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## THE CHINA YEAR BOOK

1928.

### CHAPTER I.

#### GENERAL INFORMATION.

##### AREA AND POPULATION.

Chinese territory extends from latitude 53° N. to 18° N. and from longitude 74° E. to 134° E. It comprises China Proper (21 Provinces<sup>1</sup>), Mongolia, Eastern Turkestan of the New Territory (Sinkiang) and Tibet.<sup>2</sup>

The frontier of this vast country marches from the N.E. westwards to the S.W. with Siberia, Russian Turkestan, India, Burma, Tongking, and the country is bounded on the E. by the Pacific Ocean and Korea.

The total area of Chinese territory is estimated at 4,278,352 square miles, apportioned as follows:—

|                         | sq. miles.                    |
|-------------------------|-------------------------------|
| China Proper .....      | 1,896,500 (Manchuria 363,700) |
| Mongolia .....          | 1,367,953                     |
| Chinese Turkestan ..... | 550,579                       |
| Tibet .....             | 463,320                       |

[Stanford<sup>3</sup> gives the area of the Empire as 4,376,000 square miles: China Proper 1,532,000, Manchuria 364,000, Mongolia 1,200,000, Tibet 700,000, Chinese Turkestan 580,000 square miles.]

##### *The Population of China.*

The taking of a census by the methods adopted in Western nations has never yet been attempted in China, and consequently estimates of the total population have varied to an extraordinary degree. Until recently the nearest approach to a reliable estimate was, probably, the census taken by the Minchengpu (Ministry of Interior) in 1910, the results of which are embodied in a report submitted to the Department of State at Washington and published in the Daily Consular and Trade Reports of July 13, 1911. It was pointed out that even this census could only be regarded as approximate, as, with a few exceptions, households and not individuals were counted. The families of the whole Empire (exclusive of Tibet) was returned as:—

<sup>1</sup> Until 1907 China Proper comprised 18 Provinces, while Manchuria was governed as a separate dependency. By the Imperial Decree of April 20, 1907, the three Manchurian provinces of Shengking, Kirin, and Heilungkiang were combined into a single viceroyalty, the Viceroyalty of the Three Eastern Provinces.

<sup>2</sup> For the status of Mongolia and Tibet see the chapter on Greater China.

<sup>3</sup> Stanford's *Compendium of Geography, Asia*, Vol. I. A. H. Vane, LL.D.

## Ch. 1

## POPULATION.

|                                            |            |
|--------------------------------------------|------------|
| China Proper .....                         | 56,312,256 |
| Metropolitan District (Peking, etc.) ..... | 831,266    |
| Manchuria .....                            | 1,780,308  |
| Sinkiang .....                             | 453,477    |
| Manchu Military Organization .....         | 309,151    |
| Dependencies .....                         | 138,460    |

A census of individuals taken in various parts of the Empire provided a clue to the number of persons per family. The average number was found to be 5.5, to which multiple was used except in the case of Fengtien, in Manchuria, where the much higher multiple of 8.38 was adopted. Worked out on this basis the following figures were obtained:—

|                                            |             |
|--------------------------------------------|-------------|
| China Proper .....                         | 304,003,000 |
| Metropolitan District (Peking, etc.) ..... | 5,671,000   |
| Manchuria .....                            | 14,917,000  |
| Sinkiang .....                             | 2,491,000   |
| Manchu Military Organization .....         | 1,700,000   |
| Dependencies (exclusive of Tibet) .....    | 760,000     |

If to the total we add 1,500,000 as the probable number of inhabitants in Tibet (as compared with the Chinese estimate of 6,500,000), the total for China becomes 351,000,000. In 1904, it may be added, Mr. W. W. Rockhill, American Minister to China and a shrewd and scholarly observer of things Chinese, estimated the population of China Proper (18 provinces) at 270,000,000. The total given in the accompanying table, 342,659,000, comprises the Chinese estimate of the population of Tibet and an estimate of the complete figures for Szechwan province.

The subjoined tables show the estimated population at various dates (obtained from various sources and abstracted chiefly from "The Middle Kingdom") and the latest official estimates of the population :—

[illegible]

Since 1919 the organization of the Chinese Post Office has been used to secure estimate of the total population of China and the Outer Territories. The detailed figures, which in most instances were procured with the assistance of local officials, appeared in the last edition of this Year Book. Tables on the following pages give, for purposes of comparison, figures of the 1885 Census, the Minchengpu Census, the Post Office Estimate, and the Customs estimate.

### AREA AND POPULATION OF CHINA.

| Province.                    | Area,<br>sq. miles | Census, 1885. | Minchengpu<br>Census 1910.* | Pop. per<br>sq. mile. | Post Office<br>Estimate, 1923. | Pop. per<br>sq. mile. |
|------------------------------|--------------------|---------------|-----------------------------|-----------------------|--------------------------------|-----------------------|
| Anhui                        | 54,826             | 20,600,000    | 17,300,000                  | 315                   | 19,832,665                     | 362                   |
| Chekiang                     | 36,680             | 11,700,000    | 17,000,000                  | 463                   | 22,043,300                     | 601                   |
| Chihli                       | 115,830            | 17,900,000    | 32,571,000                  | 281                   | 34,186,711                     | 295                   |
| Fukien                       | 46,332             | 23,500,000    | 13,100,000                  | 282                   | 13,157,791                     | 284                   |
| Honan                        | 67,954             | 22,100,000    | 25,600,000                  | 376                   | 30,831,909                     | 454                   |
| Hunan                        | 83,398             | 21,000,000    | 23,600,000                  | 282                   | 28,443,279                     | 341                   |
| Hupei                        | 71,428             | 33,600,000    | 24,900,000                  | 348                   | 27,167,244                     | 380                   |
| Kansu                        | 125,483            | 5,400,000     | 5,000,000                   | 40                    | 5,927,997                      | 47                    |
| Kiangsi                      | 69,498             | 24,500,000    | 14,500,000                  | 208                   | 24,466,800                     | 352                   |
| Kiangsu                      | 38,610             | 21,300,000    | 17,300,000                  | 448                   | 33,786,064                     | 875                   |
| Kwangsi                      | 77,220             | 5,100,000     | 6,500,000                   | 84                    | 12,258,335                     | 159                   |
| Kwangtung                    | 100,000            | 29,700,000    | 27,700,000                  | 277                   | 37,167,701                     | 372                   |
| Kweichow                     | 67,182             | 7,700,000     | 11,300,000                  | 168                   | 11,114,951                     | 167                   |
| Shansi                       | 81,853             | 10,800,000    | 10,000,000                  | 122                   | 11,080,827                     | 134                   |
| Shantung                     | 55,984             | 36,500,000    | 29,600,000                  | 528                   | 30,803,245                     | 552                   |
| Shensi                       | 75,290             | 3,300,000     | 8,800,000                   | 116                   | 9,465,558                      | 125                   |
| Szechwan                     | 218,533            | 71,000,000    | 23,000,000                  | 105                   | 49,782,810                     | 228                   |
| Yunnan                       | 146,714            | 11,700,000    | 8,500,000                   | 58                    | 9,839,180                      | 67                    |
| Shengking (Fengtien)         | 363,700            | —             | 14,917,000                  | 41                    | 22,083,434                     | 61                    |
| Kirin                        |                    |               |                             |                       |                                |                       |
| Heilungkiang                 |                    |               |                             |                       |                                |                       |
| Total                        | 1,896,495          | 377,636,000   | 331,188,000                 | 174                   | 436,094,953†                   | 238                   |
| Sinkiang                     |                    | (Without      | 2,491,000                   |                       |                                |                       |
| Manchu Military Organization |                    | Manchuria)    | 1,700,000                   |                       |                                |                       |
| Dependencies                 |                    |               | 760,000                     |                       |                                |                       |
| Tibet (Chinese Estimate)     |                    |               | 6,500,000                   |                       |                                |                       |
| Total                        |                    |               | 342,639,000                 |                       |                                |                       |

\* Mr. Raymond Tenney's Report to the U.S. State Department.

\$ The actual figures given are 16,400,000, but this represents the returns of only five-sevenths of the province. The uncertainty of Chinese figures is well illustrated by the estimates of the population of Szechwan.

† In this total is included 2,519,579 for Sinkiang but no data were available regarding: a. 1 Hsien and Mongolia in Peking District; b. 1 Hsien in Manchuria; c. Tibet.

## COMPARISONS IN AREA AND POPULATION.

|                                   | Sq. miles. | Population. |
|-----------------------------------|------------|-------------|
| China .....                       | 4,278,352  | 436,094,955 |
| British Empire .....              | 13,355,426 | 449,583,000 |
| Soviet Russia .....               | 7,041,120  | 132,000,413 |
| Canada .....                      | 3,729,665  | 9,364,200   |
| United States (with Alaska) ..... | 3,743,529  | 117,823,165 |
| Australia .....                   | 2,974,581  | 5,929,288   |
| India .....                       | 1,805,332  | 318,942,480 |
| Great Britain .....               | 89,041     | 43,783,032  |

FOREIGN POPULATION IN CHINA, 1925.  
(CUSTOMS ESTIMATE).

| NATIONALITY.            | FIRMS. | PERSONS. |
|-------------------------|--------|----------|
| American .....          | 482    | 9,844    |
| Austrian .....          | 8      | 193      |
| Belgian .....           | 25     | 549      |
| Brazilian .....         | —      | 1        |
| British .....           | 718    | 15,247   |
| Czecho-Slovak .....     | 6      | 156      |
| Danish .....            | 45     | 626      |
| Dutch .....             | 35     | 469      |
| Finnish .....           | —      | 2        |
| French .....            | 176    | 2,576    |
| German .....            | 318    | 3,050    |
| Hungarian .....         | —      | 1        |
| Italian .....           | 46     | 783      |
| Italian .....           | 4,708  | 218,351  |
| Japanese .....          | 1      | 12       |
| Mexican .....           | 16     | 575      |
| Norwegian .....         | —      | 1        |
| Polish .....            | 174    | 3,739    |
| Portuguese .....        | 932    | 79,785   |
| Russian .....           | 16     | 216      |
| Spanish .....           | 6      | 189      |
| Swedish .....           | 25     | 429      |
| Swiss .....             | 6      | 47       |
| Non-Treaty Powers ..... | —      | —        |
| Total .....             | 7,743  | 336,841  |

MARITIME CUSTOMS ESTIMATE OF CHINESE POPULATION OF THE SEVERAL  
PORTS AND OF THE PROVINCES IN WHICH THEY ARE SITUATED.

| Province           |                                                         | Port                |             |
|--------------------|---------------------------------------------------------|---------------------|-------------|
| Name.              | Population.                                             | Name.               | Population. |
| MANCHURIA .....    | 19,290,000                                              | Aigun .....         | 41,600      |
|                    |                                                         | Harbin .....        | 159,300     |
|                    |                                                         | Hunchun .....       | 59,800      |
|                    |                                                         | Lungchingtsun ..... | 3,300       |
|                    |                                                         | Antung .....        | 72,500      |
| CHIHLI .....       | 29,400,000                                              | Dairen .....        | 201,400     |
|                    |                                                         | Newchwang .....     | 65,600      |
|                    |                                                         | Chinwangtao .....   | 5,000       |
| SHANTUNG .....     | 38,000,000                                              | Tientsin .....      | 800,000     |
|                    |                                                         | Lungkow .....       | 8,200       |
|                    |                                                         | Chefoo .....        | 93,500      |
| SZECHWAN .....     | 76,613,000                                              | Tsingtao .....      | 263,500     |
|                    |                                                         | Chungking .....     | 608,100     |
|                    |                                                         | Wanh sien .....     | 756,600     |
| HUNAN .....        | 22,000,000                                              | Changsha .....      | 535,800     |
|                    |                                                         | Yochow .....        | 5,000       |
|                    |                                                         | Ichang .....        | 60,000      |
| HUPEH .....        | 25,124,000                                              | Shasi .....         | 190,500     |
|                    |                                                         | Hankow .....        | 1,583,900†  |
|                    |                                                         | Kiukiang .....      | 54,500      |
| KIANGSI .....      | 24,467,000                                              | Wuhu .....          | 118,100     |
|                    |                                                         | ANHWEI .....        | 395,900     |
|                    |                                                         | Nanking .....       | 141,400     |
| KIANGSU .....      | 26,920,000                                              | Chinkiang .....     | 1,500,000   |
|                    |                                                         | Shanghai .....      | 500,000     |
|                    |                                                         | Soochow .....       | 1,000,000   |
| CHEKIANG .....     | 26,578,000                                              | Hangchow .....      | 284,300     |
|                    |                                                         | Ningpo .....        | 202,300     |
|                    |                                                         | Wenchow .....       | 8,000       |
| FUKIEN .....       | 20,000,000                                              | Santuo .....        | 314,900     |
|                    |                                                         | Foochow .....       | 300,000     |
|                    |                                                         | Amoy .....          | 93,000      |
| KWANGTUNG .....    | 30,000,000                                              | Swatow .....        | 900,000     |
|                    |                                                         | Canton .....        | 77,000      |
|                    |                                                         | Kongmoon .....      | 7,500       |
| KWANGSI .....      | 8,000,000                                               | Samshui .....       | 59,000      |
|                    |                                                         | Kiungchow .....     | 35,000      |
|                    |                                                         | Pakhoi .....        | 50,000      |
| YUNNAN .....       | 9,839,000                                               | Wuchow .....        | 50,000      |
|                    |                                                         | Nanning .....       | 20,000      |
|                    |                                                         | Lungchow .....      | 10,000      |
| OTHER PROVINCES :— | SHANSI SHENSI, KANSU,<br>HONAN, KWEICHOW ... 55,000,000 | Mengtsz .....       | 10,000      |
|                    |                                                         | Szema .....         | 12,500      |
|                    |                                                         | Tengyueh .....      | 12,500      |
| TOTAL .....        | 448,231,000                                             |                     | 11,657,000  |

\* Including neighbouring districts.

† „ „ Wuchang and Hanyang.

**GEOGRAPHY.**  
**DISTANCES (NAUTICAL MILES).**

London  
2003| Marseilles  
3511| 1508| Port Said  
4906| 2903| 1395| Aden  
6999| 4996| 3488| 2093| Colombo  
8277| 6274| 4766| 3371| 1278| Penang  
8672| 6669| 5161| 3766| 1673| 395| Singapore  
9320| 7317| 5809| 4414| 2321| 1043| 648| Saigon  
10112| 8109| 6601| 5206| 3113| 1835| 1440| 934| Hongkong  
10965| 8962| 7454| 6059| 3966| 2688| 2293| 1787| 853| Shanghai  
11720| 9717| 8209| 6814| 4721| 3443| 3048| 2542| 1608| 755| Kobe  
12066| 10063| 8555| 7160| 5067| 3789| 3304| 2888| 1954| 1101| 346| Yokohama

|          |          |      |          |         |               |      |          |
|----------|----------|------|----------|---------|---------------|------|----------|
| Shanghai |          |      |          |         |               |      |          |
| 450      | Nagasaki |      |          |         |               |      |          |
| 760      | 310      | Kobe |          |         |               |      |          |
| 1100     | 650      | 340  | Yokohama |         |               |      |          |
| 5065     | 4615     | 4305 | 3965     | Seattle |               |      |          |
| 5491     | 5041     | 4731 | 4391     | --      | San Francisco |      |          |
| 9120     | --       | --   | --       | --      | Panama        |      |          |
| 10684    | 10234    | 9924 | 9584     | --      | --            | 1564 | New York |

### DISTANCES (VIA SIBERIA).

London  
665<sup>1</sup> Berlin  
1867<sup>1</sup> 1202<sup>1</sup> Moscow  
5248<sup>1</sup> 4583<sup>1</sup> 3381<sup>1</sup> Irkutsk  
6191<sup>1</sup> 5526<sup>1</sup> 4324<sup>1</sup> 943<sup>1</sup> Manchouli (Chinese Frontier)  
6771<sup>1</sup> 6106<sup>1</sup> 4904<sup>1</sup> 1523<sup>1</sup> 580<sup>1</sup> Harbin  
7253<sup>1</sup> 6588<sup>1</sup> 5386<sup>1</sup> 2005<sup>1</sup> 1062<sup>1</sup> 482<sup>1</sup> Vladivostok  
7094<sup>1</sup> 6429<sup>1</sup> 5227<sup>1</sup> 1846<sup>1</sup> 903<sup>1</sup> 323<sup>1</sup> —<sup>1</sup> Mukden (via Harbin)  
7340<sup>1</sup> 6675<sup>1</sup> 5473<sup>1</sup> 2092<sup>1</sup> 1149<sup>1</sup> 569<sup>1</sup> —<sup>1</sup> 246<sup>1</sup> Dalny (Tairen)  
7529<sup>1</sup> 6864<sup>1</sup> 5662<sup>1</sup> 2281<sup>1</sup> 1338<sup>1</sup> 758<sup>1</sup> —<sup>1</sup> 435<sup>1</sup> —<sup>1</sup> Tientsin (via Mukden)  
7615<sup>1</sup> 6950<sup>1</sup> 5748<sup>1</sup> 2367<sup>1</sup> 1424<sup>1</sup> 844<sup>1</sup> —<sup>1</sup> 521<sup>1</sup> —<sup>1</sup> 86<sup>1</sup> Peking  
8351<sup>1</sup> 7686<sup>1</sup> 6484<sup>1</sup> 3103<sup>1</sup> 2160<sup>1</sup> 1580<sup>1</sup> 1143<sup>1</sup> 1257<sup>1</sup> 640<sup>1</sup> 822<sup>1</sup> 908<sup>1</sup> Shanghai

COAST DISTANCES.—A

|          |         |          |         |      |                                         |                                           |                                         |  |
|----------|---------|----------|---------|------|-----------------------------------------|-------------------------------------------|-----------------------------------------|--|
| Shanghai |         |          |         |      |                                         |                                           |                                         |  |
| 14       | Woosung |          |         |      |                                         |                                           |                                         |  |
| 66       | 52      | Cutzlaff |         |      |                                         |                                           |                                         |  |
| 420      | 406     | 354      | Foochow |      |                                         |                                           |                                         |  |
| 620      | 606     | 554      | 200     | Amoy |                                         |                                           |                                         |  |
| 755      | 741     | 689      | 335     | 135  | Swatow (from Shanghai direct 673 miles) |                                           |                                         |  |
| 908      | 894     | 842      | 488     | 288  | 153                                     | Hongkong (from Shanghai direct 826 miles) |                                         |  |
| 991      | 977     | 925      | 571     | 371  | 236                                     | 83                                        | Canton (from Shanghai direct 909 miles) |  |

COAST DISTANCES.—B.

|                         |  |  |  |  |                                                          |
|-------------------------|--|--|--|--|----------------------------------------------------------|
| Shanghai                |  |  |  |  | Tsingtao (Kiaochau)                                      |
| 390                     |  |  |  |  | 270 Wei haiwei                                           |
| 492 (direct)            |  |  |  |  | 310 40 Chefoo (from Shanghai direct 511 miles)           |
| 532 (direct)            |  |  |  |  | 503 233 193 Taku                                         |
| 725                     |  |  |  |  | 554 284 241 51 Tientsin (from Shanghai direct 740 miles) |
| 776                     |  |  |  |  |                                                          |
| 685 (via North Channel) |  |  |  |  | Newchwang                                                |

## DISTANCES UP THE YANGTZE.

Shanghai  
95: Kiangyin  
156 61 Chinkiang  
201 106 45 Nanking  
256 161 100 55 Wuhu  
318 223 162 117 62 Tatung  
364 269 208 163 108 46 Anking  
453 358 297 252 197 135 89 Kiukiang  
595 500 439 394 339 277 231 142 Hankow  
882 787 726 681 626 564 518 429 287 Shasi  
965 870 809 764 709 647 601 512 379 83 Ichang  
1427 1332 1271 1226 1171 1109 1063 974 832 545 462 Chungking

### COASTAL CONFIGURATION.

The coast-line of China, in the form of a semicircle, is 2,150 miles in length, or, with all indentations reckoned, approximately 5,000 miles. The northern part, including the coast of Chihli, the N. and N.W. of Shantung and Kiangsu, is of an alluvial nature; the remainder is granitic. Along the latter (the provinces of Chekiang, Fukien and portions of Kwantung) are innumerable islands, affording anchorages, of varying extent, in abundance, while the sea is of a more uniform depth. Shoals fringe the northern coast-line, and navigation relies upon the channels made by the rivers: e.g. the Liao (at Newchwang), the Pei-ho (at Taku for Tientsin), the Yangtze kiang (at Woosung for Shanghai).

A chain of volcanic islands (the Kurile Islands, Japan, Loochoo Islands, Formosa, the Philippines) separate the western portion of the Pacific Ocean from the deeper waters of the central and eastern Pacific. The seas of China are all within this barrier. They are known as:—

- (1) The Yellow Sea (*Huang-hai*: including the Gulf of Chihli and the Gulf of Liaotung).
- (2) The Eastern China Sea (*Tung-hai*: including the Formosa Channel).
- (3) The South China Sea (*Nan-hai*).
- Of their characteristics L. Richard\* says:—

"(a) They are less saline; (b) they are much less deep, never reaching over 1,000 fathoms; (c) the height of the tide varies from a maximum of 6½ feet in the Gulf of Chihli and at Hongkong (where usually it is 'hardly noticeable') to 16 feet and more between Amoy and Foochow; (d) the variation in the temperature of the water is much less than on the mainland."

The chief points on the China Coast from the Yalu River which divides Manchuria from Korea are in order of sequence :—

\* L. Richard's *Comprehensive Geography of the Chinese Empire and Dependencies*. Translated into English by M. Kennelly, S.J., Shanghai 1908.

Antung: treaty port, facing the Korean town of Wiju.  
 Tatungkow: Customs station.  
 Dalny, called Tairen (Dairen) by the Japanese.  
 Port Arthur: the Liaotung Peninsula, including Dairen and Port Arthur, is Japanese leased territory.  
 Cape Liaotishan (Regent's Sword).  
 Newchwang: Foreign treaty port.  
 Yinkow: Chinese town on the Liao River: ice bound in winter.  
 Hulutao: A new port in process of construction by the Chinese Government. A railway has been built connecting the port with Lienshan, 7½ miles away, on the Peking-Mukden Railway. The port would be the southern terminus of the Chinchou-Aigun Railway, if this were to be constructed.  
 Shanhaikuan: the Great Wall ends at this spot a few miles from the sea.  
 Chinwangtao: treaty port: ice-free.  
 Lan River.  
 Taku: village at the mouth of the Pei-ho. The forts that protected the approach were dismantled after the Boxer rising in 1900. The Taku Bar is two miles long.  
 Yellow River (Hwang-ho).  
 Lungkow: treaty port.  
 Tengchow: a former port that is gradually being silted up. Between here and Cape Liaotishan, 65 miles distant, lie the Miaotao Islands.  
 Chefoo: treaty port.  
 Weihaiwei: British leased territory.  
 The North-East Promontory.  
 Tsingtao: Kiaochow Bay: former German leased territory: since occupied by the Japanese; restored to China in December, 1922.  
 Haichow (Yuchow) Promontory.  
 Earlier mouth of the Yellow River (before 1852).  
 The Yangtze River.  
 Tsungming Island.  
 Woosung.  
 Shanghai, on the Whangpoo River: treaty port.  
 Hangchow Bay: the tide at the mouth of the Tsientang River forms a bore which varies in height from a few feet to 15 or 20 at the equinoxes, while the water has occasionally risen to as much as 30 feet.  
 Hangchow: treaty port, capital of Chekiang Province.  
 Ningpo: treaty port at the confluence of two rivers, forming the Yung or Tatsieh, which reaches the sea at Chinghai, 12 miles distant.  
 Chusan Archipelago: with the Saddle Islands lying to the N.E., the chief fishing centre of China. Chusan Island, 21 miles long and 11 broad, with two main harbours, Tinghai and Chinkiamen.  
 Nimrod Sound: 20 miles south of Ningpo. A long narrow fjord measuring 37 nautical miles in length and on an average 3 miles broad, narrowing down to 1 mile in the centre. At the head of the Sound the expanse of water stretches 7 miles north to south, and here are located the famous oyster-breeding establishments. The Sound has been proposed as a future naval base for China.  
 Sanmen Bay: Bay of the Three Gateways: offering a variety of anchorages, but of uneven serviceability and exposed to high winds and typhoons.  
 Wenchow: treaty port.  
 Santuao: treaty port.  
 Foochow: treaty port.  
 Pagoda anchorage.  
 Amoy: treaty port.  
 Kulangsu: foreign settlement.

Swatow: treaty port.  
 Mirs Bay: included in the leased territory of Hongkong.  
 Kowloon: Customs station.  
 Hongkong: British territory.  
 Heungchow: ten miles north of Macao, where a semi-official attempt is being made to create a new port and Chinese settlement on foreign lines.  
 Macao: Portuguese territory.  
 Lappa: Customs station.  
 Canton: treaty port.  
 Kwangchowwan: French leased territory.  
 Hainan: island.  
 Pakhoi: treaty port.

## OROGRAPHY.

The greater part of China is mountain land, and only along the channels of the Yellow River and Yangtze in their lower reaches (extending in the case of the former for nearly three hundred miles) is there a lowlying alluvial plain, stretching to the coast and north and south for several hundred miles.

Anything in the nature of a detailed account of the orography of China is impossible within the limits of this Year Book, for it would entail lengthy reference to the researches of Dr. Sven Hedin, Dr. M. A. Stein, Dr. Merzbacher, M. Bonin, and a number of other travellers and explorers who within recent years have added considerably to our knowledge of Central Asia. For a comprehensive summary of the results of these researches the reader is referred to the latest edition of Stanford's *Compendium of Geography, Asia*, Vol. I. by A. H. Keane, LL.D., from which the following summary is in the main taken.

The mountain system of Greater China may be said to start from the Pamir Plateau, that elevated nucleus of Central Asia from which massive mountain-chains spread in every direction. With a general tendency of from west to east, China's great mountain systems group themselves from this point into three principal chains, divided at the outset by the Takla-Makan Desert (basin of the Tarim River) and the great tableland of Tibet.

I. To the north-east is the Tien-shan Chain, throwing out in series of parallel spurs, running eastward, the following ranges:—

|                                                    |                        |
|----------------------------------------------------|------------------------|
| Tien-shan-nan-lu Mustagh Ata or Tagharma Mountain, |                        |
| west of Yarkand .....                              | 25,000 ft.             |
| Tien-shan-pe-lu .....                              | Tengri Khan 23,600 ft. |
| Altai Mountains .....                              | 11,100 ft.             |
| Tannu-ola Mountains .....                          | —                      |

This chain sweeps broadly across the continent to the furthest confines of north-eastern Siberia.

II. The Kuenlun Chain (20,000 ft.), running south of the Takla-Makan and Gobi Deserts and designated successively:—

|                                              |                   |
|----------------------------------------------|-------------------|
| Altyn Tagh .....                             | 14,000 ft.        |
| Nanshan (where it enters Kansu province) ... | 14,000-16,000 ft. |
| Alashan .....                                | 17,000-18,000 ft. |
| Inshan .....                                 | 10,000 ft.        |
| Khinghan Mountains .....                     | 7,000 ft.         |

the latter being continued across the Siberian province of Amur to the Sea of Okhotsk. A separate spur known as the Aneuto Mountains is thrown out due east, where the main range takes a slight north-easterly direction as the Altyn Tagh.

III. The third chain branches at first in a south-easterly direction from the Kuenlun Chain, forming Dr. Sven Hedin's Trans-Himalaya; then when it reaches the border country of China and Tibet it is broken into a series of ranges running north and south, resolving itself finally into two main ranges—

(a) One running north-east, the Yunling Mountains, which ultimately take a west and east direction as the Kiulung Mountains, with a parallel range to the north, the Hsiking, Peling, Tsingling, Funiu, and Muling Mountains.

This range throws its spurs into Hupeh, through Honan to Anhwei, to Shantung and through Shansi to Chihli.

(b) The second running south-east between the valleys of the Mekong and Upper Yangtze, and then spreading out in a general north-easterly direction across the whole of southern China in a series of ranges known in part as—

Shishan (16,000 ft.).  
Nanling Mountains.  
Yungling Mountains.  
Nanshan ) 9500 ft.  
Tayuling )

The two latter form a bold range, following a parallel direction with the coast from Kwangsi to Chekiang. [N.B.—The nomenclature of these mountains varies considerably.]

In the second main chain the Nanshan Mountains are a series of parallel lofty ridges, among which may be mentioned (from north to south):—

Alexander III Mountains.  
Humboldt Mountains.  
Ritter Mountains.

Between these ranges and the south-eastern corner of Tibet come the following mountains in order from north to south:—

Koko Mountains.  
Burkhan Bota (and to the east of them)  
Ame Machin Mountains,  
Baian Kara,

while north of the Tengri Nor (lake) rises the great Tangla range at a mean elevation of probably 20,000 ft.

In China Proper we have the notable ranges, already referred to, running north and south on the Chino-Tibetan border, rising well above the snow-line. Among the individual peaks may be mentioned:—

Mount Nenda, or "Holy Mountain."  
Mount Jara, N.W. of Tachienlu.  
Mount Omei.  
Siwelung Shan.  
The "Seven Nails" (? 19,000-20,000 ft.)

In Manchuria the Shanyan-alin (10,000-11,000 ft.) forms the frontier line of Korea, and in the north are the Illykuri-alin and the Duss-alin.

1. Tai Shan in Shantung.
2. Heng Shan in Shansi.
3. Sung Shan in Honan.
4. Hua Shan in Shensi.
5. Nan Yueh (Heng Shan) in Hunan.

Of these Mr. R. F. Johnston (*From Peking to Mandalay*, John Murray, London) says that Tai Shan is the most famous as far as literature and tradition go, Nan Yueh is the most popular and Hua Shan the most beautiful and the loftiest.

Other famous mountains are:—

1. Mount Omei, west of Kiatinglu, Szechwan (10,158 ft.). A pilgrim resort for Buddhists. L. Richard states that 56 pagodas have been erected on the mountain, the highest at an elevation of 10,000 ft. Mr. R. F. Johnston enumerates 35 monasteries or temples passed on a journey up and down the mountain.

2. *The Three Peaks of Dokerla*.—A centre of Tibetan pilgrimages. N.W. Yunnan (19,700 ft.).

3. *Wu Tai Shan*.—North of Shansi. The monastery on this mountain is said to be the oldest in China. It is visited annually by thousands of pilgrims, Chinese, Mongolian and Tibetan. The Dalai Lama stayed here on his return from Peking to Lhasa (1909).

## LAKES.

The chief lakes of China Proper are:—

1. The *Tungting* lake in Hunan. In summer, when it receives the overflow of the Yangtze, its dimensions reach 75 miles in length and 56 in breadth (2000 sq. miles); but in winter the lake empties its waters into the Yangtze and becomes merely an enormous marsh, with two main river channels passing through it, the Yuenkiang and Siangkiang. In 1910 the provincial authorities made a start of dredging the lake, a machine having been bought for that purpose in Germany. The dredger was manned and operated by a Chinese crew, and began work on the Changteh channel.

2. The *Po-yang* lake in Kiangsi; 90 miles by 20 (approx.) The water rises nearly 30 ft. in the flood season, when the area of the lake is approximately 1800 sq. miles.

3. The *Tai-hu*, or Great Lake, in Kiangsu, S. of the Yangtze. Its greatest dimensions are approximately 50 miles by 40 miles, but its waters recede in winter.

4. The *Hungtseh* lake in Kiangsu and Anhwei, N. of the Yangtze, connected on the N.E. with the Grand Canal and on the S.E. with

5. The *Kaoyiu* lake, also in Kiangsu.

6. The *Tatsung* lake lies E. of the Kaoyin, on the other side of the Grand Canal.

7. The *Tien-hu* lake in Yunnan, S. of Yunnanfu: approximately 38 miles in length and 8 in width and lying at an altitude of 6300 ft.

8. The *Eulhai* lake, also in Yunnan, E. of Talifu. It lies at an altitude of 6500 ft. above sea-level, but is slightly smaller than the Tien-hu.

9. In Manchuria are to be found the *Dalai-nor* and *Buir-nor*, or *Pir Lake*, both S.W. of Hailar, and *Lake Hinka* (*Khanka*) in the extreme east of the province, W. of the Ussuri River.

In Tibet and Chinese Turkestan recent exploration has added largely to our knowledge of the lake system of these vast territories. Here it will suffice to enumerate the principal lakes.

1. *Koko-nor*, in N.E. Tibet near the borders of Kansu, 65 miles long and 40 wide, with an area of 2,300 sq. miles. It lies at an altitude of 10,500 ft. above sea-level. Its waters are salt.

2. *Tsaidam*, west of the Koko-nor, now little more than a dreary swamp.

3. *Lob-nor*, north of the Altyn Tagh range. Between 1877 and the present day this once important expanse of water has diminished in size to an enormous extent. Of these three basins Dr. A. H. Keane says in *Stanford's Compendium of Geography*: "The gradual isolation of all these basins affords one of the most striking illustrations of the process of dessication that has been going on throughout Central Asia from the remotest times. First the Koko-nor fails to reach the Tsaidam; then the Tsaidam ceases to communicate with Lob-nor and ultimately dries up, while Lob-nor sinks to a mere reedy morass some 3 or 4 feet deep."

4. *Kizil-Bash* or Lake Ulungur, between the Tien-shan Altai Mountains.
5. *Ike Aral-nor*, } in the extreme west of Mongolia.
6. *Ubsa-nor*, }
7. *Lake Bogratch*, south of the Bogdo-ola Mountains.
8. *Kara-nor*, in the Nan-shan (Mountains) north-west of Koko-nor.
9. *Tengri-nor*, north of Lhasa: altitude 15,000 ft.
10. *Palti* or *Yamdok* lake, 13,800 ft. above sea-level, 160 miles in circumference, south-west of Lhasa.
11. *Buka-nor*, north of Tengri-nor, forming with the
12. *Ike-namur*, the centre of a large system, which includes the
13. *Dangra-yum*, 250 miles west of Tengri-nor, 180 miles in circumference, and the
14. *Garing-cho*, altitude 15,420 ft.

## RIVERS.

## The Hwang Ho Basin.

The first of the three great natural divisions of China is the basin of the Hwang Ho, or the Yellow River. The whole area of this basin is about 600,000 square miles, and the length of the river itself is roughly 2,500 miles. In this area there is an estimated population of roughly 100,000,000 people. Whilst it would be improper to call the Yellow River basin the original home of the Chinese race we shall not be far wrong if we reckon it as the first area definitely settled by the Chinese people as we know them to-day. In all probability the first settled Chinese came to China in almost pre-historic times by way of the Tarim basin, in a period when the route across the central Asian plateau was almost certainly not so desolate as it is now. It is unlikely that they came the whole journey at one migration but rather that they advanced slowly and by short stages from the western slopes of the Pamirs or the Hindu Kush, or even from as far West as the shores of the Caspian.

The Yellow River valley may be taken as the type and definition of North China and that part of it which lies inside China Proper includes six of the eighteen provinces—Kansu, Shensi, Shansi, Chihli, Honan, and Shantung. These six provinces are distinct from the rest of China in every essential feature. The food products, and the character and mode of life of the inhabitants are different from those obtaining in the south. There is a distinct line of division running along the watershed which separates the Yellow River from the Yangtze. Along this line it may be reckoned that we have the northern limit of rice cultivation. Rice is the favourite and principal food of the richer classes but the great mass of the population lives on millet and wheat, especially the former. The rice grown is quite distinct from the rice of the south. The Chinese call it small rice, but it is in reality a glutinous millet, but not the same thing as the Kaoliang which is used for the distillation of spirits. Meats other than pork play a larger part in the dietary of the people. The bamboo also ceases to be grown on practically the same line as the wet rice, and though it still plays an important part in the economic life of the people it is an imported article. Again, the draught animals are different. Instead of the buffalo of the south the ox plays a large part and the camel is seen everywhere almost. The people, like those further south, gain their livelihood largely from agriculture, but it is of a form slightly different from that of the south. The people themselves are slower moving than the more southern Chinese, but are much sturdier than their compatriots south of the watershed. Nature is not so kind in the northern as in the southern area and this is reflected in the finer physique of the northern Chinese.

We may now follow the Hwang Ho from its source to its mouth noting the important features as we go along. For a long time it was supposed that the river took its rise in the springs known to the Chinese as the Sing-fu Hai, which was to be found in the Tangut country south of the central Kwen Lun mountains. This inaccuracy was corrected in 1884 by the Russian geographer Przhevsky who discovered the true sources of the river on the Odon-tala plain, between 14,000 and 15,000 feet above sea level. Here there are two streams which together form two lakes, Lake Jarin and Lake Orin, and from these two lakes, 13,500 feet above sealevel, in 34 deg. 10 min. north latitude, and 97 deg. east longitude, flow the waters of the Hwang Ho. Flowing from Lake Orin slightly southward the river is twisted then into the form of a large "S" before it breaks out of the Ching Hai region into the province of Kansu. From the western border of this province the highland career of the river ceases, and the country through which it passes seldom attains a height of more than 3,500 feet. The river passes, immediately on entering the province of Kansu, through a valley which in the course of 150 miles drops down from 8,000 feet to 5,200 feet, at the town of Lanchow. Just before reaching this town, the capital of the province, the river has received, on both banks, a number of tributaries which have so enlarged the volume of water that Lanchow is the head of navigation, such as there is. From Lanchow the river moves roughly north then somewhat abruptly east and then equally abruptly south, to the town of Tungkwang. The three sides of this quadrilateral from Lanchow are 1,200 miles in length, whilst the direct distance from Lanchow to Tungkwang is only about 300 miles. The height of Lanchow above sealevel is 5,200 feet whilst the height of Tungkwang is but 1,000 feet. A fall of 4 feet per mile is not conducive to the development of navigation, but nevertheless the three sides of the quadrilateral present a river life of considerable importance. From Lanchow to Paotou, which is exactly on longitude 100 east and very near the point at which the river turns south, is a 25 days' journey by scow and boat, but after the first third of the journey, in which the passage is frequently difficult on account of rapids, and by reason of the fact that the river rushes through nearly vertical rocky walls, occasionally scarcely 20 yards apart, downward navigation does not present great difficulties. Along this stretch the river is generally about a quarter of a mile wide, flowing between banks overgrown with bush or willows which present the appearance of green ribbon running through vast yellow stretches of drifting desert sand. Hokow, just round the bend from Paotou, stands at 3,000 feet above sealevel, and between there and Tungkwang, a distance of 375 miles, the river drops 2,000 feet. Trade on this part of the river, though not unattended with risk, is fairly brisk owing to the fact that the river passes close to a coal region which, though only tapped in a primitive sort of way, has established a local in-come and out-go that is not negligible. At Tungkwang ("East Gate") three provinces meet, and, as the name of the city, suggests, the division between eastern and western China marks itself. At this point the river receives its principal tributary, the Wei Ho, the sources of which are in Kansu and the valley of which, along the foot-hills of the Tsingling Shan, effectually divides the province of Shensi into two parts. At Tungkwang also the river takes its last principal turn but one, flowing almost due east, along latitude 35 N. to a point just a little north of Kaifeng. At Kaifeng begins the most difficult part of the river. At the present time the river flows north-east to its outlet in the Gulf of Chihli. This is the course it has followed since 1854, before which date, for half a millennium, it made its way south-east through Hsuehchowfu and the lacustrine lands of Kiangpei to the sea in the neighbourhood of Haichow, but slightly to the south of the bay of that name. It will be seen that between the two beds of the river, the old bed and the new, we have practically the mountain and promontory part of the province of Shantung, and the fact that the Hwang Ho, although now discharging north of the

promontory, did for centuries discharge south of the mountain justifies the inclusion of Shantung in the list of provinces of the Hwang Ho Basin. At the same time the ancient discharge of the river in the province of Kiangsu indicates that the basins of the Hwang Ho and of the Yangtze in their eastern and lowest sections are not easily defined for purposes of separation, and this conclusion is confirmed by an examination of the Hwai drainage area, which reveals a large number of streams flowing parallel to the older beds of the Hwang Ho, but discharging into the Hwai Ho which itself empties its waters into the Hungtze but also to the Yellow Sea. The changes that the river has made from time to time may be studied in special works, and do not concern us here except to note that it is the opinion of many competent judges that another change is probably about to take place, and such a change cannot take place without disastrous results. The prevention of such trouble as has given the Hwang Ho the unenviable distinction of being known as "China's Sorrow" lies in two words, afforestation and conservancy.

### The Yangtze Kiang Basin.

The second great division of China is the Yangtze Kiang Basin. The river Yangtze forms the main artery of trade, commerce and every form of communication with central China, and thus opens up to Foreign trade the greater part of China Proper. Calculations based upon the average for the last ten years show that the Yangtze basin absorbs no less than 60 per cent. of the foreign trade of the whole country. This is no doubt due to the fact that the Yangtze basin is not only larger but, in China Proper, richer area for area than either of the basins to north and south. Père Richard gives the following as the characteristics of this region: (I) it possesses the great central artery of communication, the Yangtze, with its important network of navigable streams from all directions, carrying all kinds of merchandise for distribution throughout the provinces comprised in the basin; (II) it has a temperate climate, is not subject to the great variations of the Hwang Ho basin, though very hot in summer does not suffer from excessive cold in winter, and the rainy season being much more constant in summer the crops are less irregular than in the north; (III) it is the region where tea, rice, silk and cotton abound, whilst the sugar-cane (characteristic of the southern basin) is only cultivated in a few places; (IV) less rich in coal beds than the basins to the north and south, it is not however destitute of that mineral, and its mineral wealth, especially in Szechwan and in Hunan, is very great; (V) it is a region of lakes including some of considerable size, e.g., the Tungting Lake, the Poyang Lake, the Tai Hu, the Hungtze Hu, and the Chao Hu; (VI) it is a great manufacturing region, silk and yarn industries being found in Kiangsu, Indian ink in Anhwei, oil in Szechwan; (VII) it is the region of the great Treaty Ports open to foreign trade, including Shanghai, Chinkiang, Wuhu, Hankow, Changsha and Chungking.

From the point of view of the history of China the Yangtze Basin is not the most important; that distinction belongs to the Hwang Ho basin; but the Yangtze basin holds the first place in modern history and in present-day estimates because of its growing importance and its enormous wealth. As far as China Proper is concerned the Yangtze basin forms the heart of the country, with an area of close upon 600,000 square miles and a population of 180,000,000. The inhabitants of the valley have in their blood elements of an overflow from the northern valley. This overflow has taken place at various times, and is but an illustration of the close connexion between geography and history.

In the southern part of the basin we have, amongst the forests of southern Kiangsi, Hunan and on the Kweichow watershed, remnants of the aboriginal race that inhabited the whole region. At the present time so much intermarriage has taken place between the aborigines and the invading people that it is difficult to distinguish the one from the other. Only in language and in dress, and in the retention of a few social customs, can the Miaos, and associated tribes, be distinguished from the descendants of those who have come in much later. These original races have been driven back without serious opposition into their mountain homes, on the southern watershed and in the Tibetan border, in much the same way as the Britons were driven back by the invading Saxons and made their homes in Cornwall, Wales and Cambria, and in Scotland and Ireland. The differences now to be found are so slight however, that only the expert ethnologist can recognize them.

Before we discuss the course of the Yangtze it will be well to obtain some idea of the comparative status of the river by reference to measurements of the length, basin area, and discharge of other great rivers. The following table is taken from the "Report on the Yangtze Estuary" by Mr. H. von Heidenstam, Engineer-in-Chief of the Whangpoo Conservancy Board, published in April 1917, from which also much of the information following has been drawn:—

| River             | Approximate Length (Miles) | Approximate Basin (Sq. Miles) | Maximum Recorded Discharge (Cu.Ft.pr.sec.) | Annual Mean Discharge (Cu.Ft.pr.sec.) |
|-------------------|----------------------------|-------------------------------|--------------------------------------------|---------------------------------------|
| Ganges .....      | 1,500                      | 470,000                       | 2,050,000                                  | 532,000                               |
| Volga .....       | 2,000                      | 563,000                       | 1,426,000                                  | 200,000                               |
| Zambesi .....     | 1,600                      | 850,000                       | —                                          | —                                     |
| Yenesei .....     | 3,700                      | 880,000                       | —                                          | —                                     |
| Lena .....        | 2,000                      | 940,000                       | —                                          | —                                     |
| Mississippi ..... | 4,200                      | 1,244,000                     | 1,617,000                                  | 225,000                               |
| Obi .....         | 3,200                      | 1,300,000                     | —                                          | —                                     |
| Congo .....       | 2,000                      | 1,350,000                     | —                                          | —                                     |
| Nile .....        | 4,000                      | 1,500,000                     | 465,000                                    | 10,000                                |
| La Plata .....    | 1,500                      | 1,600,000                     | 1,100,000                                  | 765,000                               |
| Amazon .....      | 4,000                      | 2,250,000                     | —                                          | —                                     |
| Yangtze .....     | 3,200                      | 750,000                       | 2,152,581*                                 | 1,050,000                             |
|                   |                            |                               | 2,531,682**                                |                                       |

\* Recorded on the 27th July, 1915 at Wuhu.

\*\* Recorded on the 19th July, 1915 at Nanking.

The above table sets forth the position of the Yangtze amongst the great rivers of the world, but in Chinese eyes it is of course the premier river of the country. The Chinese know the Yangtze as "Kiang," i.e., "The River" *par excellence*, and the names by which it is known to foreigners are unknown amongst them. The name by which it is usually known, the Yangtze, meets the ordinary needs of foreign reference, though it is only near Yangchow, on the other side of the river from Chinkiang, that this name is applied by the Chinese themselves, and even in this connexion it is only in more ancient topographical works that it has been used amongst the Chinese until in quite recent years, when the vogue given to the term in international documents has spread its use amongst them. The Chinese have several names for the river. In their maps and in ordinary conversation the upper part of the stream, below the head-waters in Tibet, that is to say when the river has taken its decisive turn to the south, is called the Kinsha Kiang, or River of Golden Sand,

and this name it retains as far as the Szechwanese city of Suifu where it is joined on the northern bank by the Min Ho; between Suifu and Ichang it is known as the Chwan Ho or Szechwan River; and below Ichang it is known as the Chang Kiang or Long River. This assortment of names is more or less local, the term "Kiang" being the general term of reference. A number of names has been used amongst foreigners, the worst of which is the usual French name, the Blue River, given for some unknown reason.

The drainage basin of the Yangtze occupies a large part of the area between the 25th and 36th parallels of north latitude and between the 91st and 122nd meridians of east longitude. It is approximately 3,200 miles in length and with its tributaries drains approximately 756,500 square miles. It is navigable from the sea to a point above Suifu, which is 1,630 miles up stream. Except for short stretches it is unnavigable beyond this point, although the Min River, rising in the spurs of the Kwen Lun, is navigable as far as the point at which it enters the Chengtu plain. The boundaries of the basin are the watershed lines on north, west and south, and the China Seas to the east. The northern watershed is on an average considerably higher than the southern one. It is regarded as a prolongation of the main axis of the Tien Shan and the Kuen Lun, and starts north of the Tangle mountains where it has an elevation of about 20,000 feet. It then passes through the province of Kansu, maintaining a height of over 5,000 feet and moves southeast through the province of Shensi following the line of the Tsingling Shan, then through southern Honan and to the region of the Hwai River where it sinks into vague indistinction south of the old bed of the Hwang Ho. The southern watershed is much more definite. Starting in the Tangle mountains it runs, razor-backed, with an elevation of some 15,000 to 16,000 feet, for a considerable distance almost due south between the Kinsha Kiang and the upper reaches of the Mekong until it reaches the northern boundary of Yunnan. At this point it turns west and runs very close to the actual stream, so that the descent from the watershed to the actual bed of the river is extremely steep. At this point there is one low pass into the province of Kwangsi, through which runs the Shingan canal which serves as a water communication between the Yangtze valley and the West River valley.

This part of the watershed, known as the Nan Ling, consists really of the highest points of a series of parallel ranges running southwest to northeast. From the Kweichow province the watershed, known here as the Nan Shan, forms the southern boundary of Hunan and Kiangsi, with only two passes of importance, from 2,000 to 3,000 feet high. The watershed now passes northeast forming a barrier between Kiangsi and Fukien, and pushes to the sea between Hangchow and the Tai Hu, with no passes less than 1,000 feet.

Rising in the confused Central Asian mountains, on the northern slopes of the Tangle range, the head waters of the Yangtze river are fully 16,000 feet above sea level, and some 200 miles from its source. Przhevski found the stream flowing with a rapid current in a bed which from bank to bank is fully a mile wide, and the stream itself is 750 feet wide. During the summer floods the bed is full from bank to bank. After a short stretch to the north the river is thrust by the Baiankara-ula into a south-easterly direction as far as Batang, which is on the Tibeto-Chinese border on parallel 30 deg. north. Batang stands at 9,000 feet above sealevel, and 550 miles from the source of the river, so that there has been

Table Showing the Highest and lowest water at Hankow from 1865 to 1924.  
With Reference to Lowest Record in 1868.

| YEAR | LOWEST RIVER            |             |        | HIGHEST RIVER          |               |        |
|------|-------------------------|-------------|--------|------------------------|---------------|--------|
|      | Date                    | Feet        | Inches | Date                   | Feet          | Inches |
| 1865 | February .....          | 5th         | —0     | August .....           | 20th          | 43     |
| 1866 | January .....           | 10th        | —2     | August .....           | 12th          | +48    |
| 1867 | January .....           | 3rd         | 0      | September .....        | 15th          | 45     |
| 1868 | February .....          | 4th         | 0      | September .....        | 19th          | 44     |
| 1869 | January .....           | 29th        | 10     | October .....          | 23rd          | +49    |
| 1870 | March .....             | 9th         | 0      | July .....             | 4th           | +50    |
| 1871 | February .....          | 5th         | 1      | August .....           | 6th           | 43     |
| 1872 | January .....           | 25th        | 4      | September .....        | 9th           | 46     |
| 1873 | March .....             | 2nd         | —0     | July .....             | 29th          | 43     |
| 1874 | January .....           | 29th        | 3      | July .....             | 22nd          | 38     |
| 1875 | January .....           | 14th        | 4      | July .....             | 10th          | 45     |
| 1876 | January .....           | 26th        | 1      | July .....             | 26th          | 43     |
| 1877 | January .....           | 26th        | 0      | August .....           | 23rd          | 24     |
| 1878 | January .....           | 30th        | 1      | May .....              | 6th           | +48    |
| 1879 | March .....             | 2nd         | 2      | August .....           | 21th          | 41     |
| 1880 | January .....           | 11th        | 0      | July .....             | 23rd          | 39     |
| 1881 | January .....           | 12th        | 0      | July .....             | 19th          | 37     |
| 1882 | January .....           | 29th        | 6      | October .....          | 29th          | +46    |
| 1883 | February .....          | 15th        | 2      | July .....             | 26th          | 45     |
| 1884 | December .....          | 9th         | —0     | July .....             | 27th          | 36     |
| 1885 | January .....           | 5th         | 0      | July .....             | 24th          | 45     |
| 1886 | February .....          | 23rd        | 1      | July .....             | 23rd          | 41     |
| 1887 | January .....           | 15th        | —0     | August .....           | 23rd          | +48    |
| 1888 | January .....           | 24th        | —0     | July .....             | 7th           | 40     |
| 1889 | March .....             | 22nd        | 2      | August .....           | 18th          | +48    |
| 1890 | February .....          | 20th        | 2      | August .....           | 20th          | 46     |
| 1891 | February .....          | 25th        | 1      | July .....             | 30th          | 43     |
| 1892 | January .....           | 1st         | 2      | July .....             | 30th          | 43     |
| 1893 | January .....           | 29th        | 3      | August .....           | 22nd          | 35     |
| 1894 | January .....           | 29th        | 3      | June .....             | 2th           | 42     |
| 1895 | March .....             | 2nd         | —0     | August .....           | 4th           | 41     |
| 1896 | January .....           | 29th        | —1     | October .....          | 10th          | +46    |
| 1897 | February .....          | 15th        | 3      | October .....          | 7th           | 46     |
| 1898 | December .....          | 30th        | 0      | August .....           | 25th          | 40     |
| 1899 | February .....          | 12th        | 3      | October .....          | 2nd           | 41     |
| 1900 | February .....          | 14th        | —3     | July .....             | 31st          | 31     |
| 1901 | March .....             | 16th        | —1     | July .....             | 26th          | 46     |
| 1902 | March .....             | 23rd        | —0     | September .....        | 21st          | 37     |
| 1903 | February .....          | 5th         | —0     | August .....           | 11th          | 42     |
| 1904 | February .....          | 2nd         | —5     | August .....           | 12th          | 37     |
| 1905 | February .....          | 9th         | 4      | August .....           | 21st          | 43     |
| 1906 | December .....          | 31st        | 1      | August .....           | 24th          | 45     |
| 1907 | January .....           | 28th        | 6      | October .....          | 27th          | 44     |
| 1908 | January .....           | 29th        | 3      | July .....             | 23rd          | 48     |
| 1909 | March .....             | 9th         | 4      | July .....             | 16th          | 46     |
| 1910 | February .....          | 21st        | 5      | July .....             | 16th          | 46     |
| 1911 | January .....           | 28th        | 9      | August .....           | 29th          | 49     |
| 1912 | February .....          | 18th        | 2      | August .....           | 26th          | 147    |
| 1913 | February .....          | 11th        | 1      | July .....             | 19th          | 146    |
| 1914 | January .....           | 21st & 22nd | 0      | July 23rd, August 10th | 41            | 0      |
| 1915 | March .....             | 2nd         | 4      | June .....             | 24th and 27th | 39     |
| 1916 | February 8th, 6th & 7th | 0           | 4      | August .....           | 25th          | 38     |
| 1917 | February .....          | 20th        | 0      | August .....           | 9th           | 38     |
| 1918 | February .....          | 21st & 22nd | 4      | August .....           | 10th          | 46     |
| 1919 | December .....          | 30th & 31st | —0     | August .....           | 24th          | 46     |
| 1920 | February .....          | 2nd         | 5      | August .....           | 4th and 8th   | 45     |
| 1921 | March .....             | 13th        | 5      | July .....             | 31st          | 47     |
| 1922 | February .....          | 1st         | 10     | August .....           | 12th          | +47    |
| 1923 | February .....          | 13th        | 0      | August .....           | 30th          | +47    |
| 1924 | January .....           | 27-28th     | 4      | July .....             | 28th          | 45     |
| 1925 | January .....           | 8th         | 3      | August .....           | 3rd           | +48    |
|      |                         |             |        | September 15 and 16th  | 36            | 1      |

Bund level 46

† Above Bund level.

—Below Zero.

a fall in that 500 miles of 7,000 feet, or about 14 feet per mile. As a matter of fact in the first 400 miles the river does not fall more than 200 feet, so that we have a drop of 6,800 feet in 150 miles. The first 400 miles are on the high Tibetan plateau, whilst the next 150 miles are a part of the descent from the Tibetan plateau to the Lower Szechwan level, marking the southern buttresses of the Szechwan high lands. It is at Batang that the river, known for the next 1,000 miles as the Kinsha Kiang, turns directly south and flows parallel to the upper courses of the Irawadi, the Salwen and the Mekong, until it reaches Shihku just outside the Szechwan border, whence it turns almost due north to Fengkow and then due south again to Sincheng. From this point it goes almost due east until it is joined by the Yalung with which it has flowed practically parallel for over a thousand miles. From this point until just before reaching the junction with the Min River the Yangtze forms the boundary between Szechwan and Yunnan, following a north-easterly direction as far as Pingshan which is 1,750 miles from the mouth of the river and only some thousand feet above sealevel. A few more miles bring the river to Suifu, 1,700 miles from the mouth of the river, nearly the same height above sealevel as Pingshan, and at the head of junk navigation. Between Batang and Suifu, a distance of roughly 1,000 miles, the river falls almost steadily for 8,000 feet. At Suifu the moderate fall of the river begins, and continues through Chungking to Ichang. From Suifu to Chungking is a distance of 200 miles and this section of the river falls about 300 feet, or 1 foot 6 inches to the mile.

Between Chungking and Ichang special care has been taken to ascertain the fall in order to facilitate the eventual navigation of these waters by steam. Mr. A. Little writes on this section as follows:—

A comparison of three years' barometrical readings at Chungking, in Szechwan, and at Siccawei, the observatory of the Jesuit Fathers near Shanghai, and the résumé of some 4,000 observations enumerated in Mr. Baber's paper on the subject, exhibit the unexpectedly small difference of level between the two places of 650 feet. Now, as the average rate of the current down the rapids, which large and small, obstruct the river throughout the whole distance of nearly 500 nautical miles between Chungking and Ichang, is not less than five knots, a fall of twelve inches to the mile between those two places cannot be considered excessive. This would give a total of 500 feet as the fall from Ichang to the sea, 960 miles below. The great fall in the river bed is, as is only natural, in the upper half of its course, where the stream rushes as an unnavigable mountain torrent through the defiles of the unpenetrated ranges of Western Szechwan and Tibet, and where Mr. Baber estimates the fall at no less than six feet to the mile. The average speed of the comparatively more tranquil lower half, say from Pingshan, the city situated at the head of the present junk navigation, some 1,700 nautical miles from the sea, is still, as Captain Blackiston, the early explorer of the Yangtze, points out, double that of the Nile and Amazon, and three times that of the Ganges.

This greater fall in the bed and consequent rapidity of current is attributable to the greater hardness and insolubility of the rocks over which the Yangtze water flows

The sub-joined table of gradients in the main valley is taken from von Heidenstam, and shows at a glance the essential details in connexion with the subject.

TABLE OF GRADIENTS IN MAIN VALLEY

| From          | to.         | Distance Average Gradient |               | Remarks.                               |
|---------------|-------------|---------------------------|---------------|----------------------------------------|
|               |             | (Nau. Mls.)               | Ft. per mile. |                                        |
| Tangla Mts.   | Sogongomba  | 400                       | 1.75          | (Przhvalsky)                           |
| Sogongomba    | Batang      | 170                       | 42.90         | (Little : Gill)                        |
| Batang        | Wawu        | 790                       | 8.23          | Cataracts                              |
| Wawu          | Yangliushu  | 75                        | 9.33          | (Baber)                                |
| Yangliushu    | Kwochwantan | 35                        | 2.57          | (Baber)                                |
| Kwochwantan   | Pingshan    | 55                        | 1.73          | Limit of nav.                          |
| Pingshan      | Suifu       | 33                        | 1.66          |                                        |
| Suifu         | Chungking   | 211                       | 1.50          |                                        |
| Chungking     | Ichang      | 400                       | 1.20          | By Szechwan-Hankow Rly. levels.        |
| Ichang        | Yochow      | 245                       | 0.344         |                                        |
| Yochow        | Hankow      | 122                       | 0.147         | By Canton-Hankow Rly. levels.          |
| Hankow        | Kiukiang    | 132                       | 0.16          |                                        |
| Kiukiang      | Wuhu        | 189                       | 0.18          |                                        |
| Wuhu          | Woosung     | 249                       | 0.065         |                                        |
| Woosung       | Wuhu (L.W.) | 249                       | 0.030         | Maximum country-Effect of Spring Tide. |
| (Spring H.W.) |             |                           |               |                                        |

As any map will show, the first third of the river's course is through an extremely complicated mountainous district and until it reaches Pingshan there is seldom any place at which the valley through which the river passes is any wider than the actual river bed. In this part of its course the river is torrential and frequently flows between cliffs that rise several hundred feet sheer from the water edges. These conditions obtain until the river reaches Pingshan, where the character somewhat changes and junk navigation begins. For this point as far as Ichang the river is increasingly navigable, and in recent years even the series of rapids between Chungking and Ichang is taken by specially strong steamers, so that the immemorial tracking will probably in time die a natural death. The following description of the region of the rapids and of the method of navigation before the advent of steam on the Upper Yangtze is taken from Père Richard:

The rapids appear in numerous succession, one of the fiercest being between Ichang and Patung. When the water is low, the New Rapid—Sin Tan or Sin-lung Tan—near Yunvanghsien, is also very dangerous. If the descent of these rapids is an expeditious matter it is, however, not unattended by danger (as regards three or four of them at least); their very slow, tiresome ascent is still more dangerous. The boats used in crossing them have an enormous scull in front. This is manned by four or five men and is intended to strengthen the rudder. In the low-water season (spring and autumn), and especially in winter, they are more easily crossed, and the distance from Ichang to Chungking may be covered in a few days, though this same journey requires sometimes as much as thirty days and more, and at least three weeks. The time required to perform the voyage varies in fact to a great extent, and depends especially on the buoyancy of the boat, and the number of the trackers.

In this part of its course the Yangtze, which has already received the longest of its tributaries, the Yalung Kiang—a mere torrential stream after all—receives on its left bank its chief affluents. These are the Min Kiang which was long considered, and by the Chinese is still considered, the parent stream of the Yangtze on account of its importance; the Kialing Kiang with its tributaries watering a large part of

eastern Szechwan and running into the Yangtze at Chungking; and on the right bank the Hoh Kiang and the Wu Kiang both from Kweichow and both suitable for navigation.

In this part of the river the rise in the high-water season (summer especially, when the snows on the Tibetan table-land and on the high lands of Szechwan have melted) is as much as 96 feet above low-water mark. At Chungking there is a difference of fully 100 feet between average minimum water level and average maximum flood level.

At Ichang the river enters upon what may be described as the easily navigable part of its course. Up to Ichang steamers of ordinary construction though not of heavy tonnage are able to proceed, and it may be reckoned that at Ichang the river enters its plain course. It is therefore of interest to note that according to figures given by von Heidenstam, "it seems there can be little doubt that the majority of the silt which reaches the estuary can be regarded as originating above Ichang, since while some of the lower streams do undoubtedly feed silt into the Yangtze there is considerable compensation effect in the deposits left in the lake areas by the summer floods from the Yangtze." The following table, showing the points on the river above which the silt is collected and the proportion per cent. in which it is collected, based on von Heidenstam's table is of interest:

|                                 | Origin of Silt: | Eroded from the:             |
|---------------------------------|-----------------|------------------------------|
| (1) Above Pingshan .....        | 24 per cent.    | Tibetan plateau and valleys. |
| (2) .. Suifu to Chungking ..... | 19 .. ..        | Szechwan plain.              |
| (3) .. Ichang .....             | 7 .. ..         | Small lateral water-sheds.   |
| (4) .. Yochow .....             | 14 .. ..        | Tungting Lake and sources.   |
| (5) .. Hankow .....             | 10 .. ..        | Han River basin.             |
| (6) .. Hukow .....              | 11 .. ..        | Poyang Lake basin & sources. |
| (7) .. Nanking .....            | 3 .. ..         | Small streams.               |
| (8) .. Chinkiang .....          | 10 .. ..        | Hwei River.                  |
| (9) .. Woosung .....            | 2 .. ..         | Whangpoo.                    |

It will thus be seen that Ichang marks the point at which 50 per cent. of the silt carried down by the river has been gathered. On this the following extract from Little is of interest:

The volume of water brought down per second.....is, at Ichang in June, 675,800 cubic feet; that at Hankow, 360 miles lower down, being at the same period, according to Dr. Guppy of H.M.S. *Hornet*, nearly 1,000,000 cubic feet: the increase being due to the influx from the Tungting lake, 120 miles above Hankow, and from the Han river, which flows into the Yangtze at Hankow and from which the town of Hankow takes its name, which two are the only noticeable affluents throughout this stretch of the river. Compared with these figures, it is curious to note that the water discharged into the sea by the old familiar Thames is estimated at 2,300 feet per second. Reducing the figures given by Captain Blakiston for Ichang in June to the average of the year, on the basis of Dr. Guppy's monthly observations in Hankow, we find the discharge at the former port to be actually 560,000 feet per second for the whole year round, which would make the volume of water at Ichang, 960 miles from the sea, just 244 times that of the Thames at London, distant from the sea forty miles only. The amount of solid matter in suspension carried actually past Hankow, 600 miles from the sea, is estimated by the same observer at five billion cubic feet.

The comparison of the sediment annually brought down by the respective rivers at these two points, admitting the estimates to be fairly approximate, is as 2,000,000 cubic feet to 5,000,000,000 or as 1 to 2,500. Taking the drainage area of the Yangtze at 600,000 square miles, and estimating the sediment discharge as above, both Captain Blakiston's and Dr. Guppy's figures

give a rate of subaerial denudation for the whole catchment basin of about one foot in 3,000 years. Allowing that one-half of this amount of sediment is employed in raising the banks and in filling up the expanse of its inferior valleys while inundated by the summer floods, the remaining half, carried out to sea, is sufficient to create annually a fresh island in the Pacific one mile square and fifteen fathoms deep. The rapid rate at which the coast-line is gaining on the ocean, startling ocular evidence of which is presented to every old resident of Shanghai, is thus not surprising. In the very near future the innumerable rocky islands which fringe the coast, the 'Saddles,' the 'Rugged,' and the Chusan archipelago generally, and which now stand out of the shallow water of the estuary, will look down upon the embanked paddy-fields, with the river flowing between, precisely as the hills inland from Shanghai now stand out from the fields which have been raised by the same process within the limits of the historical period.

The following extract from von Heidenstam's Report describes the delta of the Yangtze and all necessary details:

At Chinkiang the Yangtze emerges from the hilly area which so far strictly defines its course but for reasons already given Kiangyin has been assumed as the head of the estuary. During the later millennia this is also topographically correct as far as the right bank is concerned since there is a scattered collection of hills extending from the main mass near Ihsingsien round the west and north sides of the Tai Hu past Changchoufu to Kiangyin, but the left bank is less sharply defined.

Counting from Kiangyin, the actual estuary area extends 83 miles south-east by east to the eastern extremity of Tsungming Island (Drinkwater Point). It is here sufficient to say that the width between low water lines increases from about 1½ miles at Kiangyin to about 40 miles between the terminal promontory on the left bank ("North Branch Cape") and Yangtze Cape.

Some doubt arises as to the exact limits of the delta but it may be said that the alluvial area below Kiangyin which surrounds the estuary consists principally of two triangular areas projecting into the Yellow Sea, and a large island (Tsungming) between them.

The northern triangle extends from Jukaohsien to the North Cape and is 80 miles by 35 miles wide at the root (area: 1,400 square miles.)

The southern triangle is defined by the water line and a line from Kiangyin through Soochow and Kashing, terminating at Haiyehsien. The base of this triangle is 90 miles long and its perpendicular height to Yangtze Cape is 50 miles (area: 2,250 square miles).

Tsungming Island is 35 miles long with an average breadth of about 6 miles (area: 210 square miles).

Shoals, less than 5 fathoms, extend from the mouths of the estuary fanwise to the line Shaweishan-Ariadne and Gutzlaff.

Within the estuary itself are numerous shoals and small islands.

On the left bank above Kiangyin there is a very extensive alluvial area between Yangchowfu (opposite Chinkiang) and Chingkianghsien (opposite Kiangyin) extending northwards to the intricate mesh of lakes and waterways east of the Grand Canal associated with the River. It should be observed in this connexion that there are shoals all along the coast north of the Yangtze which are derived either from the Yellow River (in its old position) or the Yangtze, probably the former.

There is an alluvial area in the triangle Huchoufu-Kashingfu-Hangchow, which appears to belong to the Tsientang River, but may partially or even largely owe its origin to the Yangtze, especially if the latter formerly discharged through the Liyang Gap into the Tai Hu. The northern boundary is similarly ill defined, as the delta merges into the ancient deltas of the Hwai and Yellow Rivers.

The general form is comparatively simple and presents fewer irregularities than is the case with most large tidal rivers. Its most striking feature is its immense size. The country in general is extremely flat, the average level being from 12 to 15 feet above the Woonung Horizontal Zero, and it is protected from inundation by dykes.

#### The Si Kiang Basin.

The Si Kiang, or West River, basin is the smallest of the three areas into which China Proper is divided, and it is worth noticing that in this valley we are confined to China Proper. In the valleys of the Hwang Ho and of the Yangtze there are included considerable stretches of Outer China, but the basin of the West River does not stretch beyond the confines of China Proper. It includes four provinces all of considerable size but of no large population. The official figures for the four provinces show an area of 390,000 square miles and a population of 60,000,000. From this it will be seen that the density of population is not high, being only about 150 to the square mile. This may be compared with an average of 238 per square mile for the whole of China Proper, with an average of 160 per square mile in the Hwang Ho basin, and of 420 per square mile in the Yangtze Kiang basin.

The area with which we are dealing is actually somewhat larger than the actual basin of the West River. Kwangsi and Kwangtung are drained entirely by the West River and its tributaries, but the provinces of Yunnan and Kweichow thrust themselves beyond the actual basin of the West River and their northern portions drain into the Yangtze Kiang, and geographically form part of the basin of that river. It is convenient, however, to follow the administrative divisions of the country and reckon even these Yangtze-draining regions as part of the West River basin. With this exception the area now under consideration forms a unit that has its own characteristics. These characteristics are partly due to the fact that the basin is cut off to a large extent from the rest of China. There is a continuous line of mountains separating the West River basin from its northern neighbour, and this of any importance for communication purposes through it, the Che-ling and the Mei-ling. The latter of these is mentioned in the accounts of the early British Embassies, and by Abbé Hue, the account of Macartney's Embassy mentioning the height of the pass as 8,000 feet. (This is obviously a miscalculation, as its height is really not much more than 1,000 feet, but even this is a very considerable drop from the neighbouring parts of the chain, which average some 3,000 feet). The chain is known generally as the Nan Shan, and is really an extension of the great Yunnan mountain system, which continues unbroken right from Yunnan to the sea near Amoy, though the height varies considerably at different points in the nine-hundred mile stretch from the eastern flank of the Yunnan plateau to the sea. Of the whole basin that touches the sea, but they all have access to the sea by means of the West River, the north, or by a series of rivers flowing through non-Chinese territory to the south. The West River is not to be compared either in size or in usefulness with the Yangtze, but it is nevertheless a great river, comparing it with the rivers of Europe. Thus it is only about 500 miles shorter than the Danube, which is reckoned at 1,750 miles, and is half as long again as the Rhine which is 800 miles in length. It is navigable for nearly 1,000 miles. By means of its tributaries it reaches into the whole of the four provinces, and a particularly important tributary links it with the province of Fukien, which though practically a self-contained province, belonging neither to the Yangtze basin nor to the West River basin, is most conveniently

treated as part of the latter basin, though from the statistics given above Fukien province is excluded.

The basin has its own characteristics. Thus it is for the greater part a tropical and semi-tropical region. Apart from the fact that the people have comparatively little pure Chinese blood in them there is to be considered the political effect of isolation as noted above. To this add the fact that the people in the lower parts of the area, the deltaic district, have been longest in touch with western people, ways and ideas, and there is little occasion for surprise that more than one of the rebellions that made the late dynasty tremble in its Forbidden City took their rise in provinces drained by the Si Kiang.

An elaborate account of the whole West River has recently appeared in the form of a Report on a survey conducted in 1916 in order to draft a scheme for conservancy work that would prevent the disastrous floods that had been prevalent in the valley for many years, and that during 1914 and 1915 had caused almost unprecedented loss. On this Report by Major G. W. Olivecrona, the following sketch is based.

The West River has its sources in the north-eastern part of Yunnan province near the town of Kutsing. First it flows to the south, receiving tributaries from several of the plateau lakes, and when nearing the Tropic of Cancer it turns in a north-easterly direction to the point of meeting of the three provinces of Yunnan, Kweichow and Kwangsi. So far it is known by the name Pakshah Ho, but from the point at which it makes its bend it is known as the Hung-Shui, and for a distance of about 230 miles it flows along the frontier between Kweichow and Kwangsi. The name by which it is known in this part of its course, Hung-Shui, means Red Water, and is given to it on account of the colour of the river during the flood season. On leaving the Kweichow frontier the stream takes a direction which is in the main south-easterly, and in this direction the river flows through the whole of Kwangsi province. On the border of the province it reaches the town of Wuchow, about 900 miles from the head waters of the river. From this point, where it both enters the province of Kwangtung and turns slightly south-easterly, the river is known as the Si Kiang. At San-shio the river takes a marked change in direction to the south and, throwing off an arm known as the Canton River on which stands the historic port of Canton, the river enters the sea through a delta the several channels of which lie east and west of Macao. The river has a total length of 1,118 miles. Of these 303 miles are in Yunnan, 231 along the border of Kweichow and Kwangsi, 387 in the province of Kwangsi, and the remainder, 196 miles, in Kwangtung.

During the dry season vessels with a draft of 5 feet can reach Wuchow, but beyond this point only junks and flat-bottomed motor-boats can proceed on account of obstruction by rapids. Small vessels of shallow draft can get up as far as Hingi in Kweichow, 530 miles above Wuchow.

The Si Kiang has a number of important tributaries. On the right bank, with its head waters in the province of Yunnan, is the Yuh Kiang. The general direction of this stream is south-east as far as Nanning, but here there is a change to direct east until reaching Hengchow when there takes place an irregular north-east sweep which brings about a junction with the West River at Sunchow, about 100 miles from Wuchow.

This river has a total length of 525 miles and receives a short distance above Nanning, which is nearly 400 miles from the source, the Tso Kiang, a somewhat important stream from the mountainous Tongking border. This tributary is important because it is made up of several small streams which drain the north-eastern part of Tongking. The main stream is navigable for shallow draft motor-boats the whole year round as far as Nanning, and for nine months of the year as far as Pochi, almost on the Yunnan border. Of other tributaries on the right bank the most important is the Kakla Kiang or the Yung Kiang, which rises in the border of Kwangsi and Kwangtung and enters the West River at Tengyun.

Between Wuchow and the sea a number of small rivers enter, the principal of them being the Nam Kiang, which affords communication with Lotingchow, and the Hsinhsin Kiang which joins the main stream at Shuihing. Turning to the left bank we have several tributaries of importance. First of all, joining the river where it passes from Yunnan into Kwangsi, we have the Ching Ho, about 100 miles long, with its sources in the north-eastern part of Yunnan and forming for some distance the boundary between Yunnan and Kweichow. Next comes the Pepan Kiang which after a course of some 285 miles from south-western Kweichow, runs into the Hung Shui near Hing. A little further down stream the Pope Kiang runs in at the town of Wangai, just where the Hung Shui leaves the Kweichow border and turns south. The Pope Kiang has only a length of 125 miles. These three rivers are of little importance and each carries only a small quantity of traffic, and must be regarded as exceptions to what is said below with respect to the tributaries of the West River generally. The largest of the tributaries on the left bank is the Liu Kiang.

By many this is regarded as the main stream, a point of view apparently due to the fact that at the point of its junction with the Hung-Shui it has a greater width and depth than the Hung-Shui itself. An examination of the relative importance of the basins of the two rivers puts the matter beyond doubt. The Liu Kiang rises in a mountain district of comparatively high elevation which catches the moist winds of the summer monsoon and thus has a heavy precipitation, which gives during this particular season a larger discharge than the Hung-Shui. The Liu Kiang rises not far from Tushan in Kweichow and follows a course roughly parallel with the boundary between the provinces of Kweichow and Kwangsi until it reaches Meichai, where it takes a big sweep through a semi-circle eastward, passing through Hwaiyuanhsien and Jungyun until it comes directly south of Meichai, when it moves due south until its junction with the Lung Kiang at Liucheng. From this point it flows south-east past Liuchowfu until it is joined on its left bank by the Losing Kiang, shortly after which it turns south again and joins the Hung-Shui Kiang just beyond Siangchow. The Liu Kiang receives several tributaries from the frontier district of Kwangsi and Hunan, the largest being the Lung Kiang which originates in the northern mountains of Kwangsi from a net-work of small rivers and joins the Liu Kiang about 100 miles from the junction of this river with the Hung-Shui. The Liu Kiang passes through fertile plains but is of little use for navigation on account of its many rapids. It has a length of 325 miles.

The Kwei Kiang, or Cassia River, which flows into the Si Kiang at Wuchow, drains the north-eastern part of Kwangsi and has its source on the Hunan frontier. It is interrupted by many rapids but is generally navigable for shallow draft vessels as far as Kweilin the whole year round. Occasionally during the rains it carries a large amount of water which supplements the floods of the Si Kiang and causes a sudden rise of water level at Wuchow. The Cassia River is interesting because its upper course is connected by means of an artificial channel, built in B. C. 214, with the Siang Kiang, a member of the Yangtze river system with its outlet into Tungting Lake. The Cassia River is about 185 miles long.

The Bamboo River is properly speaking a tributary of the Pei Kiang or North River but has a branch not far from its mouth which cuts through the plains north of Ching-ki and carries part of its waters into the West River about 3 miles above the Samshui Reach. This Reach forms a peculiar connexion between the West and North rivers. A channel rather more than half a mile long leads the water from the one river to the other, the direction of flow depending on the difference in water levels in the two rivers. Usually the West River is the higher. This is always the case during the summer floods but during the winter the opposite condition generally prevails.

The main part of the West River with its tributaries passes through a thoroughly mountainous region, only the last 90 miles falling within the delta area. The drainage basin is divided into numerous valleys by mountain ranges which traverse

the country from the north-west to the southeast. To the north the Nanling mountains form the watershed between the West River and the Yangtze basins; to the west the Yunnan tableland divides the West River basin from those of the rivers of Burma and Tongking; while to the south the Juling range and its extension westward form a barrier to the coast. The rivers have generally cut their channels deep into the valleys. On account of the steep gradient the run-off during rainfalls is so rapid that the water-level rises considerably in a short time and the rivers swell to foaming torrents which inundate the land and cause erosion and landslides on the mountain slopes. The mountains generally are barren, but in a few districts, where they are wooded, as in the upper part of the Liu Kiang valley, the natives are recklessly cutting down the timber and within a short time, as there is no effective provision for re-timbering, the mountain side will be entirely bare. Below Wuchow, the mountains are less steep and are covered with grass, shrubs and small clumps of fir.

The following detailed description of the river between Wuchow and the sea is taken from the Report to which we have referred above and to which these pages are already heavily indebted:—

Between Wuchow and Dosing the river bed has a considerable width, the largest measurement being 1,500 metres. To the right, a broad foreshore covered with shrubs and bamboo growth divides the river bed from the adjacent mountains. Sandbanks are frequent, but do not seem to change their position, taken as a whole, though partial deformations may be observed from year to year. Below Dosing the river is confined between high mountains ascending from the shore in a steep gradient, and in some places only opening through narrow gorges through which the river winds. Two of these are especially remarkable. The first, situated at Taisiang, called Siu Siang Gorge, covers a length of 5 kilometres, and has a width of only 370 metres at its narrowest part. The depth is here, however, considerable, being 57 metres. After passing the gorge, the river opens into a wide basin, 1,850 metres broad in front of Shuihing, but it narrows again and enters the second gorge, the Ling Yang Gorge, which has a length of 7 kilometres, a minimum width of 360 metres and a depth of 77 metres, this being the deepest part of the river observed.

The mountain slopes are generally covered with a long stiff grass, used by the natives as fuel. Shrubs and trees are scarce. When gathering grass, the natives cut out the whole plant, root and all, consequently depriving the soil of its protection and exposing the slopes to the eroding influence of the rain-falls. This causes landslides, which by degrees fall into the river, giving rise to banks and shallows further down.

Above Shuihing at Taiwan, the first dyke systems are met with, and from here to the mouth all low-lying land on both side of the river is protected against floods by more or less effective embankments. The dykes are here raised to a height of 5 metres above the adjacent ground level. Below Ling Yang Gorge the river bed broadens again and at Lokyuen reaches a width of 1,850 metres at ordinary water level. At Kwangli the river is divided into two branches by a low-lying island, the north branch of the two being the deeper. After turning to the South at Samshui Reach the waters narrow at Mahou between the two single mountains, the width being only 520 metres. During the maximum floods of 1915 this contraction banked up the water nearly 1.0 metre, and caused a current of 2.80 metres per second. The river bed now widens but is again contracted 13 kilometres below at Fuwan or Rocky Point to 690 metres. From here to Kumchuk the river has an ample width except

between Sheklung and Kulo, and is bounded by extensive embankments on each side. Several islands and sandbanks have been formed here, and the silting seems to be carried on to a considerable extent.

At Kumchuk, the river branches off to the left through a channel of the same name, and 4.5 kilometres below there is another channel, called the Junction Channel, which also branches off to the left. Both these channels flow to the south-east and divide during their course through the delta into a network of channels, which empty a part of the West River waters into the sea north-west of Macao at Junk-fleet entrance.

The river proper continues in a southerly direction, but divides near Kongmoon Customs Station into three branches of which the western-most is the main branch. From this a small channel leads some water to the west, passes Kongmoon City, and then through a vast plain till it opens into the sea through Ngaemoon. At Kuchin the three branches re-unite into one, but 8 kilometres below that place the river again divides into channels the eastern-most of these entering the sea through Motomoon, which is considered the main estuary, the westernmost in its turn splitting into several channels near Mukchow, of which one joins the Ngaemoon, another the Futinmoon, and still others have their outlet in the main estuary.

Looked at from the sea, the West River has no less than four obviously distinct outlets viz: at Junk fleet, Motomoon, Futinmoon, and Ngaemoon.

The tributaries of the West River are nearly all of them, with the exceptions already noticed, of considerable use both for irrigation purposes and as means of communication. They are often tortuous and rapid, frequently shallow and interrupted by obstacles of one kind or another, but still they carry upon their waters large quantities of merchandise, chiefly of small bulk, and a very heavy passenger traffic. Gradually the steam launch and the motor-boat are ascending farther and farther up these water-courses and their arrival is usually the signal for renewal of agitation, or in many cases for the commencement of an agitation for the removal of obstacles to navigation. As may be seen from a study of the Customs reports concerning this district, there is a constantly increasing traffic both on the extra-deltaic reaches, and on the waters of the delta itself; and this means that in the course of time the principal obstacles both to navigation and to the uninterrupted enjoyment of the benefits of agriculture will be removed.

#### Other Rivers.

*Amur River.*—2,920 miles long. The Amur River is formed by two great arms, the Shilka and Argun, which unite on the Mongolian plateau. The former rises on the north side of the Khanula range and flows through Russian territory; the Argun rises to the south of the same range and remains in Chinese territory until near the 50th parallel, where it forms the boundary between Russian Siberia and the Chinese Empire. After uniting with the Shilka the stream continues as the Amur to divide these two countries until the junction with the Ussuri River near Habarovsk. The Amur with the Shilka is navigable for some 1,500 miles.

*Tributaries.*—Left Bank: Zeya (at Blagovestchensk), Bureya.  
Right Bank: Sungari, Ussuri.

*Salween } Rivers.*—Neither of these rivers belongs wholly to China but  
*Mekong }* rising in the Tibetan plateau, they hold together on a parallel course due south for some 900 miles through Chinese territory. The Mekong, while in China, flows through a deep channel, at times 2,000 feet below the surrounding country. It continues its course through Indo-China and entering Cambodia finally empties itself into the China Sea in the South of that state.

The Salween is a broader stream in its passage through China. It flows into the Gulf of Martapan.

*Liao-ho.*—This river rises to the S.W. of Dolo-Nor, and running at first north and then east, forms the boundary between Chihli and Mongolia. Its present mouth Yinkow (Newchwang) is nearly thirty miles below its former mouth, where it is joined by the Hun Ho (which flows past Mukden). The Liao is navigable by small craft for over 200 miles.

The *Sungari.*—A tributary of the Amur, rises in the Chang-pei-shan (Pehtan-shan, White-crested Mountain) at an altitude of 8,000 ft. on the borders of Korea. It is navigable up to Kirin.

*Tributaries.*—Left Bank: Nonni, navigable up to Tsitsihar.

Right Bank: Khurkha.

The *Ussuri River.*—A tributary of the Amur, rises near Vladivostock. It is 350 miles long and flows through Lake Hinka, from which point it is navigable.

The *Yalu* rises in the Pehtan-shan (White-crested or Long White Mountain) and flows in a generally south-westerly direction, forming the boundary between Manchuria and Korea. It is navigable for 600 miles.

*Chief tributary.*—Right Bank: Han-kiang.

*Tsientang River.*—This river, the chief waterway in Chekiang, rises in the Tayuling Mountains with two head-streams. It is a broad and picturesque stream, but shallow. It is navigable for small steamboats up to Yenchow and higher still for junks; but Hangchow the capital of the province is cut off from communication by large vessels. The river is famous for the so-called Hangchow Bore.

*Whangpoo.*—This stream derives its importance from the town of Shanghai which is situated on it, 14 miles from the coast, where the river runs into the Yangtze mouth. *Vide* Whangpoo Conservancy.

[For Outer Territories, see Chapter on "Greater China."]

## GEOLOGY.

### I. STRATIGRAPHY.

The stratigraphic sequence is now fairly well established for both North and Central China; but much revision and details are still needed especially in South China.

#### Pre-Palaeozoic.

In China as well as in other parts of the world, the fundamental formation or Archæan group underlying the whole sedimentary sequence consists of gneiss and gneissic granite with abundant intrusions of igneous rocks. This is called the Taishan complex from the name of the sacred mountain of Shantung. Unconformably overlying the Taishan complex is the Wu-tai system consisting of schist, phyllite, quartzite and marble of Eo-proterozoic age. The quartzite is hematite and magnetite bearing in S. Fengtien and N. E. Chihli. Part of the Wutai system is rich in talc, magnesite, asbestos, dolomite, etc., which are extensively worked in S. Fengtien.

Above the Wutai and after a marked unconformity comes the unmetamorphosed Sinian system consisting of quartzite and shale in the lower part and a thick flinty limestone in the upper part. Sandstone and bituminous slate are sometimes found overlying on the limestone. This system is widely distributed in Chihli, Honan, Shansi, Kansu and Inner Mongolia, but it is only sparingly present in Shantung.

South of Tsingling, the Palaeozoic formations are underlain by gneiss or crystalline schist of Archaean or Algonkian age. A thick series of siliceous limestone lying above the Nantou tillite, W. of Ichang has been recently proved to be equivalent to the Sinian system on account of the presence of the algae-like fossil *Collenia*.

#### Palaeozoic.

**Cambrian:**—In the northeastern Provinces the Cambrian is represented by two divisions: the Manto shale and sandstone of red colour and the Kiulung limestone often oolitic and conglomeratic in structure. In both, trilobites are extremely abundant. No Cambrian formation has been identified in Mongolia and in Western provinces further than the Shansi basin.

In E. Yunnan and W. Hupeh Cambrian formation composed of yellow or greenish sandy shale with the fossil *Redlichia* is of wide occurrence. No Cambrian is however known in the Lower Yangtze regions.

**Ordovician:**—In the Ordovician period, the difference between North and South China becomes still more marked. North of the Tsingling range, the Ordovician limestone is known from Northern Kiangsu, Honan, Shensi, Shansi, Chihli, Shantung, S. Manchuria and Korea. It is underlain by the Cambrian limestone and overlaid with a considerable gap by the Carboniferous beds. The formation carries in its upper part a characteristic fossil *Actinoceras*. The Ordovician limestone is generally quite pure and extensively used for lime burning.

In S. China the Ordovician limestone is also widely represented but carries a different fauna, such change takes place immediately S. of Tsingling. In the lower Yangtze, Ordovician limestone is only known at Lungshan and Tanshan, two hills near Nanking, but toward the west in Hupeh, Szechwan and Southern Shensi, the formation is of a wide occurrence. It was called Kisingling limestone by Willis and the Kianchangpa group by Richthofen but has been recently redefined and named as Ichang limestone by J. S. Lee. The characteristic fossils are *Orthoceras chinensis*, *Triplecia poloi* and *Clitambonites geradii*. The first named is often of larger sizes and well known for ornamental purposes under the local name "Pagoda stone".

**Silurian and Devonian:**—Deposits of these periods are entirely unknown in North China.

Lower Silurian formation or Sintan shale of Willis is of very wide distribution in the Yangtze provinces from Kiangsu to Szechwan. It is generally composed of a thick series of shale in the lower and quartzitic sandstone in the upper. In S. Shensi and W. Hupeh several limestone layers extremely rich in corals and brachiopods are present in the upper middle part of the formation. It is from this horizon that the first finding of Silurian fossils by Richthofen in Ninkiang distinct was derived. More recently the Survey party has discovered another fossil horizon of Trilobite fauna in its lower middle part. The lowest of the shale is characterized by graptolites which are abundantly found in Kiangsu (between Nanking and Chinkiang) and Hupeh.

Devonian limestone seems to be well developed in S. Shensi in the vicinity of Hanchung and in S. Kansu in the gorge of Peishuikiang. In E. Yunnan middle Devonian limestone is extensively developed, resting disconformably on the Silurian beds. This condition seems to extend eastward into Kwangsi and S. Hunan.

**Carboniferous and Permian:**—North of the Tsingling range, the Shansi series of Willis is now subdivided into two divisions: (1) The Taiyuan series; (2) the Shansi series in the restricted sense. The age of the former is according to Grabau late lower or early middle Carboniferous while that of the latter is Permo-Carboniferous. Both series contain a few marine beds intercalated with continental deposits. The principal coal seams which constitute the enormous richness of N. China occur in the lower portion of the Shansi series.

The most characteristic fossils in the marine beds of the Taiyuan series are brachiopods and corals, the former including *Spirifer bisulcatus*, *sp. pankouensis*, *Enteleles lamarkii*, etc. The Shansi series contains several species of *Productus* and a great number of plant fossils. Lenticular iron ore of inferior quality is present in the lower part of the Taiyuan series. These ores are still actively worked in Shansi at the present time.

Above the productive coal measure comes a considerable thickness of red and brown barren sandstone and shale with a *Gigantopteris* flora in its lower part. This is the "Überkohlen sandstein" of Richthofen and is of Permo-Triassic age.

In the region south of the Tsingling range, and along the Yangtze Valley the Lower Carboniferous is represented by a flinty limestone carrying many fossils of corals and brachiopods. This is the Chihsia limestone in Nanking and the Yangsing limestone of S. E. Hupeh. Above the limestone is a coal bearing series of 50-100 meters or more in thickness in which is interbedded several layers of fossiliferous limestone. In Loping of northern Kiangsi, Richthofen has found from this horizon a very remarkable fauna consisting of more than 50 species; many of them, for instance *Littonya Richthofeni*, are characteristic of the Middle *Productus* limestone of India. Fauna of about the same characters as Loping has been recently found in many places in Kiangsu, Anhwei, Chekiang, Kiangsi, Hupeh, etc. At the topmost part of the coal series is a *gigantopteris* flora with some pelecypoda and gastropoda of late Permian age. It was first found by Richthofen in S. E. Hunan, but now is known to exist also in Kiangsi, Anhwei, and Hupeh. Conformably overlying on the coal series and with gradual transition comes a thick series of thin bedded limestone of C. Y. Hsieh and C. C. Liu. It contains practically no fossils except some poor preserved gastropoda occasionally seen in its lowest horizon. In all the sections studied, there is no stratigraphic break or erosion interval between any of the three formations just stated, although chronologically the sequence is by no means continuous. On the other hand, in the upper Yangtze region above Ichang, the three formations seem to be united together to form a single unit of thick and in its lower part flinty, limestone; this is the Wushan limestone of Willis. By detailed studies it reveals again in its middle portion shale layers and anthracite beds.

In Yunnan province, Lower Carboniferous is typically represented, according to Deprat, by shale and limestone, the latter is also found by Loczy in W. Yunnan. The coal series worked in the lake region in E. Yunnan seems to belong to the Middle Carboniferous to early upper Permian.

#### Mesozoic.

**Triassic:**—Marine transgression took place in many parts of South western China at the Middle Triassic period. In E. Yunnan the Permo-Triassic or Lower Triassic

coal series with *Gigantopteris* flora is overlaid by reddish sandstone and marl of Middle Triassic age containing a *Myophoria* fauna. This formation seems to be extended to W. Yunnan on the one side and to Kweichow and Kwangsi on the other. Triassic marine fossils are also known from Kokonor. In the Yangtze valley above Ichang, the Wushan limestone is succeeded by the Patung series which consists of red shale and sandstone interbedded with two or more layers of gray limestone containing *Spiriferina* and several pelecypoda. These fossils seem to belong to Lower Triassic. In Szechwan marine Triassic is probably present though no fossil evidence is yet available. A retreating of the sea seems to have taken place in S. W. China during the Upper Triassic with the formation of several enclosed lagoons. The period is also marked by dry and warm climate, as a result of which salt and gypsum were precipitated from the lagoons to form the present extensively worked salt bearing formations. No true Triassic plants have been definitely identified except those of rather uncertain age mentioned by Orbrutchof from San-shi-li-pu in Shansi and Brongniart from Tian-kia-po, S. Shansi. A large basin existed also in N. Shensi on the north side of the Tsingling range during the early Mesozoic time. The climate and topographic conditions were doubtless favourable for the accumulation of organic matter from which the petroleum is originated.

*Jurassic*:—After Triassic, the whole Chinese land was definitely free from marine incursions, but numerous large inland basins were formed in which conditions became again favourable to the flourishing of plant life giving rise to extensive Mesozoic coal fields. Such fields are of wide distribution in Szechwan, Yunnan, Kweichow, and Shansi, but isolated basins existed also in Anhwei, Kiangsi, Hupeh, Fukien, Shantung, Chihli, Shensi, etc. Several of the isolated fields are now being worked by modern mines.

*Jurassic-Cretaceous*:—Recent works by the Geological Survey have been able to show that Cretaceous or Jurassic-Cretaceous deposits are of wide distribution in China. In E. Kansu, W. Shensi, E. Shantung and Jehol, this formation is represented by a shale and sandstone series containing fossil fishes, crustacea, and plant fossils. These fossils are very similar to those found in Siberia. In Menyng district, W. Shantung, there occurs a thick series of greenish gray sandstone and shale which rests upon a red sandstone probably of Triassic age, and is in its turn overlaid by Eocene beds. This series—formerly Sintai series of Willis—is now called the Mengying series and has yielded interesting land fossils including a Dinosaur, some turtles and fishes as well as mussels and plant remains. It represents probably, the transition from the Jurassic to the Cretaceous. In the gorge district above Ichang, the so-called Kweichow series composed of yellowish and greenish sandstone and shale has recently yielded a great number of fossils including *Unio*, *Cyrena*, etc., and its Cretaceous age has been rather definitely confirmed. The first Lower Cretaceous fossils described by Frech were however found in a shale and sandstone series in the Szechwan basin.

#### Cenozoic.

The Geological Survey has paid recently great attention to the study of the Cenozoic deposits which have been proved to be of wide distribution in both north and south China. The following synoptic table shows the present state of knowledge in regard to the Cenozoic history of China:

## PREFACE.

No-one familiar with events in China during the past eight years need to be told of the extreme difficulty of producing a work of reference country that is comprehensive, reliable, and up-to-date. Not a single Government Authority—with the exception of the Maritime Customs and Post Office—is now in a position to furnish information regarding China as a whole. Administrative chaos has never previously attained the proportions which we witness to-day, and it must be obvious that to obtain national statistics on any subject is now a matter of absolute impossibility. The Editor, however, believes that the world-wide interest aroused by developments in China, justifies an attempt to compile a Reference Book which will give, as impartially as possible, and fully documented, a record of the main occurrences in China during 1926 and 1927. To make this attempt it has been necessary for him personally to read all but the first rough proofs, to undertake all the indexing, to arrange every detail of the compilation, and often, to add to, alter, and in some cases almost entirely rewrite Chapters, even when the final proofs had been passed for the Press. To make the volume reasonably up-to-date it has been necessary to hold back certain Chapters, particularly those dealing with Military Operations, Biographies, Treaty Revision, Labour, the Chinese Government, and the Kuomintang, to the very last moment, and to print other Chapters as completed, without regard to any logical sequence. The Book, it must be remembered, is set up by Chinese Compositors, few of whom have more than a mere smattering of English, and the task of proof-reading is, therefore, unusually burdensome. The Editor cannot hope that this issue will be as free from typographical errors as its predecessors, for he has had to deal with every detail of the compilation and printing whenever called upon, and often in the midst of other work, in addition to the not inconsiderable labour involved in editing a daily newspaper. Moreover the rapid changes in the political and military situation have made it impossible to plan, and adhere to, any definite form for many of the Chapters. There has, the Editor is well aware, been a certain amount of duplication in the present issue. But for technical reasons it was necessary to start printing eight months ago, and the logical sequence of the narrative in some of the later Chapters would have been spoilt by eliminating references to matters already dealt with under another heading.

On controversial issues the Editor has endeavoured to allow documents to speak for themselves. Many of these documents, however, must not be taken at their face value. A number of Mr. Eugene Chen's bombastic and provocative Notes and Declarations, for instance, have been included, not because they are of any permanent value—their pretentious phraseology appears ludicrous in the light of subsequent events—but because at the time they did influence the British and other Governments, and Foreign public opinion. Mr. Chen, it may be remembered, was in direct communication with members of the British Labour Party, who urged that a policy of trusting to his irresponsible pronouncements was preferable to the adoption of reasonable precautions for the protection of Foreign lives and property. He has last been heard of from Moscow, whence he issued yet another declaration, to the effect that "The National Government of China, as a real political factor, no longer existed."

The Editor is again under a very heavy obligation to many valued collaborators, chief of whom are Mr. George F. Sokolsky, whose Chapters on Labour, and the Kuomintang, are a feature of this issue. Mr. Sokolsky, in addition, was responsible for revising or rewriting the Chapters on Shipping, Products, Labour, and Commerce.

coal series. Middle To Dr. M. T. Z. Tyau, also, the Editor is very greatly indebted. He and Messrs. Tyndal Wei, Y. C. Shao and Y. N. Koo, have been responsible for revising the Chapters on Finance, Treaty Revision, and the Chinese Government, and for completely rewriting the Who's Who.

To Mr. E. Kann the Editor is indebted for the rewriting of the Chapter on Currency.

Others to whom his gratitude is due are:

Mr. W. H. Donald, Director of the Government Bureau of Economic Information, whose publications have been laid under heavy tribute.

The Director of Peking Observatory (Climate and Meteorology).

Mr. A. de C. Sowerby (Fauna).

Mr. W. H. Wong (Geology).

Messrs. W. H. Wong & C. Y. Hsieh (Mines & Minerals).

Dr. J. B. Grant (Public Health & Medical Events).

Mr. Yang Pao-ling (Grand Canal & Yangtze River Commission).

Mr. Harry E. Kinney (Manchurian Railways).

The Co-Director General of Posts, whose Staff have revised the Chapter on the Post Office originally compiled by Mr. H. A. Reeks.

Mr. G. Padoux (Public Justice).

Mr. Harry Bouchard (Education).

Dr. W. H. G. Aspland (Opium).

Mr. Alexander Ramsay (Fengpiao).

Mr. C. M. G. Burnie (Insurance).

The Inspector General of Customs, the Associate Chief Inspector of the Salt Revenue Administration, and many other Officials of the Chinese Government for information promptly supplied.

Acknowledgment must also be made to the Printing Manager (Mr. G. C. Bruce) and Staff of the Tientsin Press, Ltd., who must at times have been driven well-nigh to distraction, by eleventh-hour alterations and additions to the page-proofs.

To economise space the former Chapters on Area and Population, Climate and Meteorology, Geography, Geology, and People and Language, have been condensed into a single Chapter under the title of "General Information."

The List of Factories which appeared in previous issues has been omitted from this edition, owing to the fact that so many industries have been closed down in "Nationalist" territory, and information in regard to others is so difficult to obtain.

This volume appears three months later than was originally intended, but the essential Chapters cover the events of most of 1927. At the moment of writing an attempt—which has not opened auspiciously—is being made to reunite the various elements of the Kuomintang, by means of Conferences which are taking place in the Foreign Settlements at Shanghai—a curious commentary on the demand that has been so vociferously put forward for their abolition. It is hoped that the present volume will assist the reader to understand the causes of Nationalist disintegration, and the real nature of the problems which confront the Treaty Powers in China. Those problems must be deemed insoluble until a Chinese authority—Nationalist or other—arises that recognizes its responsibilities, as well as clamouring for the abolition of the remaining safeguards for Foreign life and property in this country.

The difficulty of meeting Nationalist aspirations is illustrated by British action in connection with the Washington Surtaxes. Following the publication of the British Statement of December, 1926 (p. 756) these surtaxes were imposed at all ports in China with the exception of Dairen, though no other Powers formally agreed to the British proposals, and the Japanese Government consistently objected to them. As the Maritime Customs could not collect them the system of enforcing them by holding up Customs documents at the Customs Banks was generally adopted, and this paved the way for the imposition of a variety of illegal and arbitrary taxes [such

as the Carpet tax at Tientsin, and the Wine and Tobacco (p. 1073)]. The imposition of the Washington Surtaxes has had the supreme financial prize for the warring factions, and, for months past Shanghai's Foreign Trade should have been of financing a Government in whose Capital (Nanking) the legitimate premises and private residences of Foreigners are still occupied, and under whose jurisdiction a British Concession (Chinkiang), with its business and private buildings, is entirely in the occupation of Chinese militia, legitimate occupants being compelled to reside on houseboats or steamlaunches the water-front.

The documents relating to the denunciation of the Sino-Spanish Treaty were only available just as this work was going to press, and are therefore included in an Appendix. It seems to be the considered policy of the Chinese Government to denounce Treaties which contain provision only for the revision of commercial and tariff clauses, in the case of Powers whose interests in China are not very considerable, and who are not, therefore, expected forcibly to resist the cancellation of their extraterritorial and other special privileges. It may be noted in this connection that the Chinese Government has not annulled the Sino-Japanese Treaty which, it claimed, expired on January 21, 1927. It may be added that both in the case of Belgium, and of Spain, it was stated that orders had been issued to the "local authorities" to extend full and due protection in accordance with the rules of international law, and usage, to "the Legation, consulates, nationals, products, and ships in China" of these two countries. As no local authorities other than those in Chihli, Shantung, and Manchuria even pretend to recognize the authority of the Peking Government, the value of these orders would, in any case, be questionable. In the case of Belgium the extent to which the local authorities respect the rights of her nationals has been demonstrated, in Tientsin, by an attempt on the part of the Chihli Provincial officials, on frivolous pretexts and in defiance of an arbitration clause, to confiscate the entire property of the Belgian Lighting and Tramway Company; and this attempt was only frustrated by the protests of the French, Italian and Japanese Authorities, through whose Concessions the tramways have running rights, who have contracts for the supply of electric current with the Company, and who are in a position to follow up their protest by effective action, if necessary.

H. G. W. WOODHEAD.

Tientsin, December 17, 1927.