefore wished his sons to be trained against the day which he was sure was coming for China, when men of intelligence and liberal education would be called on for public office, adding naïvely that a Christian school was not objectionable. Such examples are by no means isolated. China is full of such men, and corrupt officialism can no more stand against the growing light than can the darkness of night prevent the coming dawn. Education will sweep away the incrustations that hamper progress, and as each improvement in the ranks of the official class occurs, such addition will hasten the advance and spread of education. Thus the downfall of one will go

hand in hand with the rise of the other. Slower in thought and action, slower to accept innovations than the Japanese, yet this very trait makes the Chinese firmer in the new way when once adopted, and therefore we may look in the twentieth century for a development in China, less rapid perhaps in its earlier stages, just as its beginning has been longer postponed, yet in its ultimate expansion more thorough, more complete, and more far-reaching.

The journey on which this book is based, was made before the "Boxer" outbreak of June, 1900. The latter seems to confirm the above-described traits of national character and existing conditions of life, and to emphasize that there is really no such thing in China as a government, according to our understanding of that term. There is the outward form, but it is entirely devoid of substance. There are officials, but they lack power, and even the imperious will of the Empress Dowager cannot be impressed on the people at large. The present disturbance, if it is viewed as a popular uprising, indicates the helplessness of the central government to govern; or if it is believed to be actually supported by the authorities, then we see the curious spectacle of a government carrying on a war against the civilized world in concert, with the greater part of its people and the whole of its navy standing by, apparently unmoved.

What other country but China can present such an anomaly ?

But China and the Chinese must not be judged by the movement of a fanatical sect, although that movement may acquire sufficient strength to inflame the whole country, but rather by the failure to govern on the part of a government whose life-spring has long since been dead. On this account there is no need to destroy the country, to parcel it among the European Powers, or to reduce the people to a state of vassalage to be used by the other nations as "buffer states." Such is not world's progress. The fault lies not in the people but in the so-called governing class, who are unable or unwilling to guide the people in their tranquil ignorance, or to control them in their ignorant turbulence. If the break-up of China can be prevented for a few years, all this is susceptible of correction. Give China a chance and a little help and she is quite capable of working out her own salvation. Let there be established a government that is capable of governing honestly and well. Let order be guaranteed. Let the way be prepared for transforming the dead civilization of the past into the living civilization of the present. As one looks at her fertile fields and sees her patient and industrious people, one cannot help wishing that there may come for China a Peter the Great to elevate his people by the developing of industry and diversifying of oc-

cupation; and a Washington to instil in them a lofty sense of national unity, spirit of freedom, and love of country. The seeds for this work have been sown. Schools have been founded, industries are being multiplied, railways are being built to connect the various parts of the Empire and so actually and metaphorically to bind them together with bonds of steel, while the foreign settlements that are springing up are silent but eloquent witnesses of better possible conditions of life. By all of these, if time be given, in spite of such temporary set-backs as the present trouble, there will develop in the Chinese a new intellectual activity, and an appreciation of patriotic unity which by making the man from the East and the South feel that he is one with him from the West and the North, will enable China once more to take her place among the great nations of the earth.

In the work of regeneration the influence of the United States should be, and for many reasons inevitably will be, of preponderating weight. Thus we shall have the final confirmation of the singular and interesting circumstance that the world's progress has always been from the rising to the setting sun, *ex oriente lux*. Now, after a lapse of five thousand years, the youngest of the great nations is preparing to pass on, or rather to return, this light to the oldest, whence it started in its "circum-orbem" journey. Whether the latter, receiving back the flame, will add some-

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thing to its brightness as each previous nation has done, and start it moving once more westward, and so begin a new and still higher circle of development for the world, is one of those interesting questions that only a generation far in the future will be able to answer. We of to-day are concerned not so much with what China will eventually do with progress, as with what we ourselves can and should do with it now.

THE END.

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