WAR DEPARTMENT, - - ADJUTANT GENERAL'S OFFICE.

No. XXX.

NOTES ON CHINA.

AUGUST, 1900.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1900.

WAR DEPARTMENT, - - ADJUTANT GENERAL'S OFFICE.

No. XXX.

NOTES ON CHINA.

AUGUST, 1900.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1900.

WAR DEPARTMENT,

Adjutant General's Office.

Document No. 124.

M. I. D.

INTRODUCTORY NOTE.

This pamphlet does not pretend to furnish a full account of China. Its purpose is simply to give, in condensed form, information which may prove useful and interesting at this time, and which has been gathered from all available sources, some of which are not generally accessible.

"China," by James H. Wilson (copyrighted by D. Appleton & Co.); "China in Transformation," by A. R. Colquhoun (copyrighted by Harper & Bros.), and "The Break-Up of China," by Lord Charles Beresford (copyrighted by Harper & Bros.), have been freely quoted, the publishers having kindly given their permission. A great deal of valuable information has also been obtained from the Hongkong Directory for 1900 and the Statesman's Year Book for 1900. It has not been practicable to consult the publishers, and acknowledgment is hereby made.

AUGUST 1, 1900.

TABLE OF CONTENTS.

	Page.
Introductory note	3
General description	7
Area and population	9
Mountain system	10
Rivers	11
Means of communication	19
The railway system in operation in China	24
Ports and cities	29
Population of ports	31
Peking	31
Tientsin	33
Taku	37
Newchwang	38
Talienwan	39
Port Arthur	39
Chefoo	39
Wei-hai-wei	40
Kiaochou	41
Shanghai	41
Soochow	43
Chinkiang	44
Nanking	45
Wuhu	45
Kewkiang	46
Hankow	46
Ichang	47
Foochow	48
Amoy	49
Canton	50
Reigning sovereign and family	51
Government and revenue	51
Climate	53
Flora and fauna	55
The Great Wall	55
The Chinese army:	
Permanent military organization	57
Provincial militia	59
Irregular forces	60
Visit to the army under the command of General Yuan Shi Kai	62
General Sung's army	63
General Soon Ching's army	64
General Tung Fu Chan's army	64

The Chinese army—continued. Page.
General Nieh's army ---- 64
The Peking field force ---- 64
Cavalry camp at Kaiping ---- 65
General Yi-Ke-Tong's army ---- 65
Mongolian cavalry ---- 65
His excellency the Viceroy Chung Chi Tung's army ---- 65
His excellency the Viceroy Liu Kwen Yi's army ---- 66
His excellency the Viceroy Hsu Ying Kwei's army ---- 66
His excellency the Viceroy Tau Chung Lin's army ---- 66
His excellency the Viceroy Kwei's army ---- 67
Forts and arsenals ---- 70
Forts ---- 70
Arsenals ---- 71
China's fortifications in 1895 ---- 75
The Chinese navy ---- 79
Foreign forces in the Far East ---- 80
Great Britain ---- 81
Russia ---- 82
Germany ---- 83
France ---- 85
Italy ---- 85
Austria ---- 87
Japan ---- 87
United States ---- 88
The country from Taku to Peking ---- 89

NOTES ON CHINA.

"In order that a definite conception may be had of China, as it was and is, it should be borne in mind that with the exception of Russia, it is the largest empire that has ever existed. It occupies nearly the whole of Eastern and South-eastern Asia, and lies in a regular, compact, and unbroken mass of conterminous subdivisions and outlying territories. It is composed of the original eighteen provinces corresponding to our States, and constituting what is generally described by geographers as China Proper, but sometimes as the 'Middle Kingdom,' together with the outlying and encircling possessions of Manchuria, Inner and Outer Mongolia, Ili, or Chinese Turkestan, Koko-Nor, and Tibet." * * * "The nineteen* provinces, covering an area of about 1,800,000 square miles, are all densely populated by the Chinese, but the outlying dependencies, which are of far greater extent, are mostly arid, elevated table-lands, occupied generally by nomadic and pastoral tribes commonly known as Tartars, thinly scattered over an almost illimitable succession of plain, desert, and mountain country."

* * * * * * *

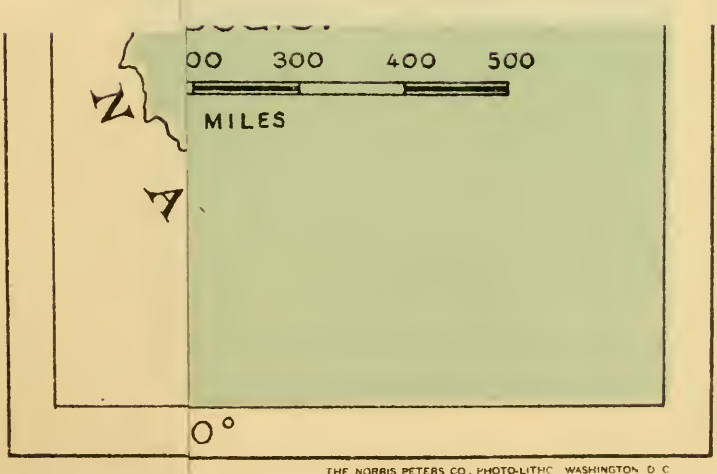
"Although a country of such vast extent, China has always been nearly as completely isolated as an unknown island. Surrounded as it is on the land side by deserts and trackless wastes, hundreds and at places almost thousands of miles wide, no certain or regular communication between it and Europe could be had either for commerce or intelligence. From the dawn of history down to the beginning of this century, only one great traveler, Marco Polo, ever succeeded in crossing Asia and reaching China, or in giving to the world an intelligible account of what he saw, and even he found it necessary, after eighteen years of wandering, to return to Venice, his native city, by sea. An occasional merchant may have preceded him or followed in his tracks, but they were so few and far between that they produced no impression whatever upon the Chinese or their civilization.

* Since the above was written, Formosa has become Japanese territory. There are now eighteen provinces.

"The utter impassability of the steppes and wastes lying between Southeastern Europe and the thickly-settled portions of China, except by the appliances of modern travel, or by the nomadic and semibarbarous hordes which occupied them, will be still better understood when it is remembered that a line drawn from a point on the sea near the mouth of the Amur River, west-southwest across Asia, to the west coast of Africa and the Atlantic Ocean, lies everywhere, throughout its ten thousand miles of extent, in an arid and inhospitable desert region. It crosses no considerable country of high civilization unless Egypt and the valley of the Euphrates be excepted, or which has ever had a high civilization, or which has ever exerted a dominating influence upon the civilization of any other country. This vast trackless region has effectually separated the civilizations of all Southern and Eastern Asia from those of Europe, from the earliest days of the historic period down almost to the present time. Railways are now being pushed out from Russia; Merv and Tashkend are already or soon will be in daily communication with Moscow, St. Petersburg, Berlin, and Paris, and the civilization of those places will surely make its way overland into the heart of Asia, and ultimately down the Amur, if not through China, to the western shores of the Pacific.

"China Proper is called, by its own inhabitants, the Middle Kingdom, or the Central Flowery Land; but by the Russians and other people of Northern Asia it is called Katai, whence comes the name of Cathay. The Persians designate it as Tsin or Chin, easily changed by foreigners into China, but the significance of this word, or the root from which it is derived, I have not been able to discover.

"The country, as before stated, is subdivided into nineteen provinces, each presided over by a governor general, and sometimes by a viceroy, appointed by the throne. These provinces, beginning in the northeast and sweeping westward around the Great Wall, are Chili, Shansi, Shensi, Kansu, Szechuen, and Yunnan; then, sweeping back to the eastward, and along the seacoast, come Kweichau, Kwangsi, Kwangtung, Fukien, Formosa or Taiwan, Chekiang, Kiangsu, and Shantung. The center is occupied by Honan, Hupei, Hunan, Kiangsi, and Anhui. The entire area of these provinces is not materially different from that of the States lying east of the Missouri and Mississippi rivers, with Arkansas



INDEX MAP

110° 120° 130° 140°
50° 40° 30° 20°

MONGOLIA
SHAMO OR GOBI DESERT
TRANSBAIKALIA
MANCHOORIA
AMOORIA
AMOOR RIVER
BLAGOVESTCHENSK
KHABAROVKA
GULF OF TARTARY
PATIENCE BAY
LA PEROUSE STRAIT
VLADIVOSTOK
KIRIN
MUKDEN
SHING KING
NEW CHWANG
LIAO-TUNG GULF
PEKIN
TIENTSIN
GULF OF PE-CHI-LI
KOREAN GULF
PT. ARTHUR
CHEFOO
WEI-HAI-WEI
SEOUL
CHEMULPO
KOREA
FUSAN
KOREA STRAIT
JAPAN SEA
TOKYO
YOKOHAMA
NAGASAKI
VAN DIEMEN STRAIT
JAPAN
YELLOW SEA
SHEN-SE
SHAN-SE
SHAN-TUNG
YELLOW RIVER
HO-NAN
KAN SOO
SHEN SE
HOO-PE
KIANG-SOO
NANKIN
SHANGHAI
HANG CHOW BAY
CHE KIANG
NING-PO
YANG-TSE KIANG RIV.
T'CHANG
HANKOW
WOO-CHANG
CHDONG-KING
ROW-KIANG
SZE CHUEN
CHINA
QUEI CHOW
HOO-NAN
KIANG-SE
FOO-KYEN
FUCHAU
AMOY
TAM-SUI
FORMOSA STRAIT
FORMOSA
RYUKYU ISLANDS (To JAPAN)
QUANG-SE
QUANG-TUNG
CANTON
SWATOW
MACAO
HONGKONG
PAKHOI
GULF OF TONG-KING
KIUNG-CHOW
HAINAN
FA-KAU
BALINTANG CHANNEL
BABUYAN
LUZON
MANILA
PHILIPPINE ISLANDS
ANNAM
SENG-MIOW-SE

Scale:
0 100 200 300 400 500
MILES

THE W. & A. K. JOHNSTON LTD. EDINBURGH AND LONDON
THE HAMMOND PETERS CO. PHOTO-LITH. WASHINGTON D. C.

and Texas added. It is included between about the same parallels of latitude, and, so far as cold is concerned, it has about the same climate; but the two great rivers of the country, running generally eastward to the ocean, have formed an extensive delta of low, alluvial lands nearly seven hundred miles long from north to south and from three to five hundred miles in width, so that the prevailing south and southeast monsoons coming in from the tropical regions of the Pacific Ocean laden with watery vapor find no high ranges of mountains to intercept them, but carry their refreshing rains far inland during the summer months. These rains last from three to four months only, but are frequently excessive, and, when such is the case, the great plains are often swept by devastating floods. But in the fall, winter, and spring, or for two-thirds of the year, the prevailing winds are from the north or northwest, and almost constant sunshine prevails. It hardly ever rains, and still more rarely snows." ["China," by James H. Wilson; copyrighted, 1887, 1894, by D. Appleton & Co.]

The location of the provinces is shown in the accompanying outline map. Their area and population are given in the following table, taken from the "Chronicle and Directory for China," Hongkong, 1900. The figures with an * are from Chinese official data for 1882, and those with a † from the data of 1879, and those for Fukien are estimated on the basis of the census of 1844.

Province.	Provincial capital.	Area, English square miles.	Estimated population.	Population per square mile.
Chili†	Peking	58,949	17,937,000	304
Shantung*	Tsinan	53,762	36,247,835	557
Shansi*	Thai-yuan	56,268	12,211,453	221
Honan*	Khai-feng	66,913	22,115,827	340
Kiangsu*	Nanking	92,961	20,905,171	470
Anhui*	An-khing		20,596,288	425
Kiangsi†	Nanchang	72,176	24,534,118	340
Chekiang*	Hangchou	39,150	11,588,692	296
Fukien	Fuchau	38,500	22,190,556	574
Hupei*	Wu-tchang	144,770	22,190,556	473
Hunau*	Changchau		21,002,604	282
Shensi†	Singan Fu	192,850	8,432,193	126
Kansu†	Lanchau		9,285,377	74
Szechuen*	Chingtu	166,800	67,712,897	406
Kwangtung*	Canton	79,456	29,706,249	377
Kwangsi†	Kweilin	78,250	5,151,327	65
Kweichau†	Kweiyang	64,554	7,669,181	118
Yunnan†	Yunnan	107,969	11,721,576	108
		1,312,328	383,253,029	292

MOUNTAIN SYSTEM.

"The ranges that penetrate the region south of latitude 45° north may be said to have their nucleus in the Pamir plateau, the 'Roof of the World.' From this plateau extend the Thian Shan, or Celestial Mountains, separating Mongolia from Chinese Turkestan and the Gobi Desert. To the south of the Thian Shan the Kuenlun range takes its exit, and, proceeding due east, separates Chinese Turkestan, the Desert of Gobi, and Koko-Nor from Tibet, ultimately striking the Yungling Mountains near 104° east. At the southeast corner of the Pamirs a huge range leaves the plateau, and, joining the Kuenlun with a cross spur, forms the western border of the central Tibetan table-land; thence, making a great curve, it continues as a barrier round the southern and eastern sides of the high plateau, until it joins the Kuenlun about 95° east. Under the name of the Himalaya it separates that portion of Tibet drained by the Sanpo or Brahmaputra from India, some of its peaks being 30,000 feet in height. East of Assam it is broken through by the Brahmaputra. Continuing in an easterly direction, it throws out a huge arm southward, which forms, with its plateau and mountain ranges, the primary base of Indo-China. This arm is cleft lengthwise by the Salwen and Mekong rivers, and partly in its length and in part transversely by the Yangtse and its branches. The Irawadi rises in its western armpit; the Si kiang (West River) and the Song-ka (Red River) in its eastern one. The main range then continues in a north-northeast direction, and, under the name of the Yungling, impinges on the Bayan Kara, which springs in 95° east, 35° north from the eastern flank of the hill barrier that incloses the central Tibetan table-land. Running nearly due east, and known on most European maps (but only there, as Richthofen has shown, for 'ling' is applied in China only to a mountain pass) as the Pehling and Tsingling ranges, it forms the water parting between the Yangtse and Yellow River systems. The mountainous belt of the southeastern provinces forms the northern watershed of the Canton River, and is the divide between it and the Yangtse system. All the ranges which penetrate China Proper, with the exception of the mountains of Shantung, jutting out south of the Gulf of Pechili, are connected with the western Tibetan system. The average heights of the western China highlands may be roughly given as

follows: the Pamir plateau, 15,000 feet; Tibet, 15,000 feet; Koko-Nor, 10,500 feet; the Mongolian plain, 4,000 feet; the Shansi table-land, 3,000 feet to 6,000 feet; Yunnan, 5,000 feet to 7,000 feet." [From "China in Transformation," by A. R. Colquhoun; copyright, 1898, by Harper & Bros.]

RIVERS.

[Condensed mainly from Wilson's "China."]

The greatest river in China is the Yangtse, which rises in the mountains of Tibet, and after flowing to the south and southeastward crosses China Proper from the extreme western border of Szechuen, in a generally east-northeastwardly direction to the Yellow Sea, which it enters within a hundred and twenty miles of the old mouth of the Yellow River. It, however, traverses a region in which the snows are heavier and the rains more frequent and deeper, and it has in addition a watershed of much greater area than the Yellow River, and consequently it discharges a much greater volume of water at all seasons of the year. Its discharge has never been measured, but enough of it is known to justify the statement that it is one of the greatest rivers of the world—navigable to the Great Rapids, 1,300 miles from the sea, for ocean steamers, and for those of the greatest draft to Nanking, while river steamers can ascend five or six hundred miles farther into the heart of Szechuen. The rapids, which are found just above Ichang, have hitherto been regarded as impassable by steamers under their own motive power, but it is now known that the current does not exceed 9 miles per hour, and that the channel is sufficiently deep and clear of sunken rocks to admit of free navigation by boats having enough power to make head against the current. The rapids are habitually passed by junks, which are warped through them by means of ropes and manpower. Under the treaties, foreign vessels are entitled to enter and ply upon all parts of the river without restriction, after it has been shown that the rapids can be safely passed.

It is not possible to give the exact length of this river, for its course through the mountains of Tibet has never been explored or accurately laid down, much less has it been correctly measured. It, however, approximates 3,000 miles, and flows through every variety of land and climate met with in China. Each new province that it waters gives it a new name.

The main trunk in Szechuen is called by the natives Kin-sha-kiang, or the River of Golden Sand, until it is joined by the Yalung, after which it is called Ta-kiang, as far as Wuchang, in Hupei. Below this point it is designated as the Chang-kiang, or Long River, and finally, in its reach next the sea, as the Yangtse.

Unlike the Hoangho, it has many large tributaries, the most important of which is the Kan-kiang in the province of Kwangsi. This affluent drains the water of the Po-yang Lake, and continues the navigation of the Grand Canal and the Yangtse River into the southern part of the empire. There are many other streams flowing from the southern mountains into the river and swelling its enormous flood. The Han-kiang in Hupei is perhaps the largest tributary from the north, and its junction with the main river marks a spot of great commercial and strategic importance known as Hankow.

The Yangtse differs from the Hoangho in many other respects than those already mentioned. Its outflow is more regular, and this is due as much to the configuration of its watershed, and to the occurrence of lakes like the Po-yang and Tungting, which hold back the water of the region tributary to them, as to the meteorological conditions which obtain in that part of China. The floods are very great, because the annual downfall of rain is also very great, but the river banks are generally not so low as to be frequently overflowed, even by freshets which rise 30 feet, as they sometimes do. The bar at its mouth permits the passage of large, ocean-going steamers at all times, and, although the estuary contains shoals and flats at several places, they do not interpose any serious obstruction to navigation. At a distance of about a hundred miles from the sea, the shores, although low, approach near enough to each other, and are so broken by detached but commanding hills that they lend themselves readily to the defense of the interior by fortifications, a number of which have already been located and constructed.

The Grand Canal, which has lost much of its utility and importance since the Yellow River changed its bed in 1853, enters the Yangtse from the north, about 3 miles above Chin-kiang, an important city, admirably situated on the south bank of the river 170 miles above its mouth. The river is also connected at this city with Shanghai, Hangchou, and many other important cities south of the Great River by a

continuation of the Grand Canal, or by other canals, creeks, and rivers leading out of it. Indeed, the whole region between Chinkiang and the sea, on either side of the Yangtse, is a network of canals and creeks, with their necessary embankments, which so cut up and divide the land as to make it almost impassable for an invading army. These canals are everywhere the same in general characteristics, and hence the description of the Grand Canal, which will be found further on, will answer for all.

The watershed of the Yangtse is given by Williams at 548,000 square miles and by the "American Cyclopædia" at 750,000.

The Hoangho, or Yellow River, rises in northern Tibet, between the Shuga and Bayan-kara Mountains, in latitude 35° north and longitude 96° east, and not more than a hundred miles from the sources of the Yangtse River. Its course from the lakelets in the narrow plains at its head, called by the Chinese the Starry Sea, is at first south, then west, and then north and northeast, for about 700 miles, till it reaches the Great Wall, which follows it northwardly for about 400 miles. It then crosses the Wall, makes a great bend north and eastward around the country of the Ortous Mongols, and impinges against a spur of the Peling Mountains, which turns it again almost due south, in which direction it flows for over 500 miles, between the provinces of Shensi and Shansi. In this part of its course it traverses the loess plains and receives no tributaries worthy of the name. It is also in this part of its course that it changes its character from a clear mountain stream and takes from the loess clay the yellow color which gives it its name. At the southwestern corner of Shansi, and about 1,850 miles from its source, it receives its greatest affluent, the Wei, and changes its course to the eastward again, in which direction it flows for about 200 miles, to the vicinity of Khai-feng, the capital of Honan. The place of its confluence with the Wei is about 550 miles on the shortest line from the sea, and may be regarded as the head of its delta. From Khai-feng it now flows northeasterly to the southwestern corner of the Gulf of Pechili, but in this part of its course through the plains it has had many channels to the sea, though so far as is now known never more than one at a time. Since the beginning of the historic period it is certain, if we may rely upon Chinese chronicles, that it has changed

its bed at least six times, but no one can now do more than guess how many times it did the same thing in the countless prehistoric ages, during which, aided by the Yangtse farther south, it was slowly pushing back the borders of the ocean and building up the delta plains which constitute so great a portion of the China with which we are now concerned. It is clear, however, that the wanderings of the river were coextensive with its delta, which extends from Shanhaikwan, in latitude 39.30° north, to the mouth of the Yangtse, in latitude 31° 45′ north.

It is known that it has occupied in succession the beds of what are now called the Pei-Ho, the Old River, and the Tatsing-ho, all entering the Gulf of Pechili north of the Shantung promontory, and that prior to 1853 it followed a former bed to the sea, in latitude 34° north, south of the promontory. The distance between those mouths, measured along the seacoast, around the Shantung promontory, is about 600 miles, while the distance from the northernmost limits of the delta to the mouth of the Yangtse, measured in the same way, is nearly 1,000 miles. But the deltas of the Hoangho and of the Yangtse are conterminous, and not separated by highlands, and the total distance from the northern limits of one to the southern limits of the other, on the seacoast, is about 1,100 miles.

Winding its tortuous course, as it does, for 2,700 miles through an arid and treeless region, the Hoangho carries, during the dry season and for two-thirds of the year, but a small volume of water compared with that carried by the Yangtse, or the Amazon, or even with the Mississippi. It is so shallow and narrow, and its bed has so great a declivity till after it enters the delta, that it is entirely unfit for navigation. At many places it is broken by rapids, and its current is so swift that it can not be crossed except at considerable risk. Its width, even after it enters the Great Plain, does not generally exceed 1,500 feet, though at one or two places along its new bed, where it has not yet excavated a well-defined channel for itself, it spreads out to a width of several thousand feet, and is filled with sand bars. It is navigable to Yushan, near the western border of Shantung, for light-draft junks, and steamboats drawing 10 feet of water might readily ascend it to Tsinan, the capital of that province, and even a hundred miles above, if they were authorized to run, and could get

over the bar at its mouth. Generally, the river resembles the Missouri at and above Bismarck, in width, color, and volume of water, and even in the character and appearance of its fore-shores; but, after it enters the delta, unlike the Missouri, it has no river valley, with hillsides near by, rising to the higher level of the rolling prairies. To the contrary, its shores are never higher than 10 or 12 feet, and at places not more than 5 feet, even in the driest season. The plains are almost perfectly level, and stretch away in either direction from the river's margin hundreds of miles, without the slightest rise or depression that can be detected by the most practiced eye. They are absolutely as level as flowing water.

But, however insignificant and harmless this remarkable river may be in the dry season, and for the greater part of the year, its character becomes entirely changed during the rainy season. Its watershed, which is estimated by Williams at 475,000 square miles, is almost entirely bare of trees, and hence the water which falls upon its upper portions in the short rainy season runs rapidly into the main river and causes the most destructive floods. When there is a concurrence of heavy rains in the delta-plains, with a descending high-water wave from the table-lands, the embankments, erected with such painful labor, and neglected with such certainty everywhere, are frequently broken and swept away, and whole districts, many miles in width, are laid waste by the devastating and irresistible inundations. Houses are melted down, crops are destroyed, and, at times, thousands of people, with all their flocks, are drowned.

The erection and repair of the embankments are now and have been, from time immemorial, matters of the greatest solicitude to the provincial and imperial governments; but, when the floods have come and gone, and the long dry season is at hand again, the improvident or corrupt officials, and the still more improvident people, seem alike to forget that the embankments can ever be required again, or that there is any necessity for looking after or repairing them. Some of them are laid out and constructed with great care, but many of them are badly located and aligned, and poorly built in every respect. They are generally placed from 1 to 2 miles back from the river, and are from 12 to 14 feet high, 20 to 25 wide on top, and have slopes of two base to one perpendicular. They are not habitually protected by willows, reeds, or grasses,

and whatever vegetation grows upon them is scrupulously raked off in winter for fuel. They are freely used for roads and paths, and are rarely provided with ramps or suitably constructed road-crossings. The consequence is, that they are not only injured and weakened at many places, but frequently, where the traffic crossing them is considerable, they are cut through to the level of the plain upon which they stand. They are at all times the favorite resort of burrowing animals, and during the dry season the river, wandering from one side to the other of the space included between, frequently impinges against and undercuts them. Nothing is ever done beforehand to repair or prevent such injuries, so that when the floods come again the weak spots are found, and the neglected embankments, as might be expected, are broken through and swept away, notwithstanding the most strenuous exertions at the last moment to prevent it. Large detachments of the army are hurried to the spot, and thousands of men, and even women and boys, are gathered in from the neighboring towns and villages, after a break has taken place. Frantic efforts are made and great expenses are incurred to repair the embankment, through which a cataract is pouring, and which might have been maintained intact by the exercise of a little timely foresight and the honest expenditure of a little money.

In the middle ages the embankments seem to have been placed closer to the river margins, and to have been given a stronger profile than at present. The practice now, however, is to place them farther back, as before described, but near important towns where the local circumstances seem to require it, a smaller and lower embankment is sometimes constructed close to the river front. The most remarkable embankment examined by me was one built by the great Emperor Kien Lung, whose long and prosperous reign was contemporaneous with the life of George Washington. It is located on that part of the river near Khai-feng, and extends many miles in either direction. It is from 40 to 50 feet high, and from 50 to 60 feet wide on top, has the usual slopes of two base to one perpendicular, and was exceedingly well laid out and constructed. A better idea of its enormous dimensions can be had by considering its solid contents, which I estimated on the ground to be an average of a million cubic yards per mile, and to have cost, even with the abundant labor of China, $50,000 per mile.

The next great river of China is the Chu-kiang, or Pearl River, which, with its three principal branches, drains a watershed of about 130,000 square miles, lying south of the Nanling or South Mountains. It enters the sea near Canton, and its western branch, rising in Kwangsi, drains and affords communication to nearly all the country on the southern border of the empire. The middle or northern branch heads near the Che-ling pass, on the direct route to the Po-yang Lake, and the Yangtse River at Kiukiang, and at no distant day will doubtless be occupied by one of the principal railroad lines of the empire. Both of these, and also the eastern branch, are navigable for steamboats, and are important arteries of trade, as well as noticeable agencies in shaping the topography of the region drained by them.

There is another considerable river known as the Min, which enters the sea at Fuchau, about midway between Canton and the mouth of the Yangtse, but its watershed is of much less extent than either of those heretofore mentioned.

The Pei-Ho, which enters the Gulf of Pechili at Taku, is a considerable river, and at times discharges a large volume of water, but it is principally remarkable from the fact that it lies, with all its tributaries, entirely in the Great Plain, and has at widely separated intervals constituted the bed of the Yellow River for many years at a time. It drains but little mountain or hill country, notably small areas lying northwest of Peking, west of Pao-ting-fu, and in southeastern Shansi. It is navigable, notwithstanding its great crookedness, for ocean steamers of 10 or 12 feet draft to Tientsin, 50 miles from its mouth, and is the principal means of access for both native and foreign officials to Peking, as well as for nearly all the foreign goods consumed in the country north of the Yellow River; it is of great importance to the Chinese in connection with commerce and also with the national defense. Its southern branch, the Yün-ho, is occupied by the Grand Canal from Tientsin to Linthsing, a distance of about 300 miles by its tortuous course. Its northern branch is similarly occupied for about 150 miles between Tientsin and Tungchou, 15 miles east of Peking.

The entrance to the Pei-Ho is obstructed by a bar, which effectually closes the river against steamers except at high tide, and even then they can not enter drawing more than 12 or

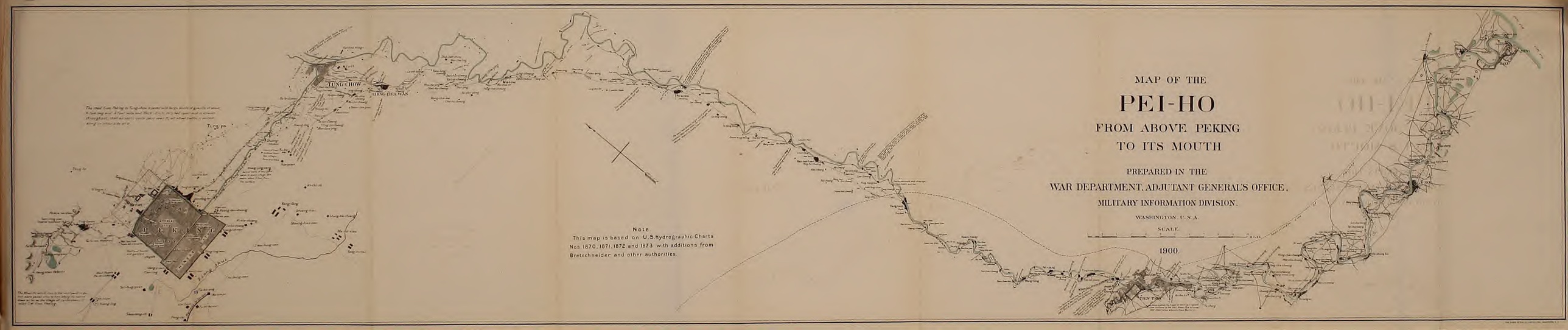
13 feet, but it is fully within the range of modern engineering skill to remove the bar and make a port at Taku, just within the mouth of the river, accessible at all times for vessels of even 20 feet draft. The river carries but little water into the gulf at any time, except during the rainy season, and as it lies altogether in the Great Plain, and has but little fall, it silts up rapidly, as soon as the outpour of flood-water has ceased, and then even the light-draft ocean steamers which ply between it and Shanghai have the greatest difficulty in ascending it more than 15 or 20 miles. It is entirely devoid of rocks, and, there being no forest trees anywhere on its banks, it is also free from snags and sawyers, such as used to make the navigation of our western rivers so difficult; hence steamers suffer no danger and no inconvenience even from running ashore or getting aground, except from the delay and expense which follow.

The accompanying plate shows the course of the Pei-Ho River from above Peking to its mouth.

The Pei-thang, which enters the gulf about 10 miles farther north, has a deeper channel across its bar than the Pei-Ho, and is of some importance from a military point of view on that account. The seacoast between these two rivers, being only about 110 miles from Peking by the traveled roads, has been selected more than once, notwithstanding the shoal water along it, by foreign powers at war with China, as a landing place and base for hostile operations against the capital, and this circumstance must always cause the Chinese Government to regard it, as well as the Pei-Ho and the Pei-thang rivers, with peculiar anxiety. They occupy important positions in connection with both the invasion and defense of the country, and hence have been carefully surveyed by foreigners, and elaborately fortified at their entrance and at various points higher up by the Chinese. In the future development of the country, the entrance to the Pei-Ho must necessarily be improved, and the dry docks and other facilities for repairing ships at Taku must be increased.

There are many other rivers shown on the maps of the Great Plain, but with the exception of the Newchwang, in the province of Shenking and the Ta-wen-ho, which rises in the western part of the Shenking Hills, and supplies the Grand Canal south of the Yellow River with water, they nearly all dry up during the rainless season, and are indicated generally


Mud bank
North Fort
Battery
South fort
New Fort
Teng-kou
Yu-chia-pu
TAKU
Reeds
Tombs
Chung-liang-tsze
Tang-shiau ku
Nan-kai
Yow-song
Sin-cheng


MAP OF THE
PEI-HO
FROM ABOVE PEKING
TO ITS MOUTH
PREPARED IN THE
WAR DEPARTMENT, ADJUTANT GENERAL'S OFFICE,
MILITARY INFORMATION DIVISION.
WASHINGTON, U.S.A.
SCALE
1900.
Note.
This map is based on U.S. Hydrographic Charts
Nos. 1870, 1871, 1872 and 1873 with additions from
Bretschneider and other authorities.
TUNG CHOW
CHING-HAI-WAN
TIEN-TSIN
TAKU

13 f
ing
wit
ves
wa
son
litt
wa
wh
in
of
ba
ma
ste
ru
ex

Ri

no
an
th
on
be
wa
la
ca
G
th
p
th
fo
va
d
n
f

G
tl
tl
C
d

by a swale in the plain bordered by embankments to restrain the water during flood-time. In the dry season they are so faint in outline and so perfectly dry that there is great difficulty in locating them at all. The great rivers of the country are the Yangtse and the Hoangho, which have through countless ages been slowly cutting down the mountains and loess terraces, and building up the great delta plain. The Chu-kiang and Min have in a lesser degree been doing the same kind of work upon the southern and eastern slopes of the mountains and borders of the sea south of the Yangtse.

MEANS OF COMMUNICATION.

Although China is traversed in all directions by roads, they are usually mere tracks, or, at the best, footpaths, along which the transport of goods is a tedious and difficult undertaking. It was owing to the imperfect means of communication that such a fearful mortality attended the last famines in Shansi, Honan, and Shantung. The enormous mineral wealth of Shansi is practically nonexistent for the same reason, and there is every reason to fear that the present year (1900) will see in this province a repetition of the famine horrors of the eighties. A vast internal trade is, however, carried on over the roads and by means of numerous canals and navigable rivers.

"The 'Grand Canal' or Yun ho, so often spoken of by travelers in past times, is, in its way, as great a monument of human industry as the Great Wall, although perhaps at first sight it may seem less wonderful. Not a canal in the western sense of the word, it is merely, as has been explained, 'a series of abandoned river beds, lakes, and marshes connected one with another by cuttings of no importance, fed by the Wan-ho (or Tawan-ho), in Shantung, which divides into two currents at its summit, and by other streams and rivers along its course. A part of the water of the Wan-ho descends toward the Hoangho and Gulf of Pechili; the larger part runs south in the direction of the Yangtse.'*

"It has generally the aspect of a winding river of varying width. As related by Marco Polo, the Emperor Kublai-Khan, toward the end of the thirteenth century, created the Yun-ho—i. e., 'River of Transports,' as it was named—chiefly by connecting river with river, lake with lake. Even before

* Richthofen.

that epoch goods were conveyed partly by water and partly by land from the Yangtse to the Pei-Ho basin. The Grand Canal connects Hangchou, in Chekiang, with Tientsin, in Chili, where it unites with the Pei-Ho, and thus may be said to extend to Tungchau, in the neighborhood of Peking. After leaving Hangchou it skirts the eastern border of the Tai-hu (or Great Lake), surrounding, in its course, the beautiful city of Suchau, and then runs in a northwesterly direction through the fertile districts of Kiangsu as far as Chinkiang, on the Yangtse. Thence it passes through Kiangsu, Anhui, Shantung, and Chili, to Tientsin. When the canal was in order, before the inflow of the Yellow River failed, there was uninterrupted water communication from Peking to Canton, and to the many cities and towns met with en route.

"For many years past, but especially since the carriage of tribute rice by steamers along the coast began, repairs to the Grand Canal have been practically abandoned. Numberless instances of the manner in which the waterways and the river embankments are neglected could be given. Nothing is attempted till too late, and several hundred coolies, sometimes thousands, are requisitioned and hurried off to undertake what could be done by a few men and a little application of mechanical skill, if taken in time. The higher waters of the streams and rivers are difficult to navigate. But the absence of cataracts, the cheapness of wages, and the small value of time, and even of life, it may be said, make it possible for the Chinese to employ boat navigation advantageously where the difficulty, expense, and risk would make it a sheer impossibility in any part of Europe. The Chinaman drags his boat over rapids that in most countries would form an absolute barrier to navigation. He takes them across shallows only a couple of inches deep and flowing with great velocity over a pebbly or shingly bottom. The amount of freight carried in this manner in the face of almost superhuman difficulties is astounding. Little has been attempted to maintain, nothing has been done to improve, either by land or water, the interprovincial communications, the urgent necessity above all else for China.

"The roads in China, confined generally to the northern and western sections of the country, are proverbially the very worst in the world. The typical western China road is a thing to be experienced, it can not be described.

"'The paving is of the usual Chinese pattern,' says Baber, 'rough bowlders and blocks of stone laid somewhat loosely together on the surface of the ground, "good for ten years and bad for ten thousand," as the Chinese proverb admits. On the level plains of China, in places where the population is sufficiently affluent to subscribe for occasional repairs, this system has much practical value. But in the Yunnan Mountains the roads are never repaired; so far from it, the indigent natives extract the most convenient blocks to stop the holes in their hovel walls, or to build a fence on the windward side of their poppy patches. The rain soon undermines the pavement, especially where it is laid on a steep incline; whole sections of it topple down the slope, leaving chasms a yard or more in depth; and isolated fragments balance themselves here and there, with the notorious purpose of breaking a leg or spraining an ankle.'*

"Where traveling by water is impossible, sedan-chairs are used to carry passengers,† and coolies with poles and slings transport the luggage and goods. The distances covered by the sedan-chair porters across these highland roads are remarkable, sometimes as much as 35 miles daily, even on a journey extending over a month, and with only a few days' halt altogether.

"The transport animals—ponies, mules, oxen, and donkeys—are very strong and hardy, and manage to drag the carts along the most execrable roads, six or eight animals being harnessed, often as a mixed team, in a cart drawing about a ton. Many descriptions of travel in a springless Chinese cart have been attempted, but no pen can reproduce the sensation. The ponies of western China are admirable, a rougher edition of the Shan or Burma pony, hardier and more enduring. The mules are unequaled in any other country. The distances ponies and mules will cover are surprising, and

* "China, No. 3. 1878."

† "No traveler in western China who possesses any sense of self-respect," says Baber, "should journey without a sedan chair, not necessarily as a conveyance, but for the honor and glory of the thing. Unfurnished with this indispensable token of respectability, he is liable to be thrust aside on the highway, to be kept waiting at ferries, to be relegated to the worst inn's worst room, and generally to be treated with indignity, or, what is sometimes worse, with familiarity, as a peddling footpad who, unable to gain a living in his own country, has come to subsist on China. A chair is far more effective than a passport."

this on the very poorest of fodder. Their endurance and patience are equaled only by the coolies. The two-humped or Bactrian camel met with at Peking, and employed in the Mongolian trade, is characteristic of Mongolia, where the one-humped species common in Turkestan is unknown.

"From Peking four highroads branch in various directions, one leading to Urga, by way of Suenhwa fu, which traverses the Great Wall at Chankeakou; another which enters Mongolia through the Ku-peikou in the northeast, and after reaching Fungning proceeds with a northwesterly bearing to Dolonor; a third going due east by way of Tungchau and Yungping fu to Shanhaikwan, the point on the shore of the gulf where the Great Wall terminates; and fourthly, one which leads, in a southwesterly direction, to Paoting fu and on to Taiyuen fu, in Shansi.

"The Central Asian trade route from Sian fu, turning northwest, leaving the fertile loess valley of the Wei and traversing the once rich but now devastated and depopulated hills and valleys of Shensi and Kansu as far as the confines of the Gobi Desert, passes through a country of great agricultural wealth, possessed of a magnificent coal, and probably also iron, supply. The only line of approach for a railway from Central Asia to central China and the Yangtse basin is the present cart road from Sian, leading south of the Yellow River to Honan, Funcheng, and Hankow. From its favorable position, Honan, according to Colonel Mark Bell,* is destined to be a great future railway center, for thence at least two good lines can be carried to Hankow, while it is an easy passage via Kaifong to Peking. The iron and coal of Shansi can be tapped by a line from Tungkwan up the valley of the Fuenho to Tai-yuen and beyond. The tunneling required in the Shansi hills for a line to Peking could pass through strata of coal, which is also found in northern Shensi. Richthofen very properly lays special stress upon the value of the Tungkwan road, as 'of supreme importance in a political and strategical respect, as it mediates, without exception, the entire traffic between the southwest of the Empire (Szechuen, Yunnan, and Tibet) and Peking, together with the whole northeast. It is one of the chief roads of travel in China, and the greatest military road.'" [From "China in Transformation," by A. R. Colquhoun; copyright, 1898, by Harper & Bros.]

* "Asiatic Quarterly Review," April, 1890.

General James H. Wilson, in his book on China, gives an account of a trip overland from Peking south to the Yellow River and Grand Canal. In this account he makes the following remarks about the roads:

"The roads were found to be in excellent condition for China, dry, hard, and dusty, but very crooked, as is generally the case throughout this country. There being no fences, no hedgerows, or ditches to mark the boundaries of farms or gardens, and apparently no work done upon the roads either in their original construction or for their maintenance, every traveler feels at liberty to mark out a road for himself, and this is a liberty of which everyone is compelled to avail himself in the rainy season, when the alluvial soil of the plains becomes a sea of mud. The consequence is that it is no infrequent occurrence to see a road go around three sides of a field instead of along the fourth side, or run zigzag like a ship tacking against a head wind. Even the roads laid down on the maps as imperial highways are unnecessarily crooked. They are neither paved nor graveled, even where the materials can be had, and macadamizing seems to be entirely unknown. Indeed, it is not too much to say that roads in China are never worked and could be hardly worse in the rainy season.

"During our entire journey we saw only one stretch of road, about 10 miles long, which showed that it had been laid out, heaped up in the middle and ditched, and that was through an unusually low and desolate portion of the plains, which would have been otherwise impassable for most of the year. Judging from the crookedness of the canal embankments, as well as of the roads, it is difficult to believe that the Chinese who laid them out ever had the slightest conception of the fact that a straight line is the shortest distance between two points. There are few running streams and no mud in winter, and as the plains are everywhere as flat and smooth as any floor, wheeled vehicles can drive indefinitely in any direction. It is curious that the Chinese never put springs in their carts, and, in fact, seem to be ignorant of their existence or of the use which is made of them in other countries."

THE RAILWAY SYSTEM IN OPERATION IN CHINA.

According to the latest reports on the subject, railroads in China have been completed and are in operation as follows:

	Miles.
From Peking to Tientsin (double track)	80
From Tientsin via Shanhaikwan and Chunghouso to Chenchou (Kinchow)	287
From Kaochiao to Tienchiaochang	10
From Nuerrho to Nanpiao	30
From Fengtai (near Peking) to Paotingfu	88
From Liuliho to Choukoutien	10
From Shanghai to Woosung	14
Total	519

The Statesman's Yearbook for 1900 says:

"In the north of China a considerable extent of railway (mostly British) has been constructed and is open for traffic. From Peking to Tientsin, a distance of 80 miles, the line is open, and thence to Tang-ku, on the coast, a distance of 27 miles. From Tang-ku it runs through the coal district to Shanhaikwan, 147 miles, and thence along the coast, 113 miles, to Kin-Chou, at the head of the Gulf of Liaotung. As the railway approaches Kin-Chou, two lines branch off, one of 7 miles from Kao Chiao to Tien Chiao Chang, on the coast; the other runs 30 miles inland from Nu Err Ho to the Nan Pao coal mines. The total length of line open from Peking to Kin-Chou, including the two branches, in December, 1899, was 404 miles. The line is being continued round the head of the Liaotung Gulf to Yung Kow, where the system will be connected by a Russian branch line with the railway which is being constructed from Port Arthur and Talienwan to the Siberian railway. Another prolongation of the British line is being laid from Kin-Chou to Hsin Min Tun, 106 miles to the northeast, and about 40 miles west of Mukden. The Russian railway through Manchuria is being constructed and will probably be completed in 1902. The main line will have a length of 950 miles, and the South Manchuria branch to Port Arthur, 650 miles. Toward the southwest, Peking is connected with Pao-ting-fu, the capital of the province of Chili, by a line 88 miles in length, from which, at Liu Li Ho, a branch runs to the Chou Kow Tien coal fields, 10 miles distant. The Pao-ting-fu line, constructed with British capital, was in January, 1900, transferred to a Belgian syndicate, and

will be extended southward to Hankow on the Yangtse River. From the Yangtse another projected line (American) will run to Canton. Railways (British) are to be constructed also for the development of the mining and petroleum industries of the province of Shansi, and others to connect the Honan mines with the Yangtse River opposite Nanking, via Kaifong. The Shanghai-Wusung railway of 12 miles has been open for traffic since August, 1898. From Shanghai a projected line will run to Hangchou, Ningpo, Wenchau, and probably to Canton. Other lines (British) are to connect Chingtu in the province of Szechuen with Wuchau and with Canton. French lines are proposed to bring Tonkin into communication with the treaty ports of Mengtsz, Wuchau, and Pakhoi, and also with the province of Yunnan."

In this connection the China Association of Great Britain, in its last annual report, states that concessions have been granted for the following railways in China, which are in the course of construction or projected:

1. To Russia, for the so-called Chinese Eastern railways in Manchuria. (This road is complete from Port Arthur to Mukden.)
2. To The Russo-Chinese Bank from Cheng-ting to Taiyuen, capital of the Province of Shansi.
3. To a Franco-Belgian syndicate from Peking to Hankow.
4. To an American syndicate from Hankow to Canton.
5. To Germany for a railway triangle from Kiaochow to Tsinan, Kiaochow to Yi-hien, and from Tsinan to Yi-hien in the Shantung Province.
6. To an Anglo-German syndicate from Tientsin to Yangtse, opposite Chinkiang.
7. To the British and Chinese Corporation:
    - (*a*) From Shanghai to Soochow and Nanking;
    - (*b*) From Shanghai to Hangchou, with possible extension to Ningpo;
    - (*c*) From Pukou (opposite Nanking) to Hsinyang in Honan;
    - (*d*) From Canton to Kowloon.
8. To the Peking syndicate (British):
    - (*a*) From Taokow, on the Wei River, to Weihwei and Tsechow;
    - (*b*) From Tsechow, via Honan-fu, to Siang-yang, on the Han.

9. To France:
   (*a*) Pakhoi to a point on the bank of the West River (presumably Nanning);
   (*b*) Lungchow to Nanning or Pésé;
   (*c*) From frontier of Tonkin (presumably Laokai) to Yunnan;
   (*d*) From Kwangchou Bay to Om-pu.

Perhaps a portion at least of some of the roads mentioned as in course of construction have been completed and are in operation. For instance, it is known that work has been going on on both ends of the Russian line from Port Arthur to Vladivostock for some time, and it has been stated that these two points would be connected by rail during the present month.

The following information about the railroad from Peking to Tientsin is taken from a report of James Ginnell, district engineer Imperial Chinese railways, to the chairman and directors of the British and Chinese Corporation, Limited, London, October 8, 1898:

"PEKING TO TIENTSIN, a double-track line laid with 85-pound steel rails, and including a short spur to the west from the Peking junction in connection with the Han Kan system—83¾ miles; Tientsin to Tan Ku, a single-track line laid with 70-pound rails—27 miles; Tang Ku to Shanhaikwan, a single-track line laid with 60-pound rails—146¾ miles; total length of lines to be mortgaged, 257½ miles. There is a farther section of 40 miles in operation outside the Great Wall (Shanhaikwan to Chung-Hon-So), the earnings of which, together with those of the 253 miles of extension proposed to be built out of the proceeds of this loan, are to be pledged as additional security. The value of the lines to be mortgaged may be gathered from the following details:

"PERMANENT WAY.—The permanent way is substantially laid and is maintained under a staff of British officers and superintendents. The country through which the lines pass is generally an alluvial plain, consequently the grades are very moderate and the principal curves good, water ways forming the chief items of engineering difficulty and experience.

"BRIDGES.—The double-track bridges from Peking to Tientsin, making an aggregate length of 7,140 feet, consist of steel girders, resting on masonry, and viaduct piers and abutments sunk by compressed air to a proper foundation. A single-

track bridge, aggregate 17,147 feet, of similar construction, with the exception of 800 feet of steel girders on timber piers, and this is about being brought into substantial conformity with the remainder of the line. The largest viaduct is that over the deep gorge of the Lan Ho, and is 2,200 feet face to face.

"STATION HOUSES, ETC.—There is a fine station building almost completed at the Peking terminus and an elaborately designed station yard, capable of accommodating a large passenger and goods traffic. From the terminus to Peking City a heavy rail tramway has been laid and is being equipped for electrical working. At Fengtai, 5 miles south of the terminus, is the junction with the Hai Kan system, which is destined, in the process of railway development, to become a very important center, and is a fixed point on the western route, owing to its proximity to the heavy viaduct across the Hun Ho at Lu Kia Chiao City (from terminus the line as far as Pao-ting-fu is being constructed departmentally). At this junction expensive provision has been made for handling heavy traffic, and sheds, stores, shops, etc., have been erected of a substantial and commodious character. The stations, station accommodations, water supply, turntables, shops, sheds, stores, etc., are generally in keeping with the character of the line and suited to the requirement of traffic and efficient working. The sidings on the line to be mortgaged make an additional aggregate length of 30½ miles.

"WHARVES.—The wharves at Tientsin have a river frontage of 600 feet, and an area of 180 acres. The wharves at Hsin Ho have an area of 150 acres. The wharves at Tang Ku have a water frontage of 3,300 feet, and include a timber wharf of 720 acres, with 5½ miles of sidings. Tang Ku, on the Pei-Ho, a few miles up stream from the Taku forts, is the port of Peking and of the contiguous districts of North China. There is a large and growing export and import trade, as may be gathered from the customs reports, and owing to the silting up of the Pei-Ho (Tientsin River), steamers, instead of going up to Tientsin, discharge at Tang Ku, and a large and increasing percentage of this cargo goes up to Tientsin by rail, and a decreasing quantity by boat. The value of the property at Tang Ku is estimated at fully a half million taels, although the original cost was trifling. At Tangshan are situated the principal workshops, where there are

2,000 men employed in carriage and wagon building; the general repairs to the rolling stock, the output from which last year was 400 vehicles of various denominations. At Tangshan and vicinity are situated the Haiping Coal Company's mines, which form an important source of traffic. The mines are working as a Chinese concern exclusively and employ about 6,000 men, with an output of 2,500 tons per day.

"At Shanhaikwan are situated the shops for girder buildings, in full working order, in which appliances and hands are employed capable of turning out about 6,000 tons of girder work per annum.

"The value of the principal shops, including machinery, stores, and spare parts, is estimated by Mr. Kinder as under:

	Taels.
Fongtai, repair shops for rolling stock	60,000
Tangshan, for construction and repairs	400,000
Shanhaikwan, for girder building	200,000
Total value	660,000

"ROLLING STOCK.—The rolling stock is built somewhat after the best American types and designed by the engineer-in-chief with a boldness of conception unhampered by the settled conservatism of the home railways, particularly in freight trains is the contrast so remarkable between the North China trains of forty to fifty 30-ton cars; and the freight trains on the home lines is a fifth or sixth of this capacity. The heavy freight and passenger locomotives number 34, and the lighter ones for auxiliary work 22. The vehicles of all denominations number 1,515. The passenger cars consist of two classes, with the exception of mail trains (Peking-Tientsin), on which there are extra first-class accommodations provided on board the postal cars. The passenger coaches are built on American principles, having through passenger and end platforms. They are 60 feet long, carried on bogies, the second-class accommodating 90 passengers each. In the freight stock, the 30-ton capacity long frame bogie cars are a special feature, and are available to the utmost. Westinghouse air brakes are on all express trains, and hand brakes on freight cars.

"It may be mentioned incidentally, as a sample of Tangshan work, that the principal imperial state car is 75 feet long, 10 feet wide, and 15 feet high from rails, carried on two bogies, each resting on six 42-inch wheels; electric light from axle.

Steam heated, Westinghouse air brakes, and the general design, workmanship, and finish are of the highest order. The locomotive engineers, inspectors, and passenger drivers are British, as are also the traffic manager and principal conductors. The secretarial department, directorate, and such accountancy as exist are exclusively Chinese. The privilege of appointing an English accountant of your choice, and to be in effect under your control, is to be made a condition of your agreement, and this fact in itself enabling you, as it will, to publish certified periodical traffic return, should be regarded with satisfaction, and I might add that it is indicative of the bona fide action, spirit of liberty, and business-like capacities which characterize the present heads of the Imperial Railway Department.

"CAPITAL COST OF LINE.—The capital cost of the existing railway property, including the 40 miles outside of the Great Wall, is put down by Mr. Kinder at 16,000,000 taels. Owing to the Chinese method of bookkeeping this amount can not be subdivided or apportioned. At present the engineer in chief requires a considerable sum for renewals and repairs, and to develop still further the efficiency of the line. But it is well at the same time to point out the numerously enhanced value of the wharf and land property."

PORTS AND CITIES.

The most important place in China, so far as foreign interests are concerned, is undoubtedly Hongkong. This is an island about 11 miles long and from 2 to 5 miles broad, with a circumference of about 27 miles. It is situated off the coast of Kwangtung Province, near the mouth of the Canton River. It is distant about 4 miles from the Portuguese port of Macao, and about 90 miles from Canton. The name of the city is Victoria, but that term is very seldom used, and the name of the island, Hongkong, is used instead. The harbor of Hongkong is one of the finest in the world. It has excellent docking facilities, and in the amount of shipping is the third port in importance in the British Empire. In addition to the island of Hongkong, which is a crown colony, China, in 1898, ceded to Great Britain for ninety-nine years territory in the vicinity of Hongkong to the extent of about 376 square miles, 286 being on the mainland and 90 on the

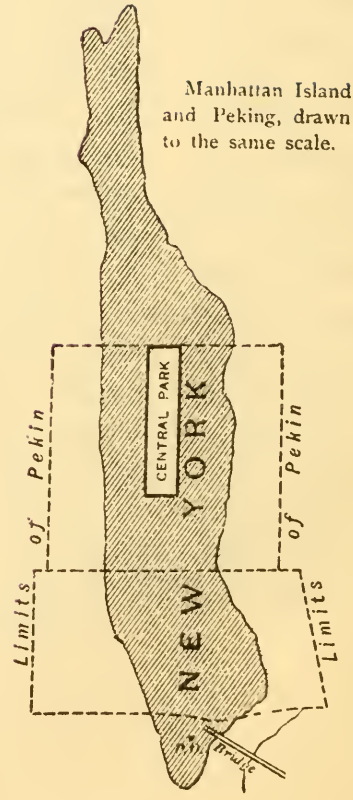
adjoining islands. The jurisdiction over this territory was assumed on the 16th of April, 1899.

Hongkong has been a British crown colony since 1841. Other concessions have recently been granted, as stated in the Statesman's Yearbook for 1900, to other foreign powers, as follows:

In November, 1897, the Germans seized the port of Kiao-chou, on the east coast of Shantung, and in January, 1898, obtained from the Chinese a ninety-nine-year lease of the town, harbor, and district. By agreement with the Chinese Government, dated March 27, 1898, Russia is in possession of Port Arthur and Talienwan and their adjacent territories and waters, on lease for the term of twenty-five years, which may be extended by agreement. Within the territories and waters leased Russia has sole military and naval control, and may build forts and barracks as she desires. Port Arthur is closed to all vessels except Russian and Chinese men-of-war. Part of Talienwan harbor is reserved exclusively for Russian and Chinese men-of-war, but the remainder is freely open to merchant vessels of all countries. To the north is a neutral zone, where Chinese troops shall not be quartered except with the consent of Russia. The territory acquired here by Russia has been formed into the Russian province of Kwangtung. For such period as Russia may hold Port Arthur, Great Britain is, by agreement with China, April 2, 1898, to hold Wei-Hai-Wei, in the Province of Shantung. To compensate for these advantages given to the Russians, British, and the Germans, the Chinese Government granted to the French, in April, 1898, a ninety-nine-year lease of the bay of Kwang-Chau-Wang, on the coast of Lien-Chau Peninsula, opposite the island of Hainan. In November, 1899, China conceded to France the possession of the two islands commanding the entrance of the bay. This territory has been placed under the authority of the governor-general of French Indo-China.

Foreign nations have, in virtue of various treaties with the Chinese Government, the right of access to certain ports of the Empire. The following is a list of these treaty ports, with their estimated Chinese population:

1 Imperial Palace
2 Gate of Great Purity
3 Buddhist Monastery
4 Monastery of Eternal Repose
5 Marble Bridge
6 The Golden Lake
7 The Gate of Heaven
8 Academy of Han-Lin
9 The Legations
10 Temple of Glorious Devotion
11 Examining College
12 Observatory Tower
13 Monastery of Lung-fu-tse
14 Great Buddhist Monastery of Yung-ho-kung
15 Temple of Confucius
16 Imperial University
17 Clock Tower
18 Drum Tower
19 Temple of Ancient Dynasties
20 Pe-ta-tse
21 Catholic Church
22 Temple of Heaven
23 Altar of the Earth
24 Buddhist Monastery



Manhattan Island and Peking, drawn to the same scale.

[From Statesman's Yearbook, 1900.]

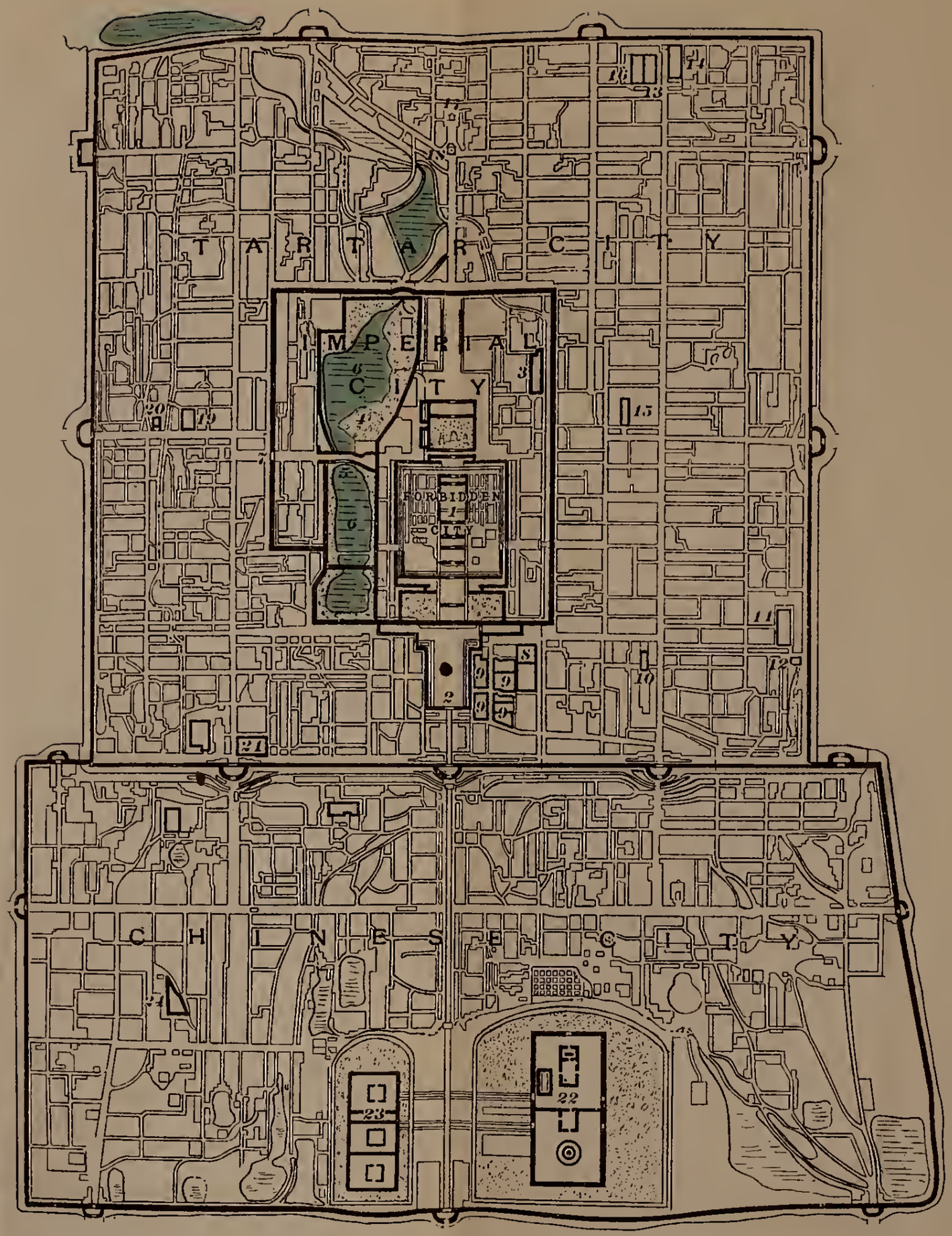
Names of ports.	Provinces.	Population.
Newchwang	Shenking	60,000
Tientsin	Chili	1,000,000
Chefu	Shantung	35,000
Chung king	Szechuen	300,000
Ichang	Hupei	34,000
Shasi	Hupei	73,000
Hankow	Hupei	800,000
Kiukiang	Kiangsi	55,000
Wuhu	Anhui	80,750
Chinkiang	Anhui	140,000
Shanghai	Anhui	586,000
Suchow	Anhui	500,000
Ningpo	Chehkiang	255,000
Hangchou	Chehkiang	700,000
Wenchau	Chehkiang	80,000
Fuchau	Fukien	650,000
Amoy	Fukien	96,000
Swatau	Kwangtung	35,000
Canton	Kwangtung	2,500,000
Wuchau	Kwangsi	50,000
Samshui	Kwangtung	4,000
Kongmun and Kumchuk	Kwangtung	----------
Kaulun	Kwangtung	----------
Lappa	Kwangtung	----------
Kiungchau	Kwangtung	40,000
Pakhoi	Kwangtung	20,000
Lunchau	Kwangsi	22,000
Mengtsz	Yunnan	12,000
Szemao	Yunnan	15,000
Yatung	Tibet	----------

The following account of the principal cities of China is taken almost entirely from "Chronicle and Directory of China," etc., Hongkong, 1900:

PEKING (SHUN-TIEN).

The present capital of China was formerly the Northern capital only, as its name denotes, but it has long been really the metropolis of the Central Kingdom. Peking is situated on a sandy plain 13 miles southwest of the Pei-Ho River, and about 110 miles from its mouth, in latitude 39° 54′ north and longitude 116° 27′ east, or nearly on the parallel of Naples. A canal connects the city with the Pei-Ho. Peking is ill-adapted

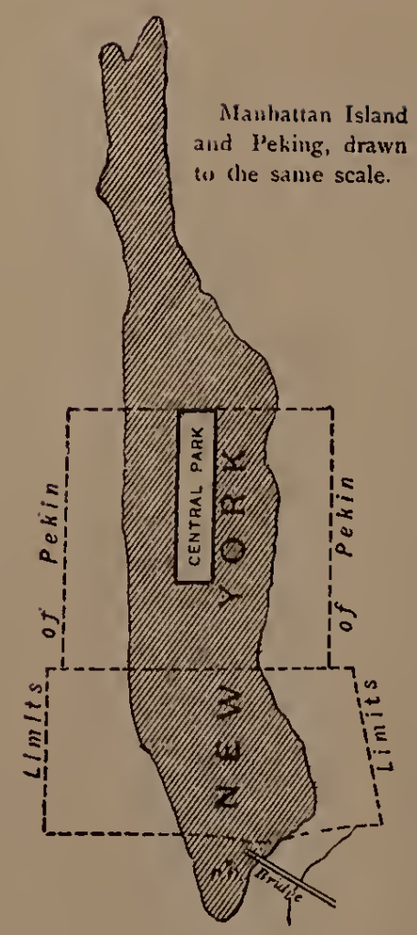
1 Imperial Palace
2 Gate of Great Purity
3 Buddhist Monastery
4 Monastery of Eternal Repose
5 Marble Bridge
6 The Golden Lake
7 The Gate of Heaven
8 Academy of Han-Lin
9 The Legations
10 Temple of Glorious Devotion
11 Examining College
12 Observatory Tower
13 Monastery of Lung-fu-tse
14 Great Buddhist Monastery of Yung-ho-kung
15 Temple of Confucius
16 Imperial University
17 Clock Tower
18 Drum Tower
19 Temple of Ancient Dynasties
20 Pe-ta-tse
21 Catholic Church
22 Temple of Heaven
23 Altar of the Earth
24 Buddhist Monastery



FROM HARPER'S WEEKLY BY PERMISSION.

0 ½ 1
1 ENGLISH MILE

PLAN OF THE CITY OF PEKING.

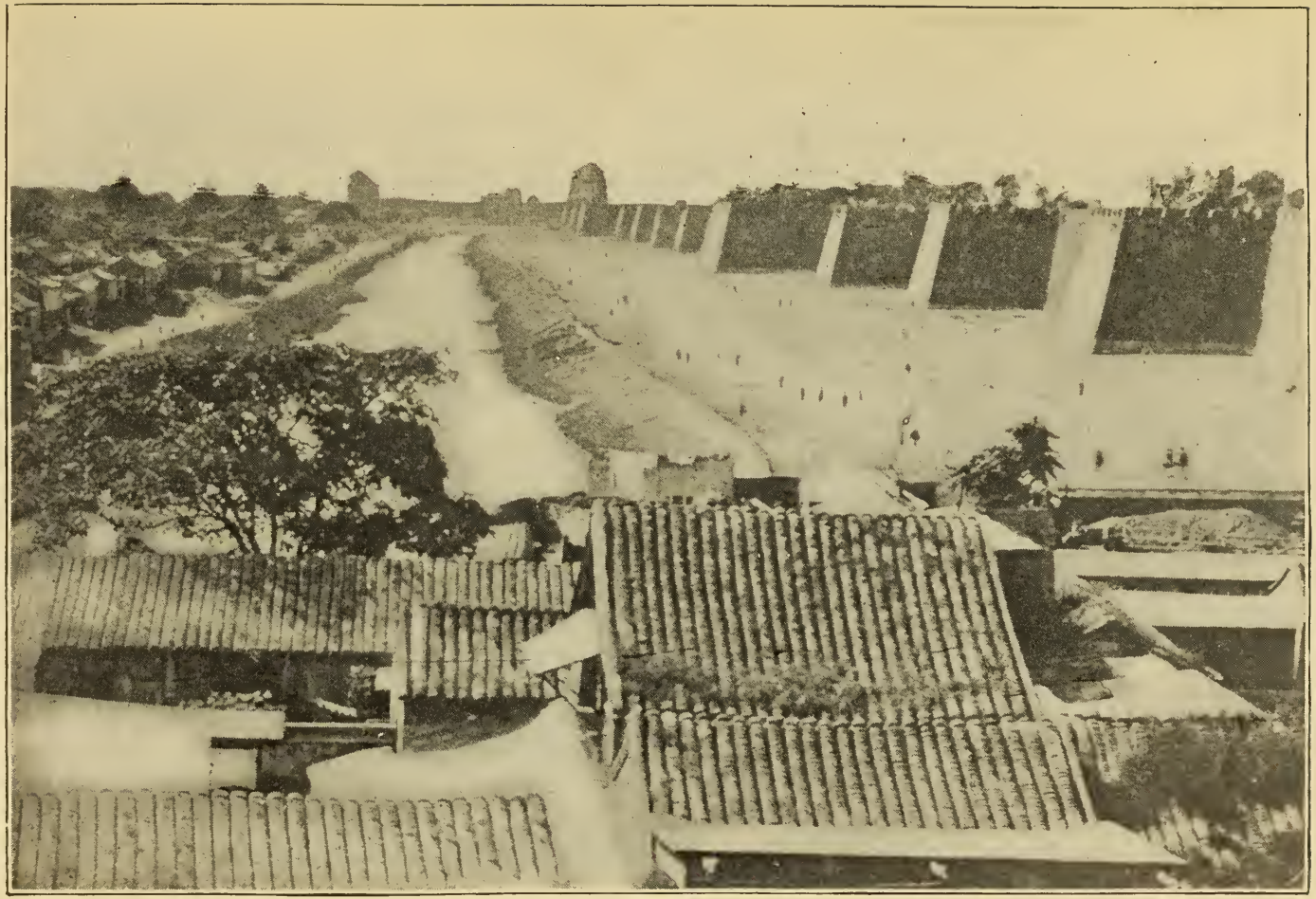


Manhattan Island and Peking, drawn to the same scale.

by situation to be the capital of a vast empire, nor is it in a position to become a great manufacturing or industrial center. The products of all parts of China naturally find their way to the seat of government, but it gives little save bullion in return.

The present city of Peking is divided into two portions, the Northern, or Tartar, city and the Southern, or Chinese. The former is being gradually encroached upon by the Chinese, and the purely Manchu section of the capital will soon be very limited. The Southern city is almost exclusively occupied by the Chinese. The general shape of Peking may be roughly represented by a square placed upon an oblong, the former standing for the Tartar and the latter for the Chinese city. The whole of the capital is, of course, walled. The walls of the Tartar city are the stronger. They average 50 feet in height and 40 feet in width, and are buttressed at intervals of about 60 yards. The parapets are loopholed and crenelated. They are faced on both sides with brick, the space between being filled with earth and concrete. Each of the gateways is surmounted by a three-storied pagoda. The walls of the Chinese city are about 30 feet in height, 25 feet thick at the base, and 15 feet wide on the terreplein. The total circumference of the walls around the two cities slightly exceeds 20 miles. The accompanying illustration gives an idea of the wall, with the surrounding moat, and level space between the wall and moat.

The Tartar city consists (Dr. Williams tells us) of three inclosures, one within the other, each surrounded by its own walls. The innermost, called Kin-ching, or "prohibited city," contains the imperial palace and its surrounding buildings; the second is occupied by the several offices appertaining to the Government and by private residences of officials; while the outer consists of dwelling houses, with shops in the chief avenues. The Chinese city is the business portion of Peking, but it presents few features of interest to sight-seers, while the inclosure known as the "prohibited city" is, as the title denotes, forbidden to all foreign visitors. The numerous temples, the walls, the Imperial Observatory, the foreign legations, and the curio shops are the chief attractions to the tourist. The streets of the Chinese metropolis are kept in a most disgraceful condition. In the dry season the pedestrian sinks deep in noxious dust, and in wet weather he is liable to be



THE WALL OF PEKING.

drowned in the torrents that rush along the thoroughfares, where the constant traffic has worn away the soil. The year 1899 saw the innovation of Legation Street being cleaned, leveled, and macadamized, the greatest urban improvement in three centuries. Experts say that the money lost in time, wear and tear of men, mules, and carts, every year is greater than the prime cost of macadamizing all the main thoroughfares. The congestion of the traffic and the personal discomforts of cart transit are inconceivable to people who have not experienced them. There is an air of decay about Peking which extends even to the finest temples, and which powerfully impresses every visitor as symbolic of the decadence of empires. The population of Peking is not accurately known, but according to a Chinese estimate, which is probably much in excess, it is 1,300,000, of whom 900,000 reside in the Tartar and 400,000 in the Chinese city. There is no direct foreign trade with Peking, and the small foreign population is made up of the members of the various legations, the maritime customs establishments, the professors of the College of Peking, and the missionary body. In August, 1884, the city was brought into direct telegraphic communication with the rest of the world, by an overland line to Tientsin via Tungchau. The year 1899 witnessed two other innovations, which would have been regarded as impossible ten years ago, namely, the erection of large two-story buildings on prominent sites for the Austrian legation, and the Hongkong and Shanghai Bank. These are breaks with immemorial tradition that the *feng-shui* must resent elevation in houses other than those of the immortal gods and the son of heaven. A railway line to Tientsin was opened in 1897, but prejudice still keeps the terminus outside of the walls, and the gates are ruthlessly shut every night at sunset without reference to the convenience of travelers by rail or otherwise.

TIENTSIN.

Tientsin is situated at the junction of the Yun-how, or Hwae, River (better known as the Grand Canal) with the Pei-Ho, in latitude 39° 4′ north, longitude 117° 3′ 56″ east. It is distant from Peking by road about 80 miles, but the bulk of the enormous traffic between the two cities is by the River Pei-Ho as far as Tungchau, 13 miles from Peking, and thence by carts and wheelbarrows over the once magnificent, but

now dilapidated, stone causeway. The traffic is now, however, being rapidly diverted to the railway, which was opened in 1897 and the line doubled in November, 1898. Tientsin was formerly a place of no importance, and till recently had few historical associations. Till the end of the Ming Dynasty (A. D. 1644) it was only a second-rate military station, but at the northern terminus of the Grand Canal it gradually assumed commercial importance, and by the end of the seventeenth century had become a great distributing center. The navigability of the Pei-Ho for seagoing junks ceases at Tientsin, and this made it the emporium for the very large quantities of tribute rice yearly sent up to the capital, after the Grand Canal shoaled up so as to be unfit for carriage in bulk. The trade of the city is now imperiled by the silting up of the Pei-Ho. A river-improvement scheme of some magnitude was inaugurated in 1898 under Mr. A. de Linde, and is now rapidly approaching completion. It is, however, generally believed that no lasting success will attend the remedial measures until steps are taken to deal with Taku Bar by permanent dredging; meanwhile it is hoped that, by closing the canals and creeks which take off most of the flood tide, the navigation of the river will be restored to its normal state before the year 1900.

The expeditions of the allies in 1858–1861 greatly enhanced the importance of the city, as it then proved to be the military key to the capital and an excellent base. It was here, on June 26, 1858, that Lord Elgin signed the treaty which was to conclude the war, but which unhappily led to its prolongation. The temple in which the treaty was signed is about a mile distant from the west gate, and is now inclosed in a small arsenal (Hai Kwan Tze) and surrounded by factories for the manufacture of small-arm ammunition. It is worth a visit, if only to see the large bell, which, as usual, has an interesting tradition associated with it.

During the long satrapy of Li Hung Chang the trade and importance of the city developed exceedingly. Li, by the vigor of his rule, soon quelled the rowdyism for which the Tientsinese were notorious throughout the empire, and, as he made the city his chief residence and the center of his many experiments in military and naval education, it came to be regarded as the focus of new learning and national reform. The foreign affairs of China were practically directed from Tientsin during the two decades 1874–1894.

The city will ever be infamous to Europeans from the massacre of the French Sisters of Mercy and other foreigners on June 21, 1870, in which the most appalling brutality was exhibited; as usual, the political agitators who instigated the riot got off. The Roman Catholic Cathedral, which was destroyed on that occasion, has since been rebuilt, and the new building was consecrated in 1897. The building occupies a commanding site on the river bank. All the missions and many of the foreign hongs have agencies in the city.

The population is reputed to be 1,000,000, but there is no statistical evidence to justify such large figures. The area of the city is far less than that of the Portsmouth boroughs with their 180,000, and the houses without exception are one storied. The suburbs, however, are very extensive, and there is the usual vagueness as to where the town begins and ends. The city walls are quadrate and extend about 4,000 feet in the direction of each cardinal point. The advent of foreigners has caused a great increase in the value of real estate all over Tientsin, and, as new industries are introduced every year, the tendency is still upward.

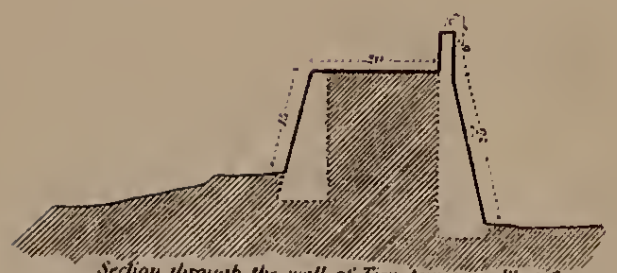
Li Hung Chang authorized Mr. Tong Kin-Seng to sink a coal shaft at Tong Shan (60 miles northeast of Tientsin) in the seventies; this was done and proved a precursor of a railway, which has since been extended to Shanhaikwan for military purposes, and from thence around the Gulf of Liaotung to Kingchou. This line will have been pushed in to Newchwang by 1900. In 1897 the line to Pekin was opened, and proved such a success that the line had to be doubled in 1898–9. From Fengtai, about 7 miles from the capital, the transcontinental line to Hankow branches off. This line has been already made as far as Pao-ting-fu, the provincial capital of Chili, and is now open to traffic. Its continuation is in the hands of the Belgians. About 435 miles in all are open to goods and passenger traffic. As usual, the railway has brought all sorts of foreseen and unforeseen contingencies with it. Farmers up near Shanhaikwan are supplying fruit and vegetables to Tientsin. An enormous trade in peanuts (with Canton) has been created. Coal has come extensively into household use. The foreign residents are developing a first-rate watering place (Pei-tai-ho) on the Gulf of Pechili, and all the various industries have been stimulated. Brick buildings are springing up

in all directions and the depressing-looking adobe (mud) huts are diminishing.

The foreigners live in the three concessions (British, French, and German) which fringe the river below the city and cover an area of less than 500 acres. The Japanese are now (1900) taking up a concession in accordance with the terms of the treaty of Shimonoseki. Very extensive building operations are going on throughout the concessions, which have excellent roads with police, oil, gas lamps, etc. The British municipality has a handsome capitalized town hall, completed in 1889; adjoining there is a well-kept public garden, opened in the year of jubilee and styled Victoria Park. An excellent recreation ground of 10 acres is also being developed, and 3 miles distant there is a capital race course. There are two hotels (the Astor House and Globe), two clubs (Tientsin Club and Concordia, the latter chiefly German), a theatre, an excellent library, three churches (Roman Catholic, Anglican, and Union), and no public houses.

Distilling is one of the largest local industries; it is chiefly from kowliang (sorghum) or millet. Although a spirit, it is called "wine," and is exported to the south in large quantities. The manufacture of coarse unrefined salt by the evaporation of sea water is also carried on near Taku; the produce is stacked along the river bank just below the native city, and sometimes gives off very offensive smells, rendering life a burden. The trade in salt is a government monopoly. Carpets, shoes, glass, coarse earthenware, and fire works are also made in large quantities in the city, but Tientsin is at present essentially a center for distribution and collection rather than manufacture. The exports include coal, wood (from Kokonor, Kansu, etc.), bristles, straw braid, goat skins, furs, wine, etc. The export trade is a recent creation, and is largely due to foreign initiative. Wool cleaning and braid and bristle sorting are the chief industries in the foreign hongs except those of the Russians, who are exclusively engaged in the transit of tea. The imports are of the usual miscellaneous nature; tea for the Desert and Siberia, and mineral oil, matches, and needles figure next to piece goods. The fine arts are unknown to the Tientsinese except in the shape of the cleverly made mud figures; these are painted and make really admirable statuettes, but are difficult to carry away, being remarkably brittle.

The Grand Canal at Tien-tsin is known as the Yu-ho



Section through the wall of Tien tsin near West Gate.
Scale 30 feet to One Inch

The walls of Tien-tsin are very old, they are built of the dark grey brick common throughout the country: the Earthen rampart and the Interior Revetment has in many places fallen down particularly along the Southern Face

Cultivated Plain

Cultivated Plain

Sinho

Tower

Highly cultivated with Millet & Indian Corn

Chang-yuen

Gardens and Cultivation

TIEN TSIN

Uncultivated covered with Graves

Shui-yuen

Uncultivated covered with Graves

Ma chia-ko

Joss Ho on which the treaty of 1858 was signed

Tsz-che-lin

Ta-kung chwang

Sieou-kung-chwang

Tang-chia-Ao

Mud Docks

Pagoda

The export coal trade is rapidly expanding, 218,618 tons having been cleared in 1898. The general trade is increasing by leaps and bounds, and no wonder, as Tientsin is practically the only sea outlet for the entire trade of the provinces of Chili, Shansi, Shensi, Kansu, and part of Honan, with a population not far short of 100,000,000. The total net value of the trade in the years 1896-97-98, less re-exports, was 51,316,367 taels, 55,059,017 taels, and 63,064,148 taels; the net foreign imports in 1898 being valued at 32,579,514 taels, and the native imports at 28,198,595 taels gross and 18,390,950 taels net, after deduction of re-exports. The export trade, which twenty years ago was practically nil, was last year, not including re-exports, 12,093,684 taels. The duty collected was 1,016,412 taels, an increment of 43,375 taels on that of the previous year. Opium tends to a vanishing point from native competition. The figures for 1896–97 are 1,170,928 and 912 piculs.

TAKU.

The village is situated at the mouth of the Pei-Ho, on the southern side of the river, about 67 miles from Tientsin. The land is so flat at Taku that it is difficult for a stranger to detect the entrance to the river. There are two anchorages, an outer and inner. The former extends from the customs junks to 3 miles outside the bar, seaward; the latter from Liang-kia-yuan, on the south of the customs jetty, to Tz'chu-lin on the north. The village is a poor one, possessing few shops, no building of interest except the forts, and the only foreign residents are the customs employees and some pilots. A railway from the adjoining town of Tungku (2 miles up the river) to Tientsin was completed in 1888.

Taku is memorable on account of the engagements that have taken place between its forts and the British and French naval forces. The first attack was made on the 20th May, 1858, by the British squadron under Sir Michael Seymour, when the forts were passed and Lord Elgin proceeded to Tientsin, where, on the 26th June, he signed the famous treaty of Tientsin. The second attack, which was fatally unsuccessful, was made by the British forces in June, 1859. The third took place on the 23d August, 1860, when the forts were captured, the booms placed across the river destroyed, and the British ships sailed triumphantly up to Tientsin. The water on the bar ranges from about 2 to 14 feet at the

spring tides. At certain states of the tides steamers are obliged to anchor outside until there is sufficient water to cross.

NEWCHWANG (NIU-CHWANG—YING-TSZ).

Newchwang is the most northerly port in China open to foreign trade. It is situated in the Province of Shenking, in Manchuria. It is called by the natives Ying-tsz, and lies about 13 miles from the mouth of the River Liao, which falls into the Gulf of Liaotung, a continuation of the Gulf of Pechili.

Before the port was opened comparatively little was known of this part of the Central Kingdom. Manchuria has since, however, been largely colonized by the Chinese, who now outnumber the natives. The word Ying-tz means military station, and that was the only use formerly made of the port. Between the years 1858 and 1860, the British fleet assembled in Talienwan Bay, and early in 1861 the foreign settlement was established. The town of Newchwang itself is distant from Ying-tsz about 30 miles, and is a sparsely populated and uninteresting place, but the advent of the railway is rapidly increasing its importance. An extension of the Shanhaikwan Railway to Newchwang has been sanctioned, and the Russians are also at work on a line intended primarily for the conveyance of material for the construction of the line connecting Talienwan and Port Arthur with the Trans-Siberian Railway.

The country about the port of Newchwang is bare and desolate, and in sailing up the river a most cheerless prospect greets the traveler's eye. Ying-tsz is surrounded by dreary marshes, and the land under cultivation produces principally beans. The river is closed by ice for more than three months every year, during which period the residents are entirely cut off from the outer world. The climate, however, is healthy and bracing. The population of the place is estimated at 60,000.

The chief articles of trade at the port are beans and bean-cake, 4,220,963 piculs of the former and 3,695,821 piculs of the latter being exported in 1898. The net quantity of opium imported in 1898 was 92 piculs, compared with 2,453 piculs in 1879. The import of opium has of late years shown an almost continuous decline, the poppy being largely and successfully cultivated in Manchuria. The total value of the trade of the

port for 1898 amounted to 32,441,315 taels, as against 26,358,671 taels in 1897.

TALIENWAN (TA-LIEN-WAN).

Talienwan is a bay to the northeast of Port Arthur, on the Liaotung Peninsula. It was acquired on lease from China by Russia in 1898, and a free port is to be established, which will be connected by the Manchurian Railway with the Trans-Siberian Railway, of which latter it will in reality be the principal terminus. Talienwan is an open bay, some 6 miles wide and 6 deep, and open to the easterly winds. It was in Victory Bay, an inlet of Talienwan, that the British fleet and transports anchored during the hostilities with China in 1860.

PORT ARTHUR (LU-SHUN).

Port Arthur, at the point of the "Regent's Sword," or Liaotung Peninsula, was formerly China's chief naval arsenal, but was captured in the Japanese war, and its defenses and military works destroyed. In 1898 Russia obtained a lease of Port Arthur and Talienwan, and is now rapidly fortifying the former and making it into a great naval stronghold. It will be connected by the Manchurian Railway with the Trans-Siberian Line.

CHEFOO (CHI-FAU—YEN-TAI).

Chefoo, in the Province of Shantung, is the name used by foreigners to denote this treaty port; the Chinese name of the place is Yen-tai, and Chefoo proper is on the opposite side of the harbor. Chefoo is situated in latitude 37° 33′ 20″ north and longitude 121° 25′ 02″ east. The port was opened to foreign trade in 1863. The number of foreigners on the books of the various consulates is about 400, but more than half of them—missionaries—live inland. Chefoo has no settlement or concession, but a recognized foreign quarter, which is well kept and has good, clean roads and is well lighted. A "general-purpose committee" looks after the interests of the foreign quarter, and derives the revenue at its disposal from voluntary contributions by residents. The natives are most orderly and civil to foreigners. There are three good hotels and at least three excellent boarding houses, all of which are full of visitors from July to the end of September. The climate is bracing. The winter, which is severe, lasts from the beginning of September to the end of March; April, May, and June are lovely months and not hot; July and August are hot

and rainy months, and September, October, and November form a most perfect autumn, with warm days, cool winds, and cold nights. Strong northerly gales are experienced in the late autumn and through the winter, and the roadstead gives but an uncomfortable, though safe, anchorage for steamers.

WEI-HAI-WEI.

Wei-hai-wei is situated on the south side of the Gulf of Pechili, near the extremity of the Shantung Promontory, and about 115 miles distant from Port Arthur on the northwest, and the same from the German port of Kiaochau on the southwest. Formerly a strongly fortified Chinese naval station, it was captured by the Japanese on the 30th of January, 1895, and was held by them pending the payment of the indemnity, which was finally liquidated in 1898. Before the evacuation of the Japanese an agreement was arrived at between Great Britain and China that the former should take over the territory on lease from the latter, and, accordingly, on the 24th of May, 1898, the British flag was formally hoisted, the commissioners representing their respective countries at the ceremony being Consul Hopkins, of Chefoo, and Captain King-Hall, of H. M. S. *Narcissus*, for Great Britain, and Taotai Yen and Captain Lin, of the Chinese war vessel *Foochi*, for China.

The harbor forms a deep bight or bay about 18 miles in circumference, sheltered to the northward by the island of Liukungtao, which is about 2 miles long from east to west, and 1 mile from north to south in its widest part, being approximately pear-shaped. The northern or sea coast of Liukungtao is composed of steep cliffs, while the opposite side is sandy beach, the intervening hills rising to a height of about 500 feet. The general appearance of the harbor is picturesque, the bay being surrounded with hills, the highest of which is about 1,600 feet. The town of Wei-hai-wei, which has a population of about 4,000, is situated at the northwest corner of the bay.

The harbor is good, having two entrances, one to the north and the other to the east, the easterly one, however, being closed to all ships drawing more than 19 feet of water. Good anchorage is obtainable for the largest ships within a few hundred yards from the island.

KIAOCHOU (KIÁU-CHAU.)

Kiaochou, in Shantung, was occupied by a German squadron on the 14th of November, 1897, in satisfaction for the murder of two German missionaries, and on the 2d of September, 1898, it was declared a free port. It is held on lease from China for the term of ninety-nine years. Although the port is free in the sense that no import or export duties are levied, a branch of the Chinese customs has been admitted, which takes cognizance of the trade between Kiaochou and Chinese ports. The bay is an extensive inlet about 2 miles northwest of Cape Evelyn. The entrance is not more than $1\frac{3}{4}$ miles across, the east side being a low promontory with rocky shores, with the village of Chingtao ("green island," from a small grassy island close to the land) about 2 miles from the point of the peninsula. On the west side of the entrance is another promontory with hills rising to about 600 feet. The shore here is rocky, and dangerous on the west side, but on the east side is a good stretch of sandy beach. The bay is so large that the land at the head can only just be seen from the entrance (about 15 to 20 miles away), and the water gradually gets shallower as the north side of the bay is approached. Kiaochou city stands at the northwest corner of the bay. There are two anchorages for big ships; one, the larger and better, around the point of the east promontory, on the north side, and the other, smaller one, at Chingtao, on the south side. The hills are nearly bare rocko and gravel and limestone, but an extensive scheme of afforestation has been decided upon. The soil of the valleys between the ranges and the plain country on the northeast is alluvial and very fertile, and is carefully cultivated. Wheat, barley, millet, maize, Indian corn, and many other grains in smaller quantities are grown. Concessions have been granted for two lines of railway running from Kiaochou into the interior, and there appears to be every prospect of the place rapidly becoming a great commercial emporium.

SHANGHAI (SHÁNG-HÁI).

The most northerly of the five ports opened to foreign trade by the British Treaty of Nanking is situated at the extreme southeast corner of the Province of Kiangsu, in latitude 31° 15′ north and longitude 121° 29′ east of Greenwich, at the

junction of the rivers Hwang-po and Woosung (the latter called by Europeans the Soochow Creek), about 12 miles from the newly-opened treaty port of Woosung, now being marked out for foreign residence by a foreign land company, where their united waters debouch into the estuary of the Yangtse. Shanghai lies in a vast plain, the nearest hills, of only some 300 feet in height, being 30 miles to the westward. The soil is alluvial and extremely rich; it supports a great variety of food and other stuffs. This Kiangsu plain has been called "the garden of China," and the population here is, perhaps, denser than in any other part of the land—eight hundred inhabitants to the square mile is not an exaggerated estimate. Rice, cotton, and grain are the main products in the immediate neighborhood—rice to the west and north, cotton to the west and south—but with the greater demand for cotton by the mills started within the last few years the cultivation of rice is being pushed farther away from Shanghai and cotton is taking its place. The convenience of inland transit is here very great; rivers, canals, and creeks are in every direction, but they form a great obstacle to free riding and walking. Mulberry trees are not grown to any extent in the neighborhood. Wheat, barley, rice, green foods of all kinds, cabbage, turnips, carrots, melons, cucumbers, potatoes, yams, chihlies, the egg-plant, cress, etc., abound. Of fruits, Shanghai is famous for its peaches; plums, strawberries, cherries (small in size), peepaws (or medlars), and persimmons are common. The apple and pear, grape, chestnut, and walnut are brought from the north; oranges and bananas in great quantities from the south. The bamboo is common in the district, as is the pine, cypress, willow, and a species of elm. The chrysanthemum and peony are the favorite flowers. Roses, tulips, pansies, hyacinths, fuchsias, geraniums, and other European flowering annuals, are highly developed in the public and private gardens of the foreign settlements. Of birds, the crow, magpie, swallow, and sparrow abound; many species of lark, finch, and thrush are common, and the feathered tribe, as a whole, is plentiful in Kiangsu; but it is otherwise with four-footed animals. For a more detailed account of the flora and the fauna of the neighborhood we must refer the general reader to Williams's "Middle Kingdom," and the student to the scientific works and periodicals in the Asiatic Society's library.

The river opposite the city and foreign settlements, once a narrow canal, was, some twenty-five years ago, 1,800 feet broad at low water, but has been rapidly narrowing till it is now only 1,200 feet. The Soochow Creek, which was, judging by old records, at one time at least 3 miles across, has now a breadth of less than a hundred yards. The average water on the bar at Woosung at high-water springs is 19 feet, the greatest depth of late years being 23 feet. The bar is the cause of heavy loss to ship owners and merchants through the detention of ocean steamers. After repeated efforts to induce the Chinese authorities to deepen it, an effort was made to cope with the evil by dredging, but after a few months' work it was found that the experiment must prove ineffective, and in September, 1892, it was abandoned as useless.

The approach by sea to Shanghai is now well lighted and buoyed, and the dangers of the ever-shifting banks and shoals as well guarded against as can be expected. Under the superintendence of the engineering department of the maritime customs, lighthouses have been erected on West Volcano, Shaweishan, North Saddle, Gutzlaff, Bonham, and Steep Islands, Peiyüshan, and at Woosung. There are also two lightships in the Yangtse below Woosung.

SOOCHOW (SÚ CHAU).

Soochow, the capital of the Province of Kiangsu, lies about 80 miles west and a little north of Shanghai, with which it is connected by excellent inland waterways. The city is a rectangle, its length from north to south being 3½ miles and its width from east to west 2½. It lies not far from the eastern shore of the great Taihu Lake. Past its walls runs the southern section of the Grand Canal, which joins Hangchou to Chingkiang; and in every direction spread creeks or canals, affording easy communication with the numerous towns in the surrounding country. It is an important manufacturing center, with a population of over half a million. Its two chief manufactures are satins and silk embroideries of various kinds. In addition it sends out silk goods, linen and cotton fabrics, paper, lacquer ware, and articles in iron, ivory, wood, horn, and glass. Since the opening of the port manufacturing on foreign principles has been introduced, and there are now two cotton mills and several silk filatures. Before the Taiping rebellion Soochow shared with Hangchou the reputation of being the finest city in China, but it was almost entirely destroyed

by the rebels, who captured it on the 25th of May, 1860. Its recovery by Major (afterward General) Gordon on the 27th of November, 1863, was the first effective blow to the rebellion. Since that disastrous period it has recovered itself greatly and is once more populous and flourishing, though it has not yet attained to its former pitch of prosperity. It was declared open to foreign trade on the 26th of September, 1896, under the provisions of the Japanese treaty. The locality chosen for the foreign settlement is under the southern wall of the city, just across the Canal, and is a strip of land about 1⅓ miles long and ¼ mile broad. The western portion has been reserved for a Japanese settlement. The Government has made a good carriage road along the Canal bank for the whole length of the settlement, on which carriages and rickshaws ply, and on fine days the road is crowded with people from the city, amusing themselves, walking, and driving. The net value of the trade of the port passing through the foreign customs in 1898 was 1,527,424 taels as against 1,473,453 taels in 1897, but this represents only a small portion of the total trade of the port, most of which passes through the native customs.

CHINKIANG (CHIN-KIÁNG).

The port of Chinkiang (or Chên-kiang-fu), which was declared open to foreign trade by the treaty of Tientsin, is situated on the Yangtse, about 150 miles from its mouth, and at the point where the Grand Canal enters the river.

The city lies between one of the mouths of the Grand Canal and the right bank of the Yangtse. Most of the houses are built on the level ground, but the surrounding hills lend a pleasant appearance to the locality, which is considerably enhanced by the bluff scenery of the island of Ts'io-shan. When the city was abandoned by the rebel forces its destruction was very nearly complete, and it has even now hardly recovered its former prosperous aspect. The city is inclosed by walls and is defended by rather formidable looking batteries commanding the river approaches. The foreign settlement occupies a tract of land extending from the mouth of the Canal along the bank of the river. The little settlement has a neat bund, is provided with a club, and has small Protestant and Catholic churches. It was the scene of a formidable riot on the 5th of February, 1889, when about half the foreign houses and buildings were destroyed by a native mob. The population of Chinkiang is estimated at 140,000.

NANKING (KIÁNG-NING).

Nanking was specified in the French Treaty of 1858 as one of the Yangtse ports to be opened to trade, but was not formally opened until May, 1899.

Nanking is situated on the south bank of the Yangtse, 45 miles beyond Chinkiang and 205 miles from Shanghai. From the river little can be seen of it except the long line of lofty gray brick walls which encircle it. The walls have an elevation varying from 40 to 90 feet, are from 20 to 40 feet in thickness, and 22 miles in circumference. They inclose a vast area, a large portion of which is wilderness or cultivated land. The inhabited portion lies toward the south and west, and is several miles from the banks of the river. Nanking was first brought into notice among Europeans in 1842, in which year the first British treaty with China was signed here. During the Taiping rebellion no place suffered more. It was first taken by assault by the Taipings on the 19th of March, 1853, and after sustaining a prolonged siege was recaptured by the Imperial forces on the 19th of July, 1864, a fatal blow to the rebels.

Although Nanking has recovered to a small extent from the prostration which attended its ill-treatment during the rebellion, it has never yet attained any commercial importance. A naval college was opened here in 1890, for which a large pile of buildings was erected. A dozen teachers and instructors are employed, including three foreigners. The arsenal and powder mills, for many years in charge of foreigners, are now intrusted to native direction. They are situated just outside the south gate.

WUHU (WÚ-HÚ).

This port was opened to foreign trade by the Chefoo Convention on the 1st of April, 1877. It is situated on the river Yangtse, in the Province of Anhui, and is a half way port between Chinkiang and Kewkiang, though nearer to the former. It has the appearance of a thriving and busy town, and is admirably located for trade. This is mainly owing to the excellence of its water communication with the interior. A large canal, with a depth of 5 to 6 feet of water in the winter and 10 to 12 feet in the summer, connects the port with the important city of Ning-kuoh-fu, in southern Anhui, 50 miles distant. Another canal runs inland for over 8 miles in a southwesterly direction to Taiping-hsien, an extensive tea

district. This canal, which is navigable only in the summer, passes through Nan-ling and King-hsien, where the cultivation of silk is carried on, and may some day be of importance. The silk districts of Nan-ling and King-hsien are situated within 50 miles of Wuhu. Besides the canals leading to Ning-kuoh-fu and Taiping-hsien, there are two others communicating with Su-an and Tung-pó.

KEWKIANG (KIÚ-KIANG).

Kewkiang (now more generally written Kiukiang) is situated on the river Yangtse, near the outlet of the Poyang Lake, and is a prefectural city of the province of Kiangsi. It is distant about 187 geographical miles from Hankow and 445 miles from Shanghai. Kewkiang was before the rebellion a busy and populous city; but it was occupied by the Taiping rebels in 1853, and before it was given up to the Imperial troops it was almost entirely destroyed. When the foreign settlement was established there, however, the population soon returned, and has continued to increase rapidly; it is now estimated at 55,000.

The city is built close to the river, the walls running along the banks of it for some 500 yards. Their circumference is about five miles, but a portion of the space inclosed is still unoccupied. The city contains no feature of interest. There are several large lakes to the north and west of it, and it is backed by a noble range of hills a few miles distant. The foreign settlement lies to the west of the city and is neatly laid out. It possesses a small bund lined with trees, a club, a small Protestant church, and a Roman Catholic cathedral opened last year.

The idea which led to the opening of Kewkiang was, no doubt, its situation as regards communication by water with the districts where the green tea is produced.

HANKOW (HAN-KAU).

Hankow is situated on the River Han at the point where it enters the Yangtse, and is in latitude 30° 32′ 51″ north and longitude 114° 19′ 55″ east. It was formerly regarded as only a suburb of Hanyang, which it immediately adjoins, and which is a district city of the Province of Hupei, but Hankow has outstripped the older city in wealth and importance. These towns lie immediately facing the city of Wuchang,

the capital of the province, which is built upon the south bank of the Yangtse. Hankow is distant from Shanghai about 600 miles.

The port was opened to foreign trade in 1861. The British settlement is located at the east end of the city, which it joins, and is, together with the race course, included within the city walls, which are quite modern, having been built at the time of the Taiping rebellion. The river steamers go alongside hulks moored close to the shore; ocean steamers anchor in midstream. The current is very strong in the river. The native city of Hankow presents no distinctive feature. Like all Chinese cities, it is a crowded agglomeration of narrow lanes. The population of Hankow is estimated at 800,000. Cotton-cloth mills established by the Viceroy Chang Chih-tung commenced running in 1892, and large iron works at Hanyang have also been established. In August, 1895, the Wuchang mint was established, the coinage being identical, with the exception of the territorial designation, to that of the Canton mint.

During the last few years foreign interests at Hankow have undergone a marked development, the chief factor in producing the growth being the commencement of work on the Lu Han railway, a trunk line connecting Hankow with Peking, the contract for which was let to a Belgian syndicate in 1897. The project had been discussed for some years previously, and in view of the importance the port will derive from direct railway communication with the capital and from the anticipated opening of the country in other directions, Germany, France, Russia, and Japan have since 1895 acquired concessions, and an extension of the British concession has been granted.

ICHANG (I-CHÁNG).

Ichang is one of the ports opened to foreign trade on the 1st of April, 1877, in accordance with clause 1, section 3, of the Chefoo Convention.

Ichang is situated in latitude 30° 44′ 25″ north, longitude 111° 18′ 34″ east, on the left bank of the River Yangtse, about 393 miles above Hankow, and some 10 miles below the entrance to the great Ichang gorge. The navigation of the river to this port is comparatively easy for vessels of light draft, but great care is necessary for all vessels when in the neighborhood of Sunday Island, owing to the shifting sand

banks. The anchorage is off the left bank, opposite the foreign residences, and is good, except in freshets, when the anchor should be sighted every two or three days. The port is the center of a hilly country, the productions of which are rice in the valley, cotton in the higher grounds, winter wheat, barley, and also the tungtzu trees, from which the ordinary wood oil is obtained by pressing the nuts gathered from the trees. In the sheltered valleys, among the mountain ranges west of the city, oranges, lemons, pomelos, pears, plums, and a very superior quality of persimmons are grown and find a ready market in the city and at Shasi. Ichang has increased in importance since the opening of Chungking. All cargo for the latter port is landed here and transferred to chartered junks. In the same way cargo brought down in chartered junks from Chungking and intended for the lower river and coast ports is shipped here on river steamers, which make regular voyages to and from Hankow.

FOOCHOW (FUH-CHAU).

Foochow (or Fuh-chau-fu) is the capital of the Fukien Province. It is situated in latitude 26° 02′ 24″ north, and longitude 119° 20′ east. The city is built on a plain on the northern side of the River Min, and is distant about 34 miles from the sea, and 9 miles from Pagoda Islands, where foreign vessels anchor.

The city is built around three hills, and the circuit of the walled portion is between 6 and 7 miles in length. The walls are about 30 feet high and 12 feet wide at the top. The streets are narrow and filthy, but the number of trees about the official part of the city, and the wooded hills enclosed by the walls, give a picturesque appearance to the general view. Two well-preserved pagodas stand within the city walls. Near the east gate of the city are several hot springs, which are used by the natives for the cure of skin diseases, and are believed to be very efficacious.

Foreign vessels, with the exception of those of very light draft, are compelled to anchor at Pagoda Island, owing to the shallowness of the river, which has been increasing of late years, and the difficulties of navigation; even at the anchorage the river is silting up in several places. The limits of the port of Foochow extend from the city bridge to the Kimpai Pass. The Mamoi arsenal, near Pagoda Anchorage, is an extensive Government establishment, where several

good-sized gunboats have been built. The arsenal was bombarded by the French on the 23d and 24th of August, 1884, and reduced to partial ruin, but has since been restored. The establishment is now being reorganized, and is administered by French experts. The construction of a new dock in connection with the arsenal was commenced in November, 1887, on Losing Island. The dock is over 300 feet long and has very powerful pumps and a good steel caisson. A small daily paper called the "Foochow Echo" is published. The population of Foochow is estimated at 650,000.

AMOY (HIÁ-MUN).

Amoy is one of the five ports open to foreign trade before the ratification of the Treaty of Tientsin. It is situated upon the island of Haimun, at the mouth of Pei Chi or Dragon River, in latitude 24° 40′ north and longitude 118° east. It was the scene of trade with Western nations at a very early date.

The island upon which Amoy is built is about 40 miles in circumference, and contains scores of large villages besides the city. The scene within the bay is picturesque, caused partly by the numerous islands which define it, surmounted by padogas or temples, and partly by the high, barren hills behind the city. There is an outer and an inner city, as one approaches it seaward, divided by a high ridge of rocky hills having a fortified wall running along the top. A paved road connects the two. The entire circuit of the city and suburbs is about 8 miles, containing a population of 300,000, while that of the island is estimated at 100,000 more. The harbor is one of the best on the coast; there is good holding ground in the outer harbor, and vessels can anchor in the inner, within a short distance of the beach, and be perfectly secure. The tide rises and falls from 14 to 16 feet. The western side of the harbor, here from 675 to 840 yards wide, is formed by the island Kulangsu. It is a picturesque little spot, and maintains a rural population of 3,500 people. Eastward of Amoy is the island of Quemoy or Kinmun (Golden Harbor), presenting a striking contrast, in the low foreground on its south shore, to the high land of Amoy. The population of the city is now estimated at 96,000.

There has always been a comparatively good trade done at Amoy. There is frequent and pretty regular steamer communication with Hongkong, Swatow, and Foochow. Direct

communication with Manila and the Straits Settlements is also maintained.

CANTON (KWÁNG-CHAU).

Canton is situated on the Chu-kiang or Pearl River, in latitude 23° 7′ 10″ north and longitude 113° 14′ 30″ east, and is the capital of the Province of Kwangtung. It is sometimes called the City of Rams or the City of Genii, both of which names are derived from ancient legends. Canton is a foreign perversion of Kwangtung, its real name. One of the first cities in the Chinese Empire, it is also the seat of government for the province, and is the residence of the Viceroy of "The Two Kwang" (Kwangtung and Kwangsi). The Tartar general is likewise resident here, besides a number of other government officials of more or less distinction, including the haikwan, or superintendent of customs, a post always held by a Manchu.

The city proper extends to a breadth of about 2 miles, is about 6 miles in circumference, and is inclosed by walls about 20 feet thick and from 25 to 40 feet high. The suburbs spread along the river for nearly 5 miles. The entire circuit, including the suburbs, is nearly 10 miles, the walls inclosing about 6 miles. What is called the new city now was formerly known as the southern suburb. The western suburb stretches for miles along the river. There are sixteen gates giving admission into the city, besides two water gates.

Ample means of communication exist between Canton and Hongkong, a distance of about 95 miles, by foreign steamers, plying daily, and a large number of native craft. There is daily communication with Macao. Steamers also run regularly between Shanghai, Hongkong, and Canton. There is safe and commodious anchorage within 150 yards of the river wall at Shameen. Canton was connected by telegraph (an overland line) with Kowloon in 1883, and another overland line was completed from Canton to Lungchau-fu, on the Kwangsi and Tonkin frontier, in June, 1884. The electric light has been introduced into a portion of the city. A projected railway between Canton and Kowloon has received the Imperial sanction and a preliminary survey has been made, but it still remains a project. The survey by an American syndicate of a railway route to connect Canton with Hankow was also made in 1899.

REIGNING SOVEREIGN AND FAMILY.

Kuang Sü, Emperor of China, is the son of Prince Ch'un, the seventh son of the Emperor Tao Kuang. He succeeded his cousin, the late Emperor Tung Chi, who died without issue on the 12th of January, 1875, from smallpox.

The present sovereign is the ninth Emperor of China of the Manchu dynasty of Ta-tsing (sublime purity), which succeeded the native dynasty of Ming in the year 1644. There exists no law of hereditary succession to the throne, but it is left to each sovereign to appoint his successor from among the members of his family. The late Emperor, dying suddenly, in the eighteenth year of his age, did not designate a successor, and it was in consequence of palace intrigue, directed by the Empress Dowager, in concert with Prince Ch'un, that the infant son of the latter was declared Emperor. The Emperor Kuang Sü was born in 1871, assumed the reins of government in February, 1887, was married on the 26th of February, 1889, to Yeh-ho-na-la, niece of the Empress Dowager, and his enthronement took place on the 4th of March following. On the 21st of September, 1898, a palace revolution took place, and the Empress Dowager again assumed the regency, nominally on the ground of the Emperor's ill health, and she has since ruled in the Emperor's name. [Hongkong Directory, 1900.]

GOVERNMENT AND REVENUE.

The fundamental laws of the Empire are laid down in the Ta-tsing Huei-tien, or Collected Regulations of the Great Pure Dynasty, which prescribe the government of the State as based upon the government of the family. The Emperor is spiritual as well as temporal sovereign, and, as high priest of the Empire, can alone, with his immediate representatives and ministers, perform the great religious ceremonies. No ecclesiastical hierarchy is maintained at the public expense, nor is any priesthood attached to the Confucian or State religion.

The administration of the Empire is under the supreme direction of the interior council chamber, comprising four members, two of Manchu and two of Chinese origin, besides two assistants from the Han-lin, or great college, who have to see that nothing is done contrary to the civil and religious laws of the Empire, contained in the Ta-tsing Huei-tien and in the sacred books of Confucius. These members are denominated

Ta Hsio-sz, or ministers of state. Under their orders are the Li Pu, or seven boards of government, each of which is presided over by a Manchu and Chinese. They are (1) the Li Pu, board of civil appointment, which takes cognizance of the conduct and administration of all civil officers; (2) the Hu Pu, board of revenue, regulating all financial affairs; (3) the Li Pu, board of rites and ceremonies, which enforce the laws and customs to be observed by the people; (4) the Ping Pu, or military board, superintending the administration of the army; (5) the Kung Pu, or board of public works; (6) the board of punishments, and (7) the board of admiralty. To these must be added the Tsung-li Yamen, or board of foreign affairs. Independent of the Government, and theoretically above the central administration, is the Tu-cha Yuan, or board of public censors. It consists of from forty to fifty members, under two presidents, one of Manchu and the other of Chinese birth. By the ancient custom of the Empire, all the members of this board are privileged to present any remonstrance to the sovereign. One censor must be present at the meeting of each of the six Government boards.

The amount of the public revenue of China is not known and estimates concerning it vary greatly. The imperial maritime customs receipts form the only item upon which exact figures are obtainable, and these for the year 1898 amounted to 22,503,397 taels. Mr. E. A. Parker, formerly of the British consular service, in 1896 published the following estimate of the receipts from the other principal sources: Land tax, 20,000,000 taels; salt, 10,000,000 taels; lekin, 15,000,000 taels; native customs, 3,000,000 taels; miscellaneous, 3,000,000 taels. In addition, the grain tribute may also be estimated at 3,000,000 taels, making a total estimated revenue of 77,000,000 taels. The amounts given above are those supposed to be accounted for to the Government, but very much larger amounts are raised from the people and absorbed by the officials in the way of peculation. With the significant exception of the maritime customs, which is under foreign control, no item of revenue shows any elasticity. The land tax, salt revenue, lekin, native customs, are all about the same figures as they were ten years ago, although it is a matter of common notoriety that these sources of revenue have increased indefinitely.

China had no foreign debt till the end of 1874, when a loan of £627,675, bearing 8 per cent interest, was contracted through

the Hongkong and Shanghai Bank, under imperial authority, and secured by the customs revenue. Afterwards a number of other loans, of comparatively moderate amount, were contracted, mostly through the agency of the Hongkong and Shanghai Bank, and several of them have been paid off. Up to 1894 the total foreign debt of China was inconsiderable, but since then extensive borrowings have had to be made to meet the expenses of the war with Japan and the indemnity, which was 200,000,000 taels* (at exchange of 3s. 3¼d.), with a further 20,000,000 taels for the retrocession of the Liaotung Peninsula. The last installment was paid in 1898, and the total indebtedness of the country is now £55,755,000, the principal loans being the Russian of 1895, the Anglo-German of 1896, and the Anglo-German of 1898, each of £16,000,000. Recently several minor loans, amounting in all to less than £4,000,000, have been contracted through the agency of the foreign banks for the purposes of railway construction. It is but fair to say that these loans have been devoted to their purpose, and will automatically redeem themselves if efficient management of the lines be assured. In some cases the lines have been hypothecated to the banks as security, and these institutions have nominated a foreign accountant. [Hongkong Directory, 1900.]

CLIMATE.

The main characteristics of the climate of China depend, first, upon its situation on the east side of the greatest land mass in the temperate zone of the northern hemisphere; and, second, upon its situation within the region subject to monsoon winds. The climate of China, owing to the vast extent and the numerous variations in elevation of her territory, could not well present a universal character. Throughout, it is a country of extremes, or at least of a high range of temperature, hot summers alternating with cold winters, though, of course, the extremes are much greater in the north than in the south, where part of the surface lies within the torrid zone. The area comprised between the forty-second and the twentieth degrees of north latitude is naturally divided by the thirty-fifth degree of north latitude into two zones—the northern one, that of variable temperature, and the southern,

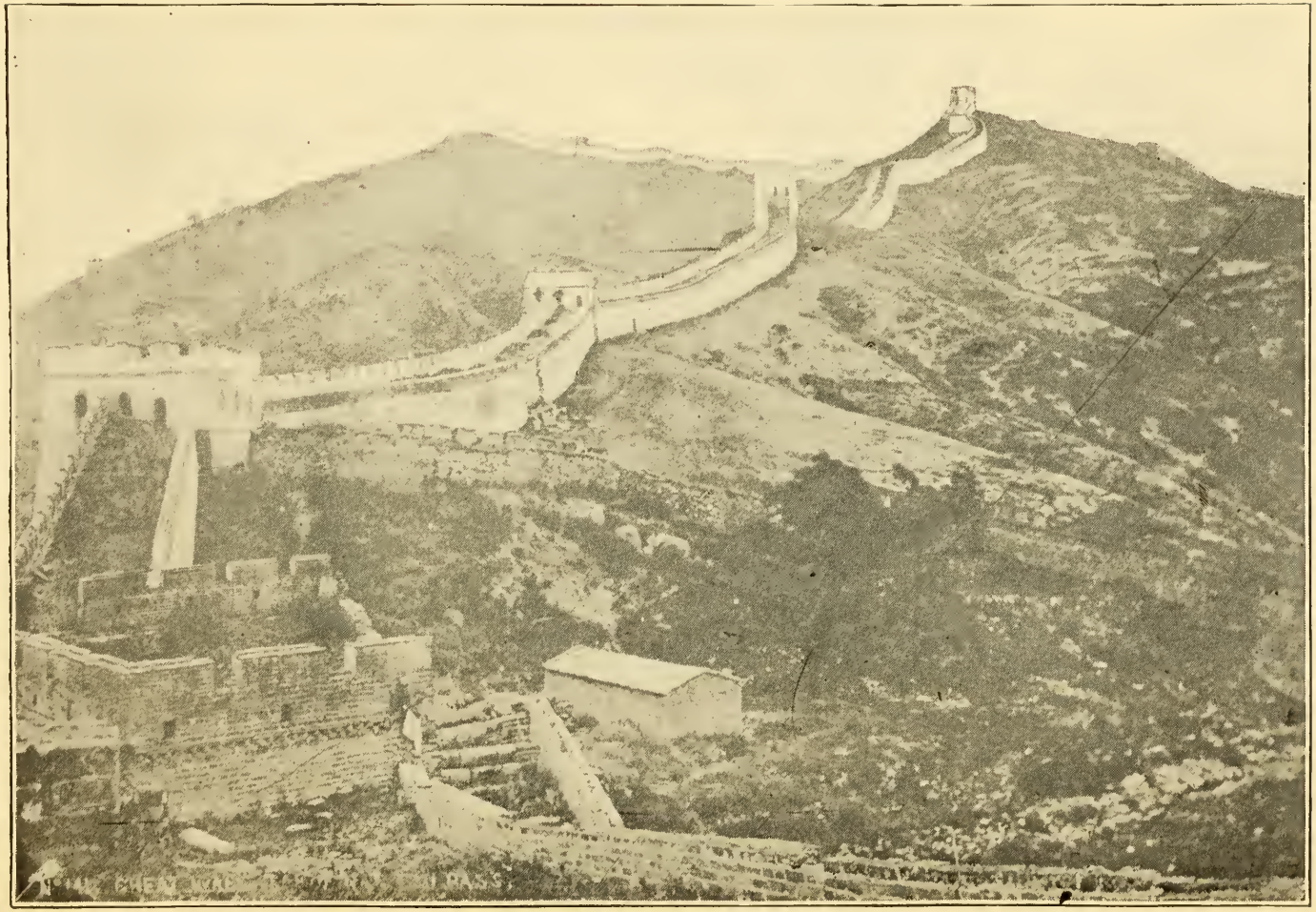
* The tael is about one and a third ounces, pure silver. At present quotations, it is therefore worth about 80 cents in United States money.

that of rains. These two zones, however, present the greatest imaginable differences of climate, since in both of them are found mountainous regions where the peaks reach beyond the limit of perpetual snow. The zone of variable temperature comprises the valley situated to the north of the Hoangho and the mountainous regions of northern China. There are four seasons here. The water courses freeze up in November and remain frozen until March; fogs, snow in inconsiderable quantities, and the aurora borealis accompany the winter, which is comparatively very severe for the latitude, having an average temperature of only 25.34° Fahr. at Peking. A very short spring is followed by a hot summer, during which the influence of the ocean causes abundant rains. The autumn is short. The zone of rains is divided into two regions. The northern one, comprising the most beautiful and temperate countries, extends as far as Nanling, in about 25° north latitude. There, in the southern valley, and in the less elevated mountain regions, the regular succession of two wet and two dry seasons, corresponding to the four seasons in the north, announces already a climate approaching that of the tropics; but on the south and southeast coasts are exhibited all the climatic characteristics of tropical regions. The two seasons depend here on the monsoons; the wet season comes with the monsoon from the southwest and lasts from April to October; the dry season, arriving with the northeast monsoon, continues from October to April. At Canton the average yearly temperature is 72.5° Fahr. During the intervals between the monsoons violent storms, called Tai-fang, or strong wind, range on all the coasts between 34° and 14° north latitude. The more they blow from the direction of the land the weaker they are, being the most violent in July and June, and rarely occuring from December to May.

The central regions are, perhaps, the healthiest; not so subject to cold as the northern and western districts, nor so liable to changes as along the seaboard.

The temperature in January averages 55° at Canton in the south and only 23° at Peking in the north, while in July the average for Canton is 82° and for Peking 79°, all Fahrenheit.

The alternation of rainy and dry seasons necessarily brings about a corresponding alternation of high and low water in the rivers. At Ichang, just below the rapids of the Yangtse, a difference of nearly 48 feet has been observed in the level of the



THE GREAT WALL OF CHINA.

river, and the ordinary annual difference is not less than 40 feet. The period of high water lasts from the beginning of July to the early part of October.

FLORA AND FAUNA.

Among the native vegetable products the first place may be assigned to the bamboo, not, of course, as being peculiar to this country, but on account of its universal practical importance, especially in the south. More peculiarly Chinese are the wax tree, cassia, the tallow tree, the paper mulberry, the camphor and varnish trees, and the sweet orange, which was introduced into Europe by the Portuguese. One of the most noteworthy circumstances regarding cultivated products is that the coincidence of the rains with summer temperatures enables some crops that are in most parts of the world confined to tropical and subtropical latitudes to be grown with success in northern China. Cotton, opium, wheat, and beans are all cultivated in the north. In the south the characteristic products are rice, tea, silk, sugar, and opium. Silk is obtained from "worms" fed on mulberries, and from wild caterpillars fed on the leaves of the trees in the great forests of the north.

In the greater part of China the larger wild animals have been exterminated by the progress of civilization, but in the wilder mountainous tracts there are elephants, rhinoceroses, and tapirs, a peculiar species of tiger, several kinds of leopards, bears, and badgers, and wolves in some parts, e. g., Yunnan, are still numerous, bold, and destructive.

The Chinese fisheries, both in the sea and inland waters, are very productive. A characteristic mode of fishing is with cormorants, which are prevented from swallowing the large fish that they catch by rings or pieces of strings around their necks. In the inland waters the breeding of fish for food is largely practiced.

THE GREAT WALL.

The most remarkable public work in China is the Great Wall. The following account of it is taken from James H. Wilson's "China:"

"The Great Wall of China was built of earth and stone over two thousand years ago; it has been enlarged, extended, and repaired many times since, but, notwithstanding all this, it has been often broken through by the Tartars in their onward march of conquest and plunder. It was evidently an effective

national barrier, built at a time when the wild tribes of north-eastern Asia were pressing forward into the lowlands, whither their kinsmen had gone centuries before; but it may well be doubted that it was conceived and completed, as it is now, by a single mind, or as a single undertaking. It most probably consisted originally of a line of detached earthworks, which some able ruler or captain strengthened and connected so as to present an unbroken line to the public enemy.

"It is said to have been finished 205 B. C. by Tsin Chi-Hwangti, and to be nearly 1,600 miles long. The Chinese call it the 'Ten-thousand-li wall'; and, if it really had any such length, it would be something over 3,500 miles long. It is from 25 to 30 feet high, 15 to 20 feet thick, and revetted, outside and in, with cut-granite masonry, laid in regular courses, with an excellent mortar of lime and sand. It is surmounted by a parapet or battlement of gray burned brick 18 or 20 inches thick, covered with moss, and pierced with crenelated openings for the defenders, whether archers or matchlockmen, to fire through. The rear or inner revetment wall is also furnished with a lower parapet, but it is not crenelated. The top is paved with a double layer of brick about a foot square. The inside of the wall is made of earth and stone well rammed in. Every two or three hundred yards there is a flanking turret 35 or 40 feet high, projecting beyond and overlooking the face of the wall in both directions, and near each turret is a stone staircase leading down between the walls to a door opening upon the ground to the rear. The most astonishing thing about it is, however, that it climbs straight up the steepest and most rugged mountain-sides, courses along their summits, descends into gorges and ravines, and, rising again, skirts the face of almost inaccessible crags, crosses rivers, valleys, and plains in endless succession from one end of the empire to the other—from the seashore on the Gulf of Pechili to the desert wastes of Turkestan. No spot is left unguarded or uncovered, and, no matter how fierce and active were the wild tribesmen who assailed it, or how innumerable were their armies, it is evident that it could, if well defended, even by men armed with nothing better than stones, defy the world up to the day of gunpowder and artillery. Indeed, it is almost impossible to conceive of its capture except through treachery or gross neglect on the part of those whose duty it should be to defend it. It is laid out in total defiance of the

rules of military engineering, and yet the walls are so solid and inaccessible, and the gates so well arranged and defended, that it would puzzle a modern army with a first-class seige train to get through it if any effort whatever were made for its defense. One can form no idea of the amount of labor or materials expended upon this great work unless he has seen and measured it. The simple problem of cutting the stone, making the brick, and transporting them to the wall, must have been a sore puzzle to those who had it in hand, and it is almost impossible to conceive the means by which the water used in making the mortar could be carried to the montain-tops across such a rough and arid country. It is, of course, known that the movement which crystallized itself in that way was a national, if not a popular, one, and that it was carried through by contingents of men from the various provinces, the men being paid and subsisted by the provinces to which they belonged till they had finished the task assigned them. There is a strange fascination in the grandeur and barbaric strength of this wall, as well as in the wild and desolate scenery surrounding it, which holds the most prosaic traveler in its grasp."

THE CHINESE ARMY.

PERMANENT MILITARY ORGANIZATION.

The total strength of the standing army of China can not be exactly ascertained, and if a statement of the number of men belonging to it could be given, it would be of little value, as many of the men who are carried on the rolls are neither armed nor equipped, and a great number of them are not even performing military service, but are following their usual civil vocations. No provision is made for the retiring or pensioning of the soldiers, and of course the enlisted personnel is made up from the lowest classes only.

In the present plan of organization each province furnishes, and to some extent maintains, an independent army corps.

These troops are organized into eight banners of from ten to twelve army corps each. The banners k'i are distinguished by colors, and are further divided into two classes, the classes and colors being shown in the table following.

Number.	Banner.	
1	Yellow with red border	The three superior banners.
2	Plain yellow	
3	Plain white	
4	White with red border	The five inferior banners.
5	Plain red	
6	Red with blue border	
7	Plain blue	
8	Blue with red border	

These eight banners nominally contain about 300,000 men, but the number maintained on a war footing is from 80,000 to 100,000 only. The imperial guard at Peking contains about 10,000 men.

The nationalities comprising the banner force are three in number, viz: Manchu, Mongolian, and Chinese, the latter being the descendants of those natives of northern China who joined the Manchu invaders during the period of their contest with the Ming dynasty in the early part of the Seventeenth Century. The soldiers are distributed under each color according to their nationality. Thus, there being three nationalities, each banner is subdivided into three parts (ku-sai). There are therefore twenty-four ku-sai, three in each k'i. The ku-sai are more administrative than tactical units.

Under one or other of these divisions all living Manchus and all descendants of the Mongolian and Chinese soldiery of the conquest are enrolled. The banners constitute, in fact, the population of Peking, with offshoots in various provincial garrisons, and a certain number of the adult males of the force receive pay as members of one or the other military corps into which they have from time to time been organized in addition to the pittance they receive as soldiers of the banner.

The various corps are divided in companies (lyanza) numbering 250 men each in the infantry and 150 in the cavalry.

The greater part of the banner forces have not received any modern drill, adhering to their old custom of practicing with the bow and performing various athletic and even acrobatic feats. This is not remarkable, considering that success in these exercises is the qualification for the pension paid by the Government to every male Manchu. Up to a comparatively recent period nothing has been done to make these

troops efficient. Many of them were armed with only bows and arrows and a kind of iron flail, and such as carried firearms possessed only the old national matchlock. A portion of these forces has been armed and trained after European methods. There may be in all 50,000 or 60,000 of the banner forces that have received modern arms and more or less military training.

The remainder of the banner forces are, of course, of no value whatever as against troops trained according to European methods.

PROVINCIAL MILITIA.

The ying ping, or national army, called also the green flags, consists of eighteen corps, one for each province, under the governor or governor general. Its nominal strength is from 540,000 to 660,000 men, of whom about 200,000 are available for war, never more than one-third being called out. The most important contingent is the Tientsin army corps, nominally 100,000 strong, really about 35,000, with modern organization, drill, and arms, employed in garrison duty at Tientsin, and at Taku and other forts.

The militia is divided as follows:

(*a*) THE BRAVE, organized about the middle of the Nineteenth Century.

(*b*) THE LIAN DISHIYUM, troops of later organization. They do not constitute a separate unit, but are attached to the twenty-four divisions of the eight banners, with which they are supposed to be trained for a certain period each year. To each of the divisions of the eight banners is detailed a nucleus of these troops, composed (on paper) as follows:

	Officers.	Enlisted men.
Manchurian	12	2,700
Mongolian	12	900
Chinese	12	1,800
Total in each banner	36	5,400
Grand total of the eight banners	288	43,200

These troops are distributed in each banner according to their nationality.

(*c*) THE LUIN, territorial militia, which is called upon for local service. The men are all Chinese.

The ying ping is recruited by voluntary enlistments. With the exception of the trained contingent referred to above, this national army is not likely to be of much use. It seems, moreover, that in the past the Chinese Government has discouraged giving this part of the forces any modern efficiency; for, being under control of the viceroys of the provinces, they might be, in the hands of these powerful vassals, a source of danger, instead of security, to the Imperial Government.

IRREGULAR FORCES.

These are troops raised in emergencies, and Mongolian and other irregular cavalry, nominally 200,000 strong, really about 20,000.

The total land army of China on a peace footing may be placed at about 300,000 men, and on a war footing at about 1,000,000, but the army as a whole has no unity or cohesion, there is no proper discipline, and drill is a mere physical exercise.

Many of the troops are armed with obsolete rifles, while others carry Winchesters, Remingtons, Martinis, Peabody-Henry, Sniders, Enfields, and Mausers (three models). Some Mannlichers have been imported, as well as a number of rejected Argentine and Spanish rifles, and even some Belgian flint-lock muskets. In consequence, there is naturally a great confusion of calibers and models.

There is no medical service nor organized transport or commissariat. As a rule requisitions for supplies are made by commanding officers upon their own provincial treasuries, subject to approval of the governor. But sometimes a province is unable to pay and then application is made to the board of revenue at Peking for relief.

The following remarks on the Chinese army are quoted from "The Break-Up of China," by Lord Charles Beresford; copyright, 1899, by Harper & Bros. They are valuable, as they are the result of personal observation, made within the last two years.

"No one knows the real strength of the Chinese armies, not even the Chinese Government itself.

"The military forces are divided; some are Manchu and some are Chinese. The Manchu forces are quite exclusive, no Chinese serving in their ranks; but the Chinese forces have some Manchus among them.

"The armies in the north and about Peking are nearly all commanded by Manchu princes. The Manchu armies are supposed to be 170,000 strong; but there is no Manchu army efficient either in drill, discipline, or organization throughout the Empire. The Manchu force is divided and quartered in most of the big towns throughout China, such as Nanking, Hangchǫu, Fuchau, Canton, and other places. All the Manchu armies are under the command of Manchu or Tartar generals. They have considerable privileges over and above those allowed to the Chinese. Every Manchu, whether in the army or not, is supposed to be given his rice and 3 taels a month by the Government. If not belonging to the army he is liable to be enrolled if required. Nobody knows the amount of imperial taxation that is devoted to pay the Manchus. It is variously computed as from one to three millions sterling. Like other sums in the hands of the Government, most of the money finds its way into the pockets of officials and is not expended as intended. The viceroys of the provinces have no command or authority over Manchu armies commanded by Manchu generals. The Manchu generals have considerable rights in the provinces where they are quartered over the Manchu subjects.

"All the armies in the provinces are maintained at the expense of the viceroys, with the exception of the Manchu garrisons. In the province of Chili General Yuan Shi Kai's army and the imperial armies at and around Peking are maintained by the board of revenue out of imperial taxes. These state-paid imperial armies are not supposed to be sent away from the vicinity of Peking. Every soldier throughout the Empire is supposed to receive 3 taels (9s.) a month. There are different systems in every province and in every army as to pay, food, and clothing. In some armies the men are paid to feed and clothe themselves. In other armies they are fed and clothed. This matter is left entirely in the hands of the general commanding. As the generals, like all authorities in China, have only a nominal salary, they make large profits or squeezes during their command. In order to report an instance, I questioned one of those in command when in Peking. He informed me that he commanded 10,000 men. I ascertained that all he actually commanded was 800. His method is common to China. He receives the money to pay and feed and clothe 10,000 men. If his army was to be

inspected he hires coolies at 200 cash (5½d.) a day to appear on parade. This is well known to the inspecting officer, but he receives a douceur to report that he has inspected the army and has found it in perfect order.

"The army is entirely a voluntary service, but when once a man has joined it, it is difficult, if not impossible, to leave it.

VISIT TO THE ARMY UNDER THE COMMAND OF GENERAL YUAN SHI KAI.

"On October 27, 1898, I went to Hsiao Chan to visit General Yuan Shi Kai, and to attend a review of his troops. I stayed two days and one night with the General, and during that time I not only saw all his troops paraded and maneuvered, but had ample opportunity to examine the equipment of all their arms. I also visited the stores, clothing, and provisions, made myself acquainted with the complement of each regiment, and went carefully through the monthly pay sheets of the whole army. I have every detail connected with the establishment and maintenance of this force.

"The strength of the army was 7,400 men—mostly Shantung men. These and the Hunanese are reported to make the best soldiers in China. General Yuan Shi Kai is a Chinaman, and his army is composed of Chinese. The infantry were armed with Mauser rifles—German made. He had ten 6-gun batteries of artillery of different calibers, throwing from 1-pound to 6-pound projectiles. The cavalry were armed with lances and a Mauser infantry rifle. On parade the whole force appeared an exceptionally smart body of men of extremely fine physique. They were evidently well fed, and their uniforms were very serviceable and well kept. Most other armies are clothed in an ordinary Chinese dress, with a large badge sewn on in front and rear. At my request the General put them through various parade movements, and then carried out maneuvers in the surrounding country, which proved to me that both officers and men were thoroughly conversant with their duties. Their discipline was excellent. With the exception of the artillery and the Maxims, all equipment was serviceable and efficient. I suggested to the General to practically test the equipment of the artillery and Maxims by galloping them over some rough ground. The result was to prove conclusively that the equipment was useless.

"I found the General most energetic and intelligent, and a well-informed and well-educated man. He is also a thoroughly patriotic Chinaman, and most loyal to the dynasty. He expressed genuine anxiety as to the future of his country, and was quite of opinion that unless she undertook some measures for her own preservation nothing could save her falling to pieces. He said, now that China was weak, all Europe, while professing the most sincere good will toward her, was seizing portions of the Empire under cover of naval and military demonstrations. I asked the General if he could make any suggestion that would be for the benefit of China, and at the same time one which European countries would assent to. The General answered that no proposal that the Chinese could make would receive the consent of the European powers; that a Chinese would naturally make a proposition for the maintenance of the Empire, while European countries showed by their actions that they wished to split up the Empire and divide it among themselves.

"The general was very sympathetic with regard to the question of reorganizing the Chinese Army as one Imperial Army, but thought that the command and the finance should be entirely in the hands of the Chinese, even if foreign officers were employed.

"If all the Chinese generals were like General Yuan Shi Kai the armies and their financial arrangements would not be in the condition they are now. General Yuan Shi Kai spends the money he receives for his army as intended. He personally superintends the payment of his men's wages and the distribution of rations and clothing.

"This army is the only army complete in all detail, according to European ideas, that I found in China; and for this reason I have entered thoroughly into its equipment and efficiency.

"When I was at Peking there were the following armies in the neighborhood:

GENERAL SUNG'S ARMY.

"General Sung, who is reputed to be a very able man, but is now 80 years old, has an army supposed to be 20,000 strong scattered all along the coast about Kinchow. As a matter of fact, I could not make out that there were more than 10,000 men—5,000 at Kinchow, 3,000 at Chung-ho-so, and 2,000 at Shanhaikwan.

"They are well armed with Mauser rifles and have Krupp artillery and Maxims. Some of these men have been well drilled by German officers.

GENERAL SOON CHING'S ARMY.

"At Lutai there were thirty camps under General Soon Ching. A camp is a square fort supposed to accommodate 500 men. They, however, rarely contain more than 250 men, owing to the system that I have described. Of the 15,000 men said to be there, there are only between 7,000 and 8,000. Colonel Warranoff, belonging to the hussars of the Russian Guard, and some Russian officers were there. They had superseded five German officers in March, 1898, who had been instructing the men. There is no drill and very little discipline among these men.

GENERAL TUNG FU CHAN'S ARMY.

"There were about 10,000 Kansu troops under General Tung Fu Chan—mostly Mohammedans—encamped a short distance from Peking. They were a most disorderly and undisciplined rabble, badly armed and undrilled, but good fighters. They had been ordered from the west, where they had been subduing a rebellion, to Peking. While I was there they assaulted and nearly killed two British engineers who were working on the line at Fungtai. They also broke the windows of the railway station and damaged some boilers and stores. Their presence was deemed so dangerous to the foreigners that the foreign ministers demanded their withdrawal.

GENERAL NIEH'S ARMY.

"Between Hsiao Chan and Tientsin General Nieh had some thirty camps, containing about 13,000 men. Some of these men had been well drilled by German officers. They are well armed with Mauser rifles, artillery of mixed caliber, and Maxims, but their discipline is very lax. There were five Russian instructors there. I asked for permission to visit these camps, but the Chinese officials threw every obstacle in my way.

THE PEKING FIELD FORCE.

"There is also a Peking field force, commanded from the Palace, of especially picked men—10,000 strong. They are quartered in the Hunting Park in Peking. They are well armed, but indifferently drilled.

CAVALRY CAMP AT KAIPING.

"There was a cavalry camp at Kaiping, the supposed strength of which was 1,500 men. Three Russian officers have superseded the German officer who was drilling these men. They are extremely short of horses.

GENERAL YI-KE-TONG'S ARMY.

"It is reported that there is a large army scattered about in Manchuria. Though fairly armed, they are undrilled and undisciplined. The number of this army is variously estimated at between 8,000 and 15,000 men. The name of the general commanding is Yi-Ke-Tong.

MONGOLIAN CAVALRY.

"Besides the armies that I have enumerated, there are in Mongolia about 100,000 Mongolian cavalry. They are excellent men, and ruled by their own princes under a system of feudal tenure. They are not paid. I was informed that they are devoted to the present dynasty.

"With the exception of Yuan Shi Kai's army, all the armies above referred to have little or no firing practice, and none of them have any organization whatever for transport. It seems incredible, but some of the soldiers are still practiced in shooting with bows and arrows at a target. When at Peking, I saw them practicing in an open space near the observatory. Hitting the target is a detail of minor importance; the real merit consists in the position or attitude of the bowman when discharging his shaft.

HIS EXCELLENCY THE VICEROY CHUNG CHI TUNG'S ARMY.

"I witnessed a review of the garrison of Wuchang. There were about 450 men and a battery of six guns. About 200 of these men were very well drilled, smart, and well dressed. They were well armed with the newest German pattern Mauser rifle. The others had not been drilled, and I was told had only lately been enlisted. The guns were drawn by men and not horses. These were 5.3 centimeter Krupp guns. The ammunition was carried by the gun's crew. The cavalry are quite inefficient in their present condition. The Viceroy has about 6,000 troops scattered over his provinces, but these are of the same character as the ordinary Chinese soldier—

undisciplined, but fairly armed. Besides this, there are supposed to be 10,000 Manchu troops about 300 miles away, between the Tung Ting Lake and Ichang. They are under the command of a general named Ching Heng. They are undisciplined and very badly armed.

HIS EXCELLENCY THE VICEROY LIU KWEN YI'S ARMY.

"His excellency the Viceroy Liu Kwen Yi is supposed to have 20,000 troops under his command. I saw about 8,000 of them. They were a fine body of men; many of them of splendid physique. The majority of them were Hunan men. The infantry were armed with three different kinds of rifles, this being observable even in companies. Of the 20,000 men, 10,000 would be required to garrison the forts on the river. The men were well clothed and apparently well fed, but not well drilled or disciplined.

"At Kiangzin there is a garrison of 3,000 men under General Li, which comprises two 6-gun batteries of artillery and two squadrons of cavalry. I saw these men on parade as well as maneuvering over a country. They were a very fine lot of men, well turned out and well drilled. They had been drilled by German officers, who had left.

HIS EXCELLENCY THE VICEROY HSU YING KWEI'S ARMY.

"His Excellency the Viceroy Hsu Ying Kwei is supposed to have an army of some 8,000 men, but these men can not be called soldiers at all. They are mostly coolies wearing the military badge before and behind. His excellency is commencing, however, to drill some troops, and has enlisted some fine men. I saw some 250 of them. They were in the early stages of learning their drill.

"There is a small Manchu garrison at Hangchou.

HIS EXCELLENCY THE VICEROY TAU CHUNG LIN'S ARMY.

"His Excellency the Viceroy of Canton is supposed to have 20,000 men under his command.

"Most of these are undrilled and undisciplined, and many of them unarmed. Those that I saw were the ordinary Chinese coolies.

"There are some men in the forts very well turned out, disciplined, and drilled.

"There is also a Manchu garrison at Canton of about 5,000 men. They live in their private houses, and are entirely

undrilled and undisciplined. All these troops were very badly armed, and had, apparently, no system of organization whatever. As an instance, I observed that the guard at the arsenal were armed with old muzzle-loading Tower muskets.

"The town of Wuchau, in this province, is garrisoned by a force of 300, totally unarmed.

HIS EXCELLENCY THE VICEROY KWEI'S ARMY.

"In Hunan and Szechuen the Viceroy Kwei is said to have an army of 20,000 men. They are totally undisciplined, and worthless as police, as has been evinced by their inability to put down Yu Man Tsu's rebellion, which has lasted ten years.

"At Cheng-tu there is a garrison of 5,000 Manchu troops, but they are like the others—undisciplined, undrilled, badly armed, and totally ineffective.

"During my visit to the different armies I counted in the ranks fourteen different descriptions of rifles.

1. } Different patterns of Mauser rifles.
2. }
3. }
4. Martini-Henry.
5. Winchester repeating.
6. Mannlicher.
7. Remington.
8. Peabody-Henry.
9. Snider.
10. Enfield.
11. Tower muskets (smooth-bore).
12. Berdan.
13. Muzzle-loading gingal.
14. Breech-loading gingal.

"A gingal is a weapon between 9 feet and 10 feet long. They are different lengths in different armies; some of them are breech-loading, others muzzle-loading. Their weights vary from 40 pounds to 60 pounds. Three men are required to handle them. When in action, the gingal is laid along the shoulders of two men, while the third man fires it.

"I saw also bows and arrows."

What impression the Chinese made as soldiers in 1885 is shown by the following quotation:

"In my travels through the interior I saw no troops, except a few about Peking, with improved firearms. They all had

matchlocks of the most primitive pattern, and of every size and length. It is true that I paid no special attention to military matters, but, having had ample experience in them, and having kept my eyes open wherever I went, I am perhaps justified in saying that I saw nothing formidable in a military sense anywhere in the empire, and have no hesitation in adding that it is entirely unprepared, in my judgment, either in military administration, organization, or equipment, to resist invasion from any first-class military power, with even an ordinary force. It has neither transport, commissariat, nor an adequate quantity of military munitions, and barring its inexhaustible population from which to draw fresh soldiers, it is simply a huge, boneless giant, which must fall a ready prey to the first great power that attacks it in earnest. Some of its great leaders and statesmen, like the Viceroy Li and the late Tso Tsung-Tang, years ago began to perceive this truth, and have done what they could to arouse the Throne to a realizing sense of its danger. Something has been done, in a small and unsystematic way, toward arming and drilling the troops in foreign style, and more in buying and equipping the Northern fleet, but, withal, scarcely a beginning has yet been made toward putting the country in a position to resist attack, and absolutely nothing toward conducting a successful foreign war." ["China," by James H. Wilson; copyright, 1887, 1894, by D. Appleton & Co.]

Colquhoun says of them: "If they ever were warlike, the Chinese have ceased for very many centuries to be so. The nation has survived the military age, and the only treatises extant on strategy date from before the Christian era. When forced to fight, which they will seldom do if there is a chance of running away, their tactics are more primitive than those of Zulus. There is no concentration, each regiment or battalion fights for itself exclusively. None will assist another, still less will any section of a force sacrifice itself for the general success.

"The personal courage of Chinese soldiers is usually estimated at a low value, but there are extenuating and explanatory circumstances. The manner in which a Chinese force is levied, the way it is treated, paid, and led should excuse much in the private soldier. When sent unarmed, as they virtually were in the late Japanese war, against highly disciplined and well-armed hosts, the only sensible thing to be

done was to retreat, and, as in that movement, at least, their commanders could generally be counted on to set a good example, they fell back in greater or less disorder before the invaders. But when they were paid, fed, and disciplined, and armed, as was the case in the Chinese navy, the men left little to be desired in the way of courage. Even then, however, they needed leading. Under a European officer there was no forlorn hope or desperate service for which they would not volunteer; and they rallied round the brave Admiral Ting, whom they were ready to follow to a heroic death, when he was shut in a trap in his own port, Wei-hai-wei. It has always been the personal qualities of a man, rather than a cause, which attracted the Chinese. Gordon could have led them anywhere. So, no doubt, could Admiral Ting.

"It is probably a mere question of organization with the Chinese, as with the Egyptians. The Chinese have shown themselves apt learners, and they are capable of drill and discipline. Confidence will do the rest, confidence in their leaders and—*in their pay.*" ["China in Transformation," by A. R. Colquhoun; copyright, 1898, by Harper & Bros.]

The following Russian estimate of the strength of the Chinese Army is dated St. Petersburg, June 30:

"The grand staff of the Russian Army in St. Petersburg estimates the total number of Chinese troops, on the strength of information from their military agents in China, at 1,752,000 men. This grand total is made up of 205,000 field troops, composed of 50,000 Manchurian regular and 20,000 irregular troops, 125,000 active and 10,000 disciplined troops; 689,000 reserves, composed of 13,000 field troops of Peking, 75,000 called by the name of the Eight Flag troops in Peking, 95,000 of the Eight Flag troops in the provinces, and 506,000 of the Lu-in or Green Flags; and 858,000 troops of various other denominations, including guards, reserves, gendarmes, Manchurian militia (103,000), river and canal guards, transport convoys, and troops formed of men of different alien races. It is admitted that these figures can not be accepted as absolutely accurate, owing to the difficulty of obtaining correct information from Chinese sources. On paper there are 60,000 cavalry and 850,000 infantry and artillery. Many of the so-called cavalry have no horses, and only a few detachments are armed with carbines and rifles. The great majority still carry lances and bows and arrows. A very

small portion of the artillery has received any special training. The batteries stationed in Chili and Turkestan are considered to be the best. Most of the Green Flag troops and the reserves are totally untrained. The best-drilled troops, who have been under foreign instructors, are the detachments of General Ni-shi-chen, 15,000 men, and of General Yuan Shih-kai, 17,000 men, the latter being employed for the defense of the coast of the Gulf of Pechili, Betana, and Taku. These detachments are chiefly armed with Mauser rifles, of which about 900,000, it is stated, have been imported into China by German and English firms during the last three years."

Newspaper accounts speak of armies of hundreds of thousands of men being collected by the Chinese in various parts of the Empire. The best authorities can not credit such reports, and do not see how it is possible to put in the field more than 60,000 to 70,000 troops organized, equipped, and armed according to modern standards.

FORTS AND ARSENALS.

[From "The Break-Up of China," by Lord Charles Beresford; copyright, 1899, by Harper & Bros.]

FORTS.

"By permission of the viceroys, I visited over forty of the forts and batteries which form the coast and river defense of the Chinese Empire. At all these forts I asked that the guns' crews might man the guns, in order that their state of efficiency should be tested. The guns were laid and trained, and some of them were fired. Some of the forts are immensely powerful, and a few guns' crews knew how to handle the guns. Physically, the garrison artillery throughout the empire are a splendid body of men.

"The forts are armed with every conceivable sort of gun; most of the batteries with muzzle-loading guns; the modern forts with heavy modern breech-loading artillery of the best description. Many of these guns are made in the Chinese arsenals from British and German patterns.*

*The London "Times" of July 9, 1900, says: "It is learned on good authority that six 12-inch, four 9-inch, and two 8-inch guns, and four 4.7-inch quick-firing guns were recently placed in the Wu-sung forts. At Kiang-ning, the key of the Yangtse, six 12-inch and three 9-inch modern guns, and two 8-inch and seven 6-inch Armstrong quick-firers have been set up."

"The viceroys asked me to write and say what I thought of their forts. This I did.

"In one of these forts there was a heavy battery of 60-ton muzzle-loading guns, which were loaded by depressing the muzzle into the magazine. I ventured to point out to the general the danger of this proceeding, and the likelihood, through careless sponging, of the magazine being blown up.

"The general congratulated me on my acumen, and immediately showed me where a magazine had exploded the year before from the same cause and had been rebuilt for a probable repetition of this accident, which cost no less than forty-two lives.

"I spent much time in viewing these forts in different parts of the empire and obtaining all details concerning them.*

ARSENALS.

"There are seven arsenals in the Empire of China. They are at Tientsin, Shanghai, Nanking, Hanyang (Hankow), Fuchau, Canton, and Chingtu.

"I visited all these arsenals except the one at Chingtu, in Szechuen.

"TIENTSIN.—This arsenal is under the provincial government of the viceroy of Chili. Considerable expense must have been incurred in fitting it up. The shops and sheds are excellent. There is an hydraulic press of 1,200 tons, four cupolas which could cast up to 20 tons, and a good supply of furnaces, Siemens's process. There is also a 12-ton traveler and a driving engine of 40 horsepower, which were built at the arsenal. While I was there another driving engine of 130 horsepower was in course of construction. The tools are very good, modern, and of British or German manufacture, and include everything necessary for the repair and maintenance of a squadron and also for the construction of small guns. I saw them making four 160-pound pressure circular boilers. There is enough spare room in this arsenal to put up plant to supply the whole Chinese Army. There is deep water right up to the arsenal.

"Close to the arsenal is a Government powder factory. It has good machinery and is well and carefully organized by a German.†

*Details are not given in book.

†ARSENAL OF TIENTSIN.—The arsenal of Tientsin consists really of two arsenals and a magazine.

The western arsenal is situated 2 miles west of the foreign settlements

"SHANGHAI.—This arsenal is under the provincial government of the viceroy of Nanking. It is full of modern tools and machinery, stores and material of every description. Everything is extremely well found and the arsenal is in perfect order. If properly organized under entirely European control, and with some extra expenditure, it alone could supply war material for the whole of the naval and military forces of the Chinese Empire. There is water transport to the arsenal, a small dock, and a steam purchase 60-ton shears. The whole arsenal is tram-lined. The tools and machinery are of British manufacture, supplied by a German firm. I found that this practice was common in China, and have seen the names of foreign agents stamped on British machinery.

"There were in hand:

Two 9.2-inch guns to be mounted on hydro-pneumatic disappearing carriages.
Two 9.2-inch guns for garrison batteries.
Eight 6-inch guns, q.f.
Twelve 4.7-inch guns, q.f.
Twenty 12-pounders, q.f.
Twenty 6-pounders, q.f.
Fifty 3-pounders, q.f.

"These guns were of the latest Armstrong pattern.

"All the steel for these guns is made in the arsenal, chiefly from native ore. The gun factory does not accept this steel until it has passed through the same tests as the British Government use, and each gun is proved by the tests the British use before it leaves the arsenal.

"I saw machinery for making guns of every caliber up to the 12-inch 50-ton gun.

"Several of these last-named guns have been manufactured in the arsenal, and I saw some of them mounted in the forts I visited.

---

and one mile and a quarter from the old Tientsin City. It is on the site of the temple where the Treaty of 1858 was signed.

The eastern arsenal is situated 3½ miles eastnortheast from Gordon Hall, British concession, on made ground, the surrounding country being very low.

The district magazines are located at Wang Tsing, on the right bank of the Pei-Ho River, 15 miles above Tientsin. There are ten magazines, 60 by 60, built of stone below the surface, the upper part of brick. Here are stored the black and brown prismatic powders made at the arsenals.

Torpedoes are stored in the Taku forts.

"The rifle factory of this arsenal is turning out a large number of first-rate magazine rifles, latest Mauser pattern.

"The cartridge factory could turn out millions of cartridges a year, and there is excellent machinery for making all the cylinders for cartridges for the heavy guns. There is also a plant for casting and turning projectiles of all calibers. Many hundreds of thousands could be made in the course of the year.

"The powder factory is making three kinds of powder—smokeless, black, and brown.

"All the coal used comes from Tongshan, near Tientsin.

"There is a machine designed and made here by Mr. Bunt, of a most serviceable and economic character. By means of a system of clutches the same engine can drive a hydraulic press 2,000 tons pressure, or a rolling mill which can roll a 10-inch plate.

"The arsenal can manufacture steel guns of all calibers, both for naval and military purposes, rifles, powder, and all classes of ammunition. Amid all this splendid work I saw the steel barrels for the useless gingals being made, incredible though it seems. Great economy could be effected in the administration. All leather equipment for the armies of the Chinese Empire is bought in Europe. If machinery were put in the Shanghai arsenal, leather equipment could be made there easily.

"NANKING.—This arsenal is under the provincial government of the viceroy of the Lian-kiang provinces. It is well found in machinery and tools, principally of British manufacture, but some German and some Swiss. There is no European adviser or foreman. The Chinese manager and officials did not appear to know what they were making, or why they were making it. The machinery, which is modern and of first-class make, is entirely devoted to making obsolete and useless war material.

"HANYANG (Hankow).—This arsenal is under the provincial government of the viceroy of Hupei and Hunan. It has a first-rate modern plant, all by German makers. I noticed a large number of modern milling machines. There is a very good rifle factory, which turned out about 8,000 rifles a year, modern Mauser pattern. There is also a large gun factory, which at present turns out about 200 of the small 1-pounder shell guns I have referred to on previous occasions. The

work turned out in this arsenal was another instance of the terrible waste of money in manufacturing war material of no possible value. I saw heavy and expensive machinery lying about all over the yard, intended for the manufacture of 12-inch 50-ton guns of Krupp pattern. None of this machinery had been set up. I also saw a large quantity of machinery for a powder mill, but this had not been set up either, and the powder required for making cartridges at this arsenal came either from Germany or the Shanghai arsenal. There was a modern rifle-cartridge factory, with an excellent machine, which could turn out 10,000 cartridges a day. There was a large plant for making coke, but all the coke required for the arsenal was brought from the Tongshan colliery in the north. Besides the machinery lying about on the ground, not set up, there were plenty of machines idle.

"There seemed to be no organization, and no responsible foreman. There were some Germans employed in this arsenal, and the condition of the machines and work turned out showed foreign assistance. As at other arsenals, if these foreigners were allowed control and management, the waste of money would be stopped, and the machines would be turning out war material of some utility.

"FUCHAU.—This arsenal and dockyard are under the sole responsibility of the Manchu general, Tseng Chee. They have some small cupolas of about two tons, three tons, and five tons capability. There is a fair lot of machinery in this arsenal for making engines; some of it is British, but most of it is French. There is a good boiler shop with modern fittings, but all the boilers required were bought in France. The casting shop was employed in casting projectiles for heavy Armstrong guns, M. L. R.

"CANTON.—This arsenal is under the provincial government of the viceroy of Kwangtung and Kwangsi. An enormous mass of obsolete war material and old tools was lying about in this yard, and thousands of cast-iron spherical shot of all sizes. There were some very good modern tools of British and German make, but they were, as in other yards, employed in making 1-pounder guns and gingals.

"There was a rifle factory here turning out good rifles, Mauser pattern, but the arsenal was turning out two gingals for every rifle made. The gingals manufactured here were the longest I have seen, being 9 feet 8 inches in length. They made their own tool steel at this arsenal.

"There are two small cupolas for casting. Though the machinery in this arsenal is old, it is in very good order. In the molding shop they were making molds for ornamental railings.

"On the opposite side of the river there is a powder factory, which had commenced work three days before I arrived. The factory is complete and built under the most modern conditions. The boilers, engines, and shafting were made in the arsenal, and looked first rate. The factory was employed in making German smokeless powder. They hoped to turn out 90,000 pounds in the year.

"There is a cartridge factory about four miles from this powder factory. The machinery is very good and all German. It was employed in making cartridges, Mauser rifles, and gingals.

"CHINGTU.—I was unable to visit the only other arsenal that of Chingtu, as it is far away to the west, in the Province of Szechuen; but I was informed that this arsenal is under the administration of the Manchu general, and that the machinery is of German and British make, and is employed turning out rifles and cartridges, Mauser pattern."

CHINA'S FORTIFICATIONS (AS THEY WERE IN 1895).

[Translated from the Russian.]

"They are confined to the protection of the seacoast and the immediate vicinity.

"These coast defenses, stretching from north to south, comprise the following groups: (1) the northern, which covers the line of march upon the capital; (2) fortifications along the line of the Yangtse River; (3) fortifications of the southern and middle coast; (4) Canton group, and (5) fortifications covering the road to Formosa.

I. THE NORTHERN GROUP.

"The northern group forms two zones of defense: (*a*) fortifications on the coast of the Gulf of Pechili, extending from Liautong to Pechili, and (*b*) interior fortifications, with those on the Pei-Ho River, covering the line from the sea to the capital.

"The first zone comprises:

"1. *In-hou* (In-tsi).—On the bay at the mouth of the Liau-ho River. One fort with a closed bastion. Ten large-caliber European guns and thirty old cannon of different models and calibers. Garrison, 6,000.

"2. *Sohan-hai-kwan.*—Important strategical point, being on the road of the only practical communication between China and Manchuria. Sohan-hai-kwan, translated into English, means: "The door between the sea and the mountains," and it is formed by the southern end of the Ing-Shang chain of mountains on one side and the sea, representing a pretty narrow defile, the defense of which does not present any great difficulties, and the fortifications there fully answer the purpose.

"3. *Pei-Tang.*—More southerly, at the mouth of the Sangho (Cha-Ohe) River. In 1860 the allied English and French landed here. The fortifications have not been much improved since, and their armament has been increased only by a few guns of European model.

"4. *Taku.*—At the mouth of the Pei-Ho River. Three forts of the Chinese type, armed with numerous cannon of different systems and calibers, but placed in such a way that they can be easily silenced by the enemy.

"All the fortifications of the first zone are built from a soft coast mud, which dries in due time, and is called by Europeans, in derision, 'Harveyized' mud. It sometimes crumbles to pieces by the discharge of their own guns.

"The second zone comprises interior fortifications along the Pei-Ho River, reaching from the seacoast to Tientsin, and consisting of old forts and fortified garrison places. They extend from east to west, and their names are as follows: 'Lutai,' 'Sing-Cheu,' 'Siao-Chang,' 'Ma-Cheu,' 'Tsiu-Liang-Cheu,' and 'Tien-tsin.' Only the 'Sing-Cheu' deserves any attention, as it is armed with large-caliber guns of modern construction.

II. YANGTSE RIVER GROUP.

"1. *Wusung.*—Northward of the rich city of Shanghai, covering the access to that city and to the mouth of the Yangtse River. One large fort and one small battery. Twenty large caliber modern and 20 small caliber old guns.

"2. *Kiang-yin fortifications.*—At the narrow point of the river. Seven batteries on the right bank of the river, with 35 old guns, besides some pontoons armed with a few cannon, and three batteries on the left bank of the river, with 9 old guns.

"3. Just above Rosé Island there is also an attempt to defend both banks of the river, there being seven batteries on the right

bank and two independent forts on the left, with 50 old guns.

"4. Below Chin-Kiang, a point of the river near Silver Island is fortified. On the left bank one battery with 9 guns, and on the right three batteries with 15 guns; and on the island itself there are two batteries with 15 guns. All of them are of old construction.

"5. At Nanking the whole defence line is disposed on the right bank and consists of five batteries with 27 guns, nearly all of which are old.

"6. At Pillars there is a battery on the right bank with 5 guns and on the left a group of four batteries with 6 guns altogether. All guns are old.

"7. At Wu-Hu there are two fortified garrison places and an old tower, each with 1 modern gun.

"8. Two kilometers from Anking-chou there are two fortified garrison places, each with 1 gun of modern construction.

"9. The entrance to Poyang Lake is defended by two batteries, each with 5 old large-caliber guns.

"10. A little above Kin-kiang there are three batteries, with 13 guns altogether.

"11. At Wuchang there is on the right bank an old stone battery for 10 small-caliber guns and three newly constructed batteries with 22 guns; on the left bank there is one battery with 8 small-caliber guns.

"Whether there are any more fortifications farther up the river or not is not known, but it is probable that there are none as the river there is too shallow.*

---

*The following information about the Wusung forts is later—November, 1897:

Three earth forts have been erected on the point formed at the junction of the Yangtse and Wusung rivers. * * *

In these forts there are mounted two 12-inch muzzle-loading Armstrong rifled guns and two 12-inch breech-loading Armstrong guns; also three 8-inch muzzle-loading Armstrong rifles and one 8-inch breech-loading Krupp. The embankments are entirely of earth, but the gun platforms are strengthened by masonry and concrete. They are at an elevation of about 30 feet above the water and are fired over the top of the embankment, so that the circle of fire is the whole water front.

The magazines are underground and well built up with masonry, with such earth protection as to be safe from direct fire from the water.

Ammunition is easily supplied to the guns and the facilities for loading and training the guns are good. The muzzle-loading 12-inch guns can be loaded and fired at intervals of three minutes, the recoil being enough to clear the muzzle of the embankment and out of sight of the enemy on the water. The muzzle is then depressed and the gun trained until opposite a loading chute leading to the magazine passage below.

III. THE GROUP OF THE MIDDLE AND SOUTHERN COASTS.

"1. *Chin-hai.*—Covers access to the city of Hangchou, from which there is a good road to Nanking. The fortified points of that place are at the mouth of the Jun River—three on the left bank with 18 guns, and six on the right bank with 23 guns. The guns are mostly old.

"2. At Foochow, at the mouth of the Min River, the fortifications consist of the following independent groups:

"(*a*) *Kimpaier.*—Five modern fortifications with 26 guns.

"(*b*) *Mihianger.*—Seven modern fortifications with 48 guns.

"(*c*) *Roadstead of Pagoda.*—Three modern fortifications with 5 guns.

"Some of them are of a strong profile and are armed with large-caliber modern guns.

"3. *Amoy.*—Of the numerous fortifications built there, only the newly constructed forts on the Pechio-Tao Island and on the Tai-Ping Point are worth mentioning. Both of them are provided with some fortress guns.

"4. *Sha-tou* (Swatow).—Built to close the mouth of the Han-kiang River. Three fortifications with 21, mostly old, guns.

IV. CANTON GROUP.

"The Canton group consists of three independent zones of fortifications, built with the object of covering navigation on the Si-kiang River, from its wide mouth up to Wampo Island. In case of war the defense of the river will be strengthened by mines, with the possible exception of the wide place at Boca-Tigris.

"The zones of these fortification groups are the following:

"1. The fortifications at the mouth of the river, which are divided into two sections:

"(*a*) *Lower section*, comprising batteries of the Chu-Eng-Pe Island and of points Tikosht, Skot, and Kwang, with about 80 guns, only a small part of which are modern.

"(*b*) *Upper section*, comprising fortifications on the Wantong and Annunhoj islands, which take part in the defense only when the enemy's ships reach the line of the Chu-Eng-Pe Island; 26 guns of different calibers and systems.

"2. To the second zone belong the fortifications situated 42 kilometers up the river, at Point 'Hier,' on 'Dan' Island, and on the left bank of the Cambridge River. Their armament consists of 27 large-caliber guns, some of which are breech-loaders. There are, besides, three old-fashioned forts

on the low islands of the river, with old guns, but they are insignificant. There are, besides, locks and chains closing the Cambridge and Colison affluents.

"3. *Zone of the Nepir Island.*—It comprises three forts on the banks of Cambridge and one on the Nepir Island. Only the latter is of importance, as it is provided with four 15-cm. Armstrong guns. River obstructions are also provided at that place.

Here also belong:

"4. *Macao River defense sphere*, comprising five fortifications with 56 different old guns, only 19 of which can fire upon incoming ships.

V. GROUP ON THE ROAD TO FORMOSA.

"Fortified points, 'Kelung' and 'Thaipe,' on the islands of the same names, and Pescadore Islands."

The Chinese have undoubtedly made large purchases of improved arms and ammunition in recent years. A dispatch to the New York Herald of June 26, 1900, states that the troops around Peking had a large number of Creusot, Krupp, and magazine guns, and that their supply of ammunition is practically inexhaustible. It was mainly supplied by a German firm at Carlowitz.

On the 9th of July, 1900, Mr. George Wyndham, parliamentary secretary of state for war, said, in the House of Commons, that since 1895 English firms had sold the Chinese Government 71 guns of position, 123 field guns, and 297 machine guns, with ammunition for each class. He also said that a German firm in 1899 sold China 460,000 Mauser rifles.

Whatever modern drill the Chinese troops have received in recent years has been given mainly by German and Russian officers. These officers may not have been in the service of their own government at the time, but had the necessary training to make them efficient instructors. So it will be seen that everything that has been done to make the Chinese Army efficient, both in arms and in training, has been done by subjects of the nations with whom they are now at war.

THE CHINESE NAVY.

The Chinese Navy, during the war with Japan, disappointed those who regarded it as an effective fighting force. At the opening of hostilities, on July 25, 1894, when the *Kowshing* transport was sunk, an engagement took place between the Japanese cruiser *Yoshino* and the *Tsi-Yuen*, with other

vessels, and the small Chinese cruiser *Kuang-Yi* was driven ashore and destroyed. In the battle of the Yalu (September 17), or in immediate consequence of that action, the barbette armor-clad *King-Yuen*, 2,850 tons, and the cruisers *Chih Yuen*, 2,300 tons; *Chao Yung*, 1,350 tons; *Yang Wei*, 1,350 tons, and *Kuang Ki*, 1,030 tons, were sunk or burned. Subsequently, at Wei-Hai-Wei, the barbette ship *Ting Yuen* and the cruiser *Ching Yuen* were sunk, and the armor-clads *Chen Yuen* and *Ping Yuen* were captured.

Some swift vessels have since been added to the fleet. Among these are the cruisers *Hai Chi* and *Hai Tien* (4,300 tons) launched in the Tyne in 1897 and 1898. They have 6-inch armored shields and a 5-inch deck, and they carry two 8-inch, ten 4.7-inch, and twelve 3-pounder Armstrong quick-firers. The speed is 24 knots. The small cruisers *Hai Yung*, *Hai Shen*, and *Hai Shew*, 2,950 tons, have been launched at Stettin (1897); and three destroyers, the *Hai Lung* (33.6 knots), *Hai Niu Hai Ching*, and *Hai Hoha*, at Elberg.

The navy is divided into two squadrons; the Peyang, or northern (three cruisers of 3,400 tons, one torpedo cruiser, and one torpedo gunboat), and the Nanyang, or southern (six cruisers of 3,500 tons, one cruiser of 1,800 tons, four old gunboats, and four modern torpedo boats). Other vessels have been built in Europe for China, but it is not known whether they have yet joined the Chinese squadron.

In view of the overwhelming superiority of foreign fleets in Chinese waters, the Chinese Navy will not be a factor in the operations now in progress.

FOREIGN FORCES IN THE FAR EAST.

[From the London Times of July 9, 1900.]

In view of the great additions which are being made to the naval and military forces of the Powers in the far East, and imminent developments of the Chinese crisis, the following statement of facts may be useful. No such representative assembly of foreign warships in alliance has ever taken place, and the officers and men of the ships now on the station or expected to arrive may be estimated at nearly 40,000. The naval and military forces available for service ashore appear, however, to be unequal to the task of coping with the vast force of Chinese regular and irregular troops now assembled at Peking and between that place and Tientsin, and Japan alone is considered to be in a position to take adequate and

immediate steps. It must be premised, in regard to the military forces available and the naval contingents actually landed, that some doubt exists, but it is believed that in the subjoined statistics substantial accuracy has been attained. The total allied force on shore was stated by Rear Admiral Bruce on June 30 to be 13,500, with 520 officers, and since that time some additions have been made; but, on the other hand, a portion at least of the landing parties originally drawn from the international fleet have returned to their ships. Reenforcements, are, however, arriving almost every day, and the total force now at the disposal of the Powers in China is estimated at 20,000 men.

In the subjoined lists of ships those which are named in SMALL CAPITALS are in the Gulf of Pechili or on the Chinese coast, those in small type are on passage to the China Station, and those in *italic* are known to be under orders to proceed thither. Abbreviations: b., battleship; a. c., armored cruiser, c. 1, c. 2, c. 3, protected cruisers of first, second, or third class; g. v., gun vessel; t. c., torpedo cruiser; sl., sloop; d. v., dispatch vessel; c. d., coast defense, or other analogous ship; a. g. v., armored gun vessel; q. f., quick firer.

GREAT BRITAIN.

Class.	Name.	Displacement.	Principal armament.	Complement.
b.	CENTURION	10,500	Four 10-inch; ten 4.7-inch, q. f	622
b.	BARFLEUR	10,500	Four 10-inch; ten 4.7-inch, q. f	622
a. c.	AURORA	5,600	Two 9.2-inch; ten 6-inch, q. f	484
a. c.	ORLANDO	5,600	Two 9.2-inch; ten 6-inch, q. f	484
a. c.	UNDAUNTED	5,600	Two 9.2-inch; ten 6-inch, q. f	484
c. 1.	TERRIBLE	14,200	Two 9.2-inch; twelve 6-inch, q. f	849
c. 1.	ENDYMION	7,350	Two 9.2-inch; ten 6-inch, q. f	544
c. 2.	HERMIONE	4,360	Two 6-inch, q. f.; eight 4.7-inch, q. f	312
c. 2.	BONAVENTURE	4,360	Two 6-inch, q. f.; eight 4.7-inch, q. f	312
c. 2.	PIQUE	3,600	Two 6-inch, q. f.; six 4.7-inch, q. f	273

Also the dispatch vessel ALACRITY, the sloops ALGERINE, PHŒNIX, DAPHNE, and ROSARIO, the gun vessels LINNET and REDPOLE, and the destroyers HART, WHITING, FAME, and HANDY; total complements, 1,034.

Class.	Name.	Displacement.	Principal armament.	Complement.
b.	Goliath	12,950	Four 12-inch; twelve 6-inch, q. f	700
b.	Victorious	14,900	Four 12-inch; twelve 6-inch, q. f	757
c. 1.	Argonaut	11,000	Sixteen 6-inch, q. f.; fourteen 12-pounder, q. f.	677
c. 2.	Highflyer	5,600	Eleven 6-inch, q. f	477
c. 2.	Dido	5,600	Five 6-inch, q. f.; six 4.7-inch, q. f	470
c. 2.	Isis	5,600	Five 6-inch, q. f.; six 4.7-inch, q. f	470
c. 3.	Wallaroo	2,575	Eight 4.7-inch, q. f	218
c. 3.	Mohawk	1,770	Six 6-inch, q. f	172

And the gunboats Bramble and Britomart, 700 tons, 85 men. The Jelunga has taken out 800 naval ratings.

The British forces landed up to June 30 numbered 184 officers and 1,700 men. Those from Hongkong consisted of 384 officers and men of the second royal Welsh fusiliers and royal engineers, four companies of the Hongkong regiment (being one-half of that force, which is recruited from Mohammedans of the Punjab), with one mountain and one field battery of the Asiatic artillery, and Major Bower arrived with 200 men of the Chinese regiment from Wei-Hai-Wei. The embarkation of the Indian contingent under command of Sir A. Gaselee, with Generals Sir N. Stewart and O'M. Creagh as brigadiers, will have been completed on July 13. It consists of 223 British officers, 308 British warrant and noncommissioned officers, and 9,540 native officers and men, with 7,170 followers, 1,280 horses and ponies, 2,060 mules, 6 guns, and 11 Maxims.

RUSSIA.

Class.	Name.	Displacement.	Principal armament.	Complement
b.	Navarin	10,206	Four 12-inch; eight 6-inch	630
b.	Petropavlovsk	10,960	Four 12-inch; twelve 6-inch, q. f	650
b.	Sissoi Veliky	8,880	Four 12-inch; six 6-inch, q. f	570
a. c.	Rossia	12,130	Four 8-inch; sixteen 6-inch, q. f	725
a. c.	Rurik	10,923	Four 8-inch; sixteen 6-inch, q. f	700
a. c.	Dmitri Donskoy	5,882	Six 6-inch, q. f.; ten 4.7-inch, q. f	510
c. 2.	Admiral Korniloff	5,000	Two 8-inch; fourteen 6-inch	425
a. g. b.	Gremiastchy	1,500	One 9-inch; one 6-inch	142
a g. b.	Otvajny	1,500	One 9-inch; one 6-inch	142
a. c.	Admiral Nachimoff	8,524	Eight 8-inch; ten 6-inch	567

Some other Russian vessels are on the station, and others are proceeding to the Gulf of Pechili from Vladivostok. At Port Arthur or Taku are the torpedo gunboats Gaidamak and Vsadnik, the gun vessels Mandjour (1,416 tons), Korieets (1,213 tons), Gilyak (963 tons), Bobr and Sivoutch (950 tons), their united complements being about 800. The Orel and Tamboff, of the volunteer fleet, have also been placed under the orders of Admiral Alexieff. Rear Admiral Hildebrandt is second in command.

The Russian troops landed at Taku up to the middle of June numbered 3,000, and General Stössel advanced with five battalions of rifles, 8 guns, and 4 mortars to Tientsin. The strength was nearly doubled by the end of the month, and other troops, it is believed, have since been landed. They have been drawn mainly from the garrison of Port Arthur.

The Cossack guard on the Manchurian Railway consists of about 6,000 men, and the troops in eastern Siberia are being mobilized. "The Times" correspondent at St. Petersburg recently furnished particulars, from which it appears that in the territories of the Amur, the Ussuri, and the maritime province there were 35,000 or 40,000 men of all arms belonging to the newly-formed Siberian army corps, some of whom have already gone to the seat of disturbance, as well as five battalions of East Siberian rifles, the second East Siberian artillery brigade at Blagovestchensk, the second East Siberian mobile artillery park at Nertchinsk, a railway battalion at Vladivostok, and four regiments of Trans-Baikal Cossacks. It may be estimated that the Russian troops in eastern Siberia, Manchuria, at Port Arthur, and now in China number 70,000 or 80,000 men, exclusive of reserves. But it is very doubtful how many of these can be spared, or are equipped for active operations against Peking, especially in view of the threatening state of affairs in Manchuria.

GERMANY.*

Class.	Name.	Displacement.	Principal armament.	Complement.
c. l.	KAISERIN AUGUSTA	6,331	Twelve 5.9-inch; eight 3.4-inch, q. f	427
c. 2.	GEFION	4,207	Ten 4.1-inch, q. f	312
c. 2.	HERTHA	5,650	Two 8.2 inch; eight 6-inch, q. f	440
c. 2.	HANSA	5,900	Two 8.2-inch; eight 6-inch, q. f	440
c. 2.	IRENE	4,400	Four 5.9-inch; eight 4.1-inch, q. f	358
g. v.	ILTIS	895	Eight 3.4-inch, q. f	121
g. v.	JAGUAR	895	Eight 3.4-inch, q. f	121
g. v.	Tiger	895	Eight 3.4-inch, q. f	121
a. c.	Bismarck	10,650	Four 9.4-inch; twelve 5.9-inch, q. f	565
b.	*Kaiser*	7,531	Eight 10.2-inch; seven 5.9-inch	668
b.	*Deutschland*	7,319	Eight 10.2-inch; seven 5.9-inch	668
b.	*Friedrich Wilhelm*	10,100	Six 11-inch; six 4.1-inch, q. f	552
b.	*Brandenburg*	10,100	Six 11-inch; six 4.7-inch, q. f	552
b.	*Weissenburg*	10,100	Six 11-inch; six 4.7-inch, q. f	552
b.	*Wörth*	10,100	Six 11-inch; six 4-7-inch, q. f	552
d. v.	*Hela*	2,000	Four 3.4-inch, q. f	169
c. 3.	*Gazelle*	2,650	Ten 4.1-inch, q. f	210

The forces landed from the German ships at Taku are about 1,350, and some troops have been withdrawn from the garrison of Kiaochau, which is composed of four companies of marines, a field battery, a Chinese company, a pioneer section, and a

*The following information in regard to German forces in China is taken from the "Vossische Zeitung," July 11, 1900; "Wilhelmshavener Tageblatt," July 11, 1900; "Nord-Ostsee Zeitung," July 11, 1900; "Danziger Zeitung," July 10, 1900.

The land forces which are going to be sent from Germany to eastern Asia will consist of a corps amounting to more than 10,000 men. The principal branch will be infantry. Two battalions, each about 800 men

detachment of naval artillery. The marine battalions which have left in the *Frankfurt* and *Wittekind*, under command of General von Höpfner, number about 2,300 men, and the gunners for a six-gun battery, with teams, will be furnished at

---

strong, will be taken from the infantry regiments, while the third battalion will remain in Germany as a reserve battalion.

The cavalry troops will consist of about 1,000 horses, the latter to be gotten in China on account of the enormous expenditure involved in the transportation of horses and the great losses which generally take place among them. The horses are to be purchased from the Dutch colonies. The brigade is to be transported on the vessels of the North German Lloyd.

The artillery is to consist of two field batteries and one mortar battery. There being already three field batteries in Kiaochau, with the two battalions of marines the troops will have at their disposition 36 field pieces. Large units of pioneers will also be sent on account of the difficulties of the terrain, the bad condition of the roads, and the habit of the Chinese of throwing up intrenchments. Detachments of railway troops will also be detailed to China to reconstruct the railway lines destroyed by the Chinese. The organization of sanitary troops will take place on the spot.

In addition to the above-named troops there are already 3,300 men on the spot, composing the three battalions of marines; the total strength will thus amount to somewhat more than 15,000 men.

The Emperor has ordered, moreover, that further reenforcements, consisting of an infantry brigade of eight battalions on war footing, a cavalry regiment of three squadrons, and a field artillery regiment of four batteries, including a field howitzer battery, should also depart for China. These troops are to be composed of volunteers from the active army, and are to sail at the end of the month for eastern Asia. The strength of one battalion is 800 men.

Berlin advices of July 26, 1900, state that "in addition to the regular forces (naval and marine infantry) which have already started, or which will soon leave, for China, the German Government has organized a so-called "Ostasiatische" expeditionary corps, which will be commanded by a lieutenant general (von Lessel), and which consists of two brigades of infantry, of two regiments of eight companies each, commanded by major generals, of a cavalry regiment of three troops, of a field artillery regiment of four batteries, and of various howitzer batteries, ammunition and train detachments, and the necessary staff.

"The advance detachment of this corps left Germany several days ago, and sailed from Genoa on the 24th instant, in the *Preussen*, North German Lloyd. A large part of the corps is to sail from Bremerhaven in a day or two, probably on the 28th, and the German Emperor has returned from his Norwegian trip in order to take leave of them. The Empress has also gone to Wilhelmshaven, and Prince Hohenlohe, the Chancellor, and Count Bulow, have to-day gone to Bremerhaven to meet the Emperor. The rest of the corps will, it is thought, sail in about a week. Count Gutzen, who served as German military attaché during our war with Spain, has been detailed for duty in connection with the fitting out of this corps."

Kiaochou, while a battery of 3.4-inch guns will be provided by the German Army. In addition to these there are 1,200 men who are arriving in China as relief crews for the ships. The first division of the first squadron, consisting of the four battle ships of the *Brandenburg* class and the *Hela*, is under command of Vice Admiral Hoffman. A further military force, probably of the strength of a brigade, is intended to be dispatched from Germany.

FRANCE.*

Class.	Name.	Displacement.	Principal armament.	Complement.
c. 1.	D'Entrecasteaux	8,114	Two 9.4-inch; twelve 5.5-inch, q. f	521
c. 2.	Descartes	3,990	Four 6.4-inch, q. f.; ten 3.7-inch, q. f	386
c. 2.	Jean Bart	4,109	Four 6.4-inch, q. f.; six 5.5-inch, q. f	332
c. 2.	Pascal	4,015	Four 6.4-inch, q. f.; ten 3.9-inch, q. f	378
g. v.	Surprise	627	Two 3.9-inch, q. f	99
g. v.	Lion	503	Two 5.5-inch, q. f	84
c. 1.	Guichen	8,277	Two 6.4-inch, q. f.; six 5.5-inch, q. f	625
a. c.	Charner	4,792	Two 7.6-inch; six 5.5-inch, q. f	375
c. 2.	Friant	3,739	Six 6.4-inch, q. f.; four 3.9-inch, q. f	358
c. 2.	*Protet*	4,055	Four 6.4-inch, q. f.; ten 3.9-inch, q. f	384
c. 2.	*Bugeaud*	3,740	Six 6.4-inch, q. f.; four 3.9-inch, q. f	358
c. 2.	*Chasseloup-Laubat*	3,758	Six 6.4-inch, q. f.; four 3.9-inch, q. f	358
c. 2.	*Sfax*	4,728	Six 6.4-inch, q. f.; ten 5.5-inch, q. f	473

From the French ships, under command of Rear Admiral Courrejolles, a force of blue-jackets was landed, and the officers and men on shore on June 30 were about 400. Marine troops were also sent from Saigon, and by July 3, 2,000 men in all were expected to have arrived, and 2,500 more left Toulon on June 29. The *Nive* has also embarked a battalion of

* The military attaché to the American embassy at Paris, France, reports as follows, under date of July 26, 1900, in regard to the composition of the French expeditionary force for China:

General in command, General (of Division) Voyron.

The force will be organized into two brigades, the first formed of troops from the department of marine, the second from the department of war.

First Brigade—General Frey, commanding.

Sixteenth marine infantry, three battalions, 600 men each.
Seventeenth marine infantry, three battalions, 600 men each.
Eighteenth marine infantry, three battalions, 600 men each.
Four mountain batteries 3.15-inch guns, } 800 men, 720 mules.
Two field batteries 3.15-inch guns, }
Telegraphers, 50.
Artillery mechanics, 50.
Hospital corps men, 50.
Engineers organized from the marine artillery, to be replaced by regular engineers later, 50.

The battalions above mentioned will be raised in strength later on to 800 men each.

600 men, a battery of artillery with 110 men, 75 horses and mules, with stores and ammunition, and left Toulon at the beginning of July in company with the *Cachar*, which had a battalion of 600 men on board. The *Colombo* followed with 600 men, a battery with 110 men, and sections of telegraphists and hospital attendants. Another battalion of marine infantry is being formed at Toulon intended for service in China, and a brigadier general is to proceed to Taku to take command of the forces. Colonel Lalubin is in command of the regiment of three battalions already formed in the far East, and Lieutenant Colonel Bonfils is to command the batteries. At the request of Admiral Courrejolles, the dispatch boat *Bengali* has been sent to Taku for river service.

ITALY.

Class.	Name.	Displacement.	Principal armament.	Complement.
c. 3.	Elba	2,730	Four 5.9-inch, q. f.; six 4.7-inch, q. f	257
c. 3.	Calabria	2,442	Four 5.9-inch, q. f.; six 4.7-inch, q. f	257
a. c.	Vettor Pisani	6,500	Twelve 6-inch, q. f.; six 4.7-inch, q. f	460
a. c.	Carlo Alberto	6,500	Twelve 6-inch, q. f.; six 4.7-inch, q. f	460
c. 2.	*Stromboli*	3,475	Two 9.8-inch; six 5.9-inch	315
c. 2.	*Vesuvio*	3,427	Two 9.8-inch; six 5.9-inch	315

Officers and men have been landed from the ships to the number of about 150. An expeditionary force of 2,000 men,

Second Brigade—General Bailloud, commanding.

A regiment of zouaves, four battalions of 1,000 men each—4,000 men.

A regiment of infantry of the line, three battalions of 1,000 men each—3,000 men.

Three batteries 3-inch guns (presumably the most recent French model, 75 (mm. gun), 550 men, 518 mules.

Two companies of engineers, 500 men and 95 mules.

Two squadrons chasseurs d'Afrique, 300 men, 300 horses.

A detachment of the park artillery, 130 men.

A detachment of the divisional engineers, 40 men.

Detachments of general service men for various special services, 800 men.

Of the above, the Sixteenth marine infantry, two mountain batteries and one field battery are already at Taku; the remainder of the troops of the first brigade have left France, except one battery, which is expected to sail from Toulon about August 1. The second brigade is expected to sail from France and Algeria between the 10th and 20th of August. The minister of marine has also under consideration the sending of a battery of short 4.7-inch guns, two companies of troops of the train, a section of railroad troops, and a balloon section, but this matter is not yet settled.

It is intended that at Saigon a detachment of coolies, amounting to 10 for each company or battery, will be taken on board for the service in China.

consisting half of infantry of the line and half of bersaglieri, is to sail from Italy about the 15th.

AUSTRIA.

Class.	Name.	Displacement.	Principal armament.	Complement.
t. c.	ZENTA	2,250	Eight 4 7-inch, q. f	270
a. c.	K. Maria Theresia	5,270	Two 9.4-inch; eight 5 9-inch, q. f	450
a. c.	*Karl VI*	6,350	Two 9.4-inch; eight 5.9-inch, q. f	450
c. 2.	*K. Elisabeth*	4,064	Two 9.4-inch; six 5.9-inch	450

Officers and men numbering 140 have been sent ashore from the *Zenta*.

JAPAN.

Class.	Name.	Displacement.	Principal armament.	Complement.
a. c.	TOKIWA	9,750	Four 8-inch; fourteen 6-inch, q. f	500
c. 2.	KASAGI	5,416	Two 8-inch; ten 4.7-inch, q. f	405
c. 2.	CHITOSE	4,760	Two 8-inch; ten 4.7-inch, q. f	405
c. 2.	TAKASAGO	4,160	Two 8-inch; ten 4.7-inch, q. f	400
c. 2.	AKITSUSHIMA	3,150	Four 6-inch, q. f.; six 4.7-inch, q. f	330
c. 3.	SUMA	2,700	Two 6-inch, q. f.; six 4.7-inch, q. f	250
c. 3.	AKASHI	2,700	Two 6-inch, q. f.; six 4.7-inch, q. f	250
c. 3.	YAYEYAMA	1,700	Three 4.7-inch, q. f	200
b.	*Fuji*	12,320	Four 12-inch; 10 6-inch, q. f	600
a. c.	*Asama*	9,750	Four 8-inch; fourteen 6-inch, q. f	500
c. 2.	*Takachiho*	3,700	Two 10.2-inch; six 5.9-inch, q. f	365

Also the *Shiranui* and other torpedo destroyers.

The Japanese forces landed in China up to June 30 were over 3,800 in number. One battalion of infantry left Yokahama on June 19, and another battalion with artillery sailed a few days later. Great activity prevails in all the naval and military departments, and the sea and land forces for service in China are being greatly strengthened. The British Government having approached the Japanese Government with the view of the latter taking the chief immediate part in the operations in the province of Chili, and no other Power having raised any objection, it may be expected that Japanese troops will be dispatched forthwith to bring up the total Japanese force in China to about 22,000 men. The Japanese Army is now organized in twelve divisions, divided between four principal commands, and, exclusive of the guards, the peace strength is 145,000 and the war footing 520,000, The movements of the naval forces have not been fully reported. The new battle ships now in the far East are the *Fuji*, *Shikishima*, and *Yashima*, and the *Asahi* is about to join them from England. In addition to the first-class armored cruisers *Tokiwa* and *Asama*, the *Idzuno* and *Yakimo* are ready.

UNITED STATES.*

Class.	Name.	Displacement.	Principal armament.	Complement.
b.	OREGON	10,288	Four 13-inch, eight 8-inch	473
c. 2.	BALTIMORE	4,413	Four 8-inch, six 6-inch	386
c. 2.	NEWARK	4,098	Twelve 6-inch, q. f	384
g. v.	HELENA	1,397	Eight 4-inch, q. f	176
g. v.	NASHVILLE	1,371	Eight 4-inch, q. f	176
g. v.	YORKTOWN	1,710	Six 5-inch, q. f	200
c. d.	MONOCACY	1,370	Four 8-inch	126
g. v.	DON JUAN DE AUSTRIA	1,139	Four 5-inch, q. f	130

Rear Admiral Kempff landed 350 men with guns from the ships at Taku. The Ninth Regiment, 1,400 strong, has been dispatched from Manila, followed by two others, and General Chaffee, who is to command, left San Francisco with the Sixth Cavalry on July 1. The total strength of the United States in the Philippines is 60,000, and a much larger force could be detached for service in China. It is understood that Admiral Remey, whose flagship is the armored cruiser *Brooklyn* (9,215 tons), will assume command of the United States naval forces in Chinese waters.

* Since the above was written General Chaffee has arrived, and the following troops have been landed:

Troops.	Officers.	Enlisted men.	Total.
Sixth Cavalry and recruits	27	1,083	1,110
F, Fifth Artillery, one battery	4	138	142
Ninth Infantry	39	1,271	1,310
Fourteenth Infantry, eight companies	26	1,118	1,144
Total	96	3,610	3,706

The following-named troops have been ordered to Nagasaki and will be available for duty in China in the event of their services being necessary:

	Officers.	Men.	Total.
E, Engineer Battalion	2	150	152
First Cavalry, eight troops	20	834	854
Third Cavalry, four troops	10	428	438
Ninth Cavalry, eight troops	20	834	854
Third Artillery, four batteries	11	452	463
Seventh Artillery, three batteries	9	469	478
First Infantry, eight companies	24	1,058	1,082
Second Infantry, eight companies	22	1,058	1,080
Fifth Infantry, eight companies	22	1,058	1,080
Eighth Infantry, eight companies	22	1,058	1,080
Fifteenth Infantry, eight companies	22	1,058	1,080
Total	184	8,457	8,641

There are now on the way to Nagasaki 500 marines. When they arrive there will be, with the marines already there, three battalions of 400 men each.—[Washington, August 1.]

THE COUNTRY FROM TAKU TO PEKING.

[Compiled from various sources.]

The country from Taku up to Matow is a very flat plain, broken, however, by embankments and ditches. Beyond Chang-chia-wan the country becomes more undulating, as the hills are approached. The valley of the Pei-Ho River is similar in character to the flat portion of the river valleys along the Carolinas and Georgia coast.

The Pei-Ho River is not navigable for large boats above Tientsin, and the water is foul. In the dry season the river is low; in the rainy season it overflows its banks, and, as the channel is not marked in any way, it is difficult to find it. Light-draft junks and barges can go as far as Tung-chou. They are towed from the banks by man power. It is reported, however, that the Chinese have obstructed the river with junks loaded with stone, and are prepared to cut the embankments and flood the country.

The road from Tientsin to Peking varies from half a mile to 5 miles from the river. The road has been worn from centuries of travel until its level is below that of the surrounding country. There is no road covering, and, consequently, in rainy weather it becomes almost impassable. In the rainy season such a vehicle as the army wagon, with a heavy load, could hardly be hauled from Tientsin to Peking. Chinese carts or pack trains would be much better as a means of transport.

The country would be excellent for marching in any direction in dry weather. Bull carts and mule teams, hitched tandem, are the principal means of transportation. The road is so narrow that two carts can pass only with difficulty.

The rainy season is in the summer. The heaviest rains are in July and August. At this time the valley of the Pei-Ho is frequently flooded for miles on both sides of the river. About the first of October the weather changes perceptibly, the nights becoming very cold. The frosts set in about the end of October, when also strong northerly winds prevail. For three or four months in the winter North China is practically cut off from the outside world. Navigation ends on the Pei-Ho about the end of November or the beginning of December, the river being frozen over down to the bar at Taku. There is an anchorage not frozen over, however, at

Tsin Hwang Tao, not far from Shanhaikwan. Supplies could be taken thence and transported by rail to Tientsin, provided this line should remain in the possession of the international troops. This is the route by which mails and freight have been carried to Tientsin in winter time since the railway was constructed. Even at the best of times the landing of troops and supplies is very difficult, as shallow water compels ocean-going steamers to anchor miles out from Taku, and thence everything must be lightered ashore. This difficulty might be obviated by transshipment at Nagasaki into smaller, coast-wise steamers, whose draft would allow them to cross the bar.

The water is very bad. Most of it comes from the Pei-Ho River, which is polluted with sewage. Water should be boiled before being used. Water can be obtained almost anywhere by digging a few feet.

The natives burn millet stalks for fuel. No wood or fuel of any kind is to be found in that region. If the whole line of the railroad were in the possession of the international troops native coal could probably be obtained, but under present conditions all fuel, as well as forage for animals and supplies of all kinds, must be taken.

No fresh beef is to be had. Hams do not keep very well. Bacon keeps fairly well. Farinaceous foods of any kind keep very well with ordinary packing. Dried fruits should be tinned.

MILITARY INFORMATION DIVISION PUBLICATIONS.

No. 1.—"The Hawaiian Islands, with Maps and Charts." 1893. (Edition exhausted.)
No. 2.—"The Organization of the German Army." 1894. (Edition exhausted.)
No. 3.—"The Organized Militia of the United States." 1893. (Edition exhausted.)
No. 4.—"Notes on Organization, Armament, and Military Progress." 1894. (Edition exhausted.)
No. 5.—"The Organized Militia of the United States." 1894. (Edition exhausted.)
No. 6.—"The Autumn Maneuvers of 1894." (Edition exhausted.)
No. 7.—"The Organized Militia of the United States." 1895. (Edition exhausted.)
No. 8.—"Notes on Organization, Armament, and Military Progress." 1896. (Edition exhausted.)
No. 9.—"The Military Schools of Europe." 1896. (Edition exhausted.)
No. 10.—"Sources of Information on Military Professional Subjects." 1896. (Edition exhausted.)
No. 11.—"Notes on the War between China and Japan." 1896. (Edition exhausted.)
No. 12.—"The Military System of Sweden." 1897. (Edition exhausted.)
No. 13.—"The Organized Militia of the United States." 1896. (Edition exhausted.)
No. 14.—"The Military Systems of Greece and Turkey." 1897. (Edition exhausted.)
No. 15.—"The Autumn Maneuvers of 1896 in Europe." 1897. (Edition exhausted.)
No. 16.—Part 1: "Subsistence and Messing in European Armies." 1897. (Edition exhausted.)
Part 2: "Cavalry Pioneer Tools, and High Explosives." 1898.
Part 3: "Extracts from the New Drill Regulations of the Russian Cavalry." 1898.
No. 17.—"Sources of Information on Military Professional Subjects." 1898.
No. 18.—"Selected Professional Papers." 1898. (Edition exhausted.)
No. 19.—"The Organized Militia of the United States in 1897." 1898.
No. 20.—"Military Notes on the Philippines." 1898.
No. 21.—"Military Notes on Cuba." 1898.
No. 22.—"Staffs of Various Armies." 1899.
No. 23.—"Observations Abroad." 1899.
No. 24.—"A French-English Military Technical Dictionary." Part I. 1899.
"A French-English Military Technical Dictionary." Part II. 1900.
No. 25.—"Reports of Explorations in the Territory of Alaska." 1899.
No. 26.—"The Autumn Maneuvers of 1898." 1899.
No. 27.—"The Autumn Maneuvers of 1899." 1900.
No. 28.—"Report on the Island of Guam." 1900.
No. 29.—"The Organized Militia of the United States in 1899." 1900.