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Miscellaneous Series.

CHINA.

DIPLOMATIC AND CONSULAR REPORTS.

REPORT OF A
JOURNEY TO NORTH SSU-CH'UAN.



FOREIGN OFFICE,
May, 1898.

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CONTENTS.

	PAGE
<i>I.—The North Road to Paoning, and Notes on the Famine of 1897.</i>	
The lesser North Road	5
Ho-chou	5
Red sandstone basin	6
The Upper Chia Ling River.....	7
Shun Ch'ing Fu	7
Nan Fu	7
Paoning	8
Famine of 1896-97	8
Over-population	9
 <i>II.—The Hill Country of North Ssu-ch'uan.</i>	
North-eastern hill country	11
The Liang Tsu Road	11
Kwang Yuen	11
Communication with Kansuh	11
Kansuh tobacco	12
The Pai Shui River	12
Pi K'ou and its trade.....	13
Obstacles to Kansuh trade	13
The Ta Tao Ling	14
Maize crops	14
Descent to Lung-an	14
The north-west mountain system.....	15
Fauna	16
The Sungp'an Road	16
Ascent of the pass of the Pao Hsueh Shan	16
 <i>III.—Sungp'an and its Trade; the non-Chinese Tribes.</i>	
Sungp'an	17
Attractions of Sung'pan	18
Merchants of Sungp'an.....	18
Mohammedans	18
Tea chops	19
Other imports	19
Export of wool	19
,, medicines	20
Musk	21
Estimate of total trade	21
Note on likin in Ssu-ch'uan	22
State of cash currency	24
Non-Chinese population	26
Thibetan tribes	26
Thibetans from Amdon.....	27
Missionaries for Thibet	27
Non-Thibetan tribes	28

CONTENTS—continued.

	PAGE
<i>IV.—Sungp'an to Chung-pa and Ch'êng-tu.</i>	
Gorge of the Min River	29
Mao-chou.....	29
Valley of the Shih Tsuen River	29
Shih Tsuen Hsien	30
Ch'ü Shan	30
Chung-pa and its trade	31
Mien Chou	32
High road to Ch'êng-tu.....	32

V.—Ch'êng-tu Plain; Irrigation.

Geographical description	32
Water communication	33
Products of the plain.....	33
Irrigation of the east of plain.....	34
Kuan Hsien irrigation works	34
Artificial gorge and channels	35
Annual work at the dykes.....	35
Temple of Li Ping.....	37

VI.—Foreigners and Foreign Prospects in Ssu-ch'uan.

Friendly disposition of the people	37
Intelligence of the commercial class	38
Ignorance of lower classes.....	38
Orders of Viceroy for protecting foreigners	39
Escorts for foreign travellers	39
Trade prospects	39
Cotton cloth trade	40
Other suggestions	41
Kerosene oil.....	41
Foreign medicines, &c.	41
Exports	41
Question of communication	41
Waterways of Ssu-ch'uan	42
Foreign trade of Ch'êng-tu	43

VII.—Silk Production of Ssu-ch'uan.

Area of mulberry cultivation	43
Sale of raw silk	44
Reeling	44
Weaving	45
Estimated value of silk trade	47

Itinerary and route maps.

Report of a Journey to North Ssu-ch'uan

By MR. G. J. L. LITTON

(Of Her Majesty's Consular Service in China).

(Received at Foreign Office, April 13, 1898.)

I. *The North Road to Paoning Fu ; Notes on the Famine of 1897.*

The Hsiao Pei Lu or lesser north road which, starting from Chungking passes through Ho Chou Shun Ch'ing and Pao-ning Fu, and joins the great Peking road from Ch'êng-tu at the Hsien city of Kwang Yuen, traverses a country presenting few features of interest, and which, as compared with the banks of the Min and the Fou Rivers and the central plain of Ch'êng-tu on the west, or the rich opium and paddy lands of Liang Shan and Wan Hsien on the east, must be pronounced poor and unproductive. The first important centre on this road is the city of Ho Chou 60 miles from Chungking; during low water this distance is easily accomplished in a day and a half by a short cut across the low hill country of Chiang Pei to the market of Yueh Lai and thence by boat through the Ho Chou gorges; these gorges are important for their coal and lime works which employ a number of the largest craft on the Little River. The coal is sold not only at Chungking, but it is also taken up the Fou River to Sui-ning, T'ai Ho Chen and She Hung, where it is largely consumed for the salt furnaces.

Ho Chou as seen from the Pai T'a Ssu, a monastery with a very ancient pagoda, finely situated on a well-wooded sandstone cliff 4 miles to the south of the city, appears like a miniature Chungking. The city occupies a spit of land between the Fou and Chia Ling Rivers which meet under the south wall where there is a good mooring place for numerous junks with coal, cotton, and grain. The population is about 60,000; there is no very characteristic industry, but the city apart from the business brought by the passing junks is the centre of an important agricultural district. The grain and bean dealers are the Ta Pang or staple traders, and large supplies of rice come down the Chü River from the north-east, the partial failure of which was the direct cause of the scarcity from which Chungking suffered in the spring and summer of 1896. Junks are built and repaired along the sandbanks of Ho Chou.

Red sandstone
basin.

From Ho Chou three long stages bring us to Shun Ch'ing and three more to Paoning; the road following in the main the course of the Chia Ling River, but cutting off the corners passes through the heart of the treeless sandstone basin of Ssu-ch'uan. After passing the cliff of the Pai T'a Ssu there is not a tree worthy of the name till Paoning is reached. This is a serious misfortune to the country people and greatly diminishes the area available for rice cultivation; the low sandstone hills being very friable and exposed to the action of the weather a slight shower washes away quantities of soil, and irrigation on the upper slopes is impracticable. Rice is accordingly confined to the low gullies, maize, millet, buckwheat (Ch'iao-tzu) and sweet potatoes being grown on the upper slopes. There is little or no opium on this road; the farmers' houses and the market places are very poor in comparison with West Ssu-ch'uan, and the soil is the worst I have seen in the province; yet so swarming is the population that every inch of ground is cultivated. The heat on this open country is tremendous, even at the end of August when the worst of the hot weather should be over the shade temperature read as follows:—

Date.	Temperature.		
	8 A.M.	2 P.M.	8 P.M.
	Degrees.	Degrees.	Degrees.
August 24	98	104	94
„ 25	93	103	93
„ 26	93	104	94
„ 27	86	98	92

Paoning on the other hand which is situated at the foot of the hills has a milder climate than Chungking, as the following note compiled from a weather chart kindly lent me by Mr. Taylor of Paoning will show:—

Average Maximum for—	Temperature.	
	Paoning.	Chungking.
	Degrees.	Degrees.
July	84	88
August	89	94
September	77	80

It appears that heavy autumn rains following on the break-up of a hot dry summer are prevalent all over Ssu-ch'uan, except at Sungpan where the climate is the same as North China, heavy summer rains and fine autumn. But everywhere except at Chungking and the immediate neighbourhood there is a bright cold

winter lasting from November to early March, during which months Chungking is wrapped in cloud and fog.

The red formation in the Shun Ch'ing district presents a very remarkable appearance. The sandstone has been decomposed into thousands of small hills usually about 200 feet above their valleys; the sides of the hills are worn into natural terraces, in some places I counted as many as twenty of these terraces descending in a perfectly regular gradation; the hill-tops are rounded off so as to resemble redoubts or ruined castles so exactly that at a short distance it is difficult to believe they are not artificial.

The Chia Ling River above Ho Chou is broader than below, where after receiving the waters of the Ch'ü and Fou Rivers it is confined in gorges; a feature of the river is the succession of great sandbanks which it forms. These are certainly caused by the rapid decomposition of the sandstone hills near its banks; when I was at Shun Ch'ing the river was densely charged with the red soil though no rain had fallen for 14 days. The alluvial plain on which the cities of Shun Ch'ing, Nan-pu, and Paoning are built are obviously formed of soil washed down from the neighbouring hills; new plains of the same character are being formed; the river piles up a sandbank which is bound together by "Pa Mao," a rank sword grass with fibrous roots; then the river gradually changes its channel. Thus at Shun Ch'ing where the river is 120 yards broad, a large sandbank has been formed off the city and the water is now encroaching on the older plain on which the city itself is built.

The Upper
Chia Ling
River.

Shun Ch'ing is a large straggling town with a double city wall and a river frontage of about 2 miles; the population is about 40,000. As at Paoning there are many well-built houses, some of which used to be banks, pawn-shops, or depôts for Kansuh tobacco. Before the opening of the Yangtse all traffic from Yunnan and Southern Ssu-ch'uan for the North passed this way; later, the important safflower trade has been dissolved by the use of aniline dyes; the people of Shun Ch'ing and Paoning are now notorious for their want of energy even in a province never very conspicuous for commercial enterprise; near Shun Ch'ing, however, we see the first mulberry trees and cotton fields on this route, but the cotton is of poor quality and diminishing quantity. Silk alone keeps alive the trade of a town which from its central situation must have once been one of the great centres of the province. Cotton and prosperity have migrated west to the banks of the Fou.

Shun Ch'ing.

Travelling north we pass the city of Nan Pu, 20 miles from Paoning; this is a thriving city with a small production of the best white salt I have seen in Ssu-ch'uan, the wells are worked like those of She Hung, *i.e.*, by long bamboo buckets which are let down into the narrow well by a bamboo rope. This salt supplies Paoning and the country to the north only.

Nan Pu.

There is also a considerable white wax trade at Hsin Chen Pa, near Nan Pu, but the wax is very inferior.

Paoning.

In the neighbourhood of Paoning the soil is much richer and the population less poverty-stricken than at Shun Ch'ing; large groves of mulberry and oil-nut trees give abundant shade, but the city itself, surrounded on three sides by a bend of the river, is faster asleep even than Shun Ch'ing; the population is about 20,000. It is an important official city, being supplied with a Taotai, a Prefect, and a Hsien; commerce is saved from utter extinction by the silk trade; a flourishing coal trade on the Tung River, and several small industries such as the making of vinegar and wine; and the collection of hides and pig's bristles; but I am informed that there is not a merchant in the place worth 50,000 taels; there are a few families of Mohammedans who prepare excellent salt beef of which all travellers lay in a stock.

The famine of
1896-97.

The Chia Ling River up to Paoning was the western boundary of the famine-affected district in the spring and summer of 1897, and I made some enquiries about this, the most serious calamity that has visited Ssu-ch'uan for many years.

The only districts where there was anything like a total failure of grain (owing to heavy rains spoiling the grain after harvest) were the Kui Fu, Ta Ning, Wan Hsien, and Liang Shan districts in East Ssu-ch'uan; of these, only the two latter are densely populated; from all these districts the up-country people rushed out to the river side in order to secure relief rice which was not, however, sufficient to prevent wholesale loss of life. Farther west, and along the Chü River, about half the crop was lost by mildew; along the Chia Ling River, north of Ho Chou, the 1896 autumn crop was estimated at seven-tenths of a full crop. This part of the country depends largely on wheat and maize, and the food supply is not disturbed by excessive planting of opium, yet owing to the rush of grain to the eastern districts prices at Paoning rose 100 per cent. for about three months in the summer of 1897; in Wan Hsien and Liang Shan where the 1895 and 1896 crops had previously been bad, prices were up 100 per cent. as early as the winter of 1896, and in the summer of 1897 travellers from Wan Hsien had to take their rice with them even along the Great West road to Chêng-tu. Many persons died of sheer starvation, and more still in consequence of diseases resulting from the hard times. Further west the valley of the Fou had a good crop; the officials at Mien Chou would not let rice go down the river and accordingly there was no unusual rise in price. The mountain districts of North Ssu-ch'uan depend on maize and wheat, and were not affected by the rice famine. The 1896 crop in the Chêng-tu Plain, the granary of Ssu-ch'uan, was good, and there was no scarcity in the country round, but in the capital itself, owing to exports down to Chungking, rice rose 30 per cent. for four months from April to July, a serious matter among so great a population, a large proportion of which lives from hand to mouth; round Chia Ting, a district which usually exports, one-third of the 1896 crop was lost, and below Chia Ting along the line of the Yangtse, the further east, the greater was the distress, but except in the districts mentioned above it was chiefly confined

to the big cities which depend on supplies from without; in Chungking it may be roughly stated, that prices rose 50 per cent. for the first four months of 1897, and 100 per cent. for the next three months, which had the effect of annihilating the beggar class. The various benevolent institutions are said to have issued 9,000 coffins in the Chungking district alone.

The distress was probably aggravated by the following causes:—

1. The scarcity and consequent dearness of cash.

2. Frauds in the Government granaries especially at Liang Shan.

3. Excessive planting of opium; it is said that opium only affects the wheat and bean crop, but I am convinced that much land which is now under opium in the spring, and maize in the summer could and would be irrigated for rice if opium were forbidden.

4. By the method of paying rent in kind and especially in rice; all other crops, tobacco, opium, &c., which in ordinary years pay better than rice, go entirely to the tenant; the tenant, therefore only plants sufficient rice to feed himself and pay his rent, and the tendency is for stocks of rice to collect in the hands of the rich landlords, who in times of scarcity hold on for higher and still higher prices; this is very disastrous in a province which in case of famine is practically inaccessible to aid from the lower Yangtse; that large stocks of grain existed in the hands of the landlords is proved by the fact that when a good crop for autumn, 1897, was assured, prices came down with a rush; at Chungking rice dropped from 1,650 to 950 cash a bushel in a fortnight, while along the Chia Ling River the drop was even more sudden; round Chêng-tu the officials kept prices down by threatening to seize the granaries of the landlords if they did not bring their rice into the capital.

It appears that in past years, especially in Kuang Hsi IV. (1878), there has been a more extensive failure of crops, yet never such wide-spread and prolonged distress; I believe the reason of this to be that under the present economic conditions the province is much over-populated; a line drawn from Wan Hsien to Paoning, thence due west to the Min River and thence along the valleys of the Min and Yangtse Rivers will enclose a vast area literally every inch of which is cultivated and populated up to its utmost capacity. There is evidence from the Chinese "chih" or statistical accounts to show that many of the low ranges near Chungking have quite recently been opened to agriculture; rent in Chungking and Chêng-tu has increased some 25 to 30 per cent. in the last 20 years. The Government is not in the least likely to open up communications with the outer world by steam, or to bring forward any emigration scheme to relieve the present pressure; it will accordingly have to relieve itself by periodical pestilence and famine, and I expect that in future even a slight failure of crops will be succeeded by widespread distress.

I have in vain endeavoured to form some estimate of the

Causes which
aggravated
the distress.

Over-
population.

Present
population of
Ssu-ch'uan.

actual population of the province; the census of 1732 taken for the purposes of the Salt Administration was resisted locally, was probably much below the mark, and was made only at the beginning of the rapid re-population of the province, consequent on the death of the rebel Chang Hsien Chung, and the establishment of order under the present dynasty; this census gave 7,500,000; the tithing system under which groups of families are bound together for mutual security under a headman is spread more or less all over Ssu-ch'uan, but from enquiries at Chêng-tu I learn that no general estimate of the total number of tithings has been made since Hsien Feng's reign; a report from this Consulate in 1886 gives the enormous estimate of 70,000,000, which I gather is derived from a Russian report "drawn from official sources," though I do not know what those sources can be. The customs estimate in 1891 was 35,000,000 which is certainly too low, and I can find no definite authority for it except a similar estimate made by the Catholic priests in 1840; at present the Catholics and some of the Protestant missionaries who have travelled much estimate from 50,000,000 to 60,000,000. The reasons which may make us hesitate to ascribe to a province as large as France a population 50 per cent. greater than France are:—

1. The fact that there are no very large cities in Ssu-ch'uan, Chêng-tu and Chungking, the two largest probably not containing more than 1,000,000 in all.

2. The large area of mountainous country sparsely populated by aboriginal tribes whose numbers cannot even approximately be estimated. On the other hand we have the following considerations:—

(i.) There is no area even in China of such extent and such uniformly dense population as the central basin of Ssu-ch'uan.

(ii.) 3,000 cash per month (say the equivalent of 5*l.* per annum) will keep a Ssu-ch'uanese in all the necessaries of life; that is to say, one Englishman requires enough to keep five or six Ssu-ch'uanese.

(iii.) Everything that is done in Europe by machinery and horses is done in Ssu-ch'uan by men (except a trifling mule traffic in the north).

(iv.) Though there are no large towns there are a great number of cities and markets with over 15,000 inhabitants; near Chêng-tu for 40 miles in every direction the country is one huge village.

(v.) There has been peace in Ssu-ch'uan for the whole of this century; the Taiping rebellion never reached the plain country.

(vi.) Young men or rather boys marry in Ssu-ch'uan with even greater disregard of consequences than in other parts of China.

(vii.) Population has certainly been increasing very rapidly; on the whole though there is no certain basis for forming an estimate, I should be inclined to accept Williams' estimate of 21,500,000 in 1812 (see Middle Kingdom), and if this is approximately correct I think there is every reason to believe that the population has more than doubled itself since then.

II.—*Hill Country of North Ssu-ch'uan.*

After Paoning the hills begin; a series of low ranges branching from the central range which forms the divide between Ssu-ch'uan on the one side and Kansuh and Hupeh on the other, runs from north-west to south-east passing through the Pa Chou and Sui Ting districts down to the Yang-tsü at Kui Fu; a sharp division is thus formed between the plain or rice-eating population and the mountaineers dependent on maize and wheat; this hill country between Paoning and Kui Fu has not been explored by foreigners; from what I could learn it is a thinly populated and barren district with no distinctive product except the teas of Tai Ping, the salt of Ta Ning, and, of course, the coal of Kui Fu; the passes over the divide to the valley of the Han are little frequented, and the people extremely rough; some of the women have large feet, and the term "Ye Pa Chou" or wild "Pa-Chou" refers to the character of the inhabitants as well as that of the country.

To the north of Paoning some deep valleys run into the hills affording magnificent scenery and plenty of room to cultivate rice; the harvest is six weeks to two months later than at Chungking. The north road, however, mounts the hills outside Paoning city, and keeps along a "liang tsu" or high barren ridge for three days' journey to Kuang Yuen; to the right and left we have glimpses of broad deep valleys on the level of the Paoning plain. On a fine morning these valleys are filled with a sea of mist from the midst of which the mountain ridges rise like islands, a curious and beautiful phenomenon. At 2,870 feet 130 li from the Paoning the China Inland Mission have secured, as a summer resort, a large farmhouse round which has gathered a small congregation of Christian peasants; after a short day's march from Mei Ling Kuan, the highest point on the "liang tsu" (3,670 feet) we drop down into the narrow valley of the Upper Chia Ling River at Kuang Yuen; the city is situated in a hole in the mountains scooped out by the Chia Ling and a small stream from the east. The district is a very extensive one some 120 li in every direction except the west, but with the exception of a narrow strip of alluvium between the Chia Ling and the Pi K'ou Rivers which unite at Chao Hua Hsien, 15 miles to the west of Kuang Yuen city it is entirely mountainous and maize-eating. The city is a large enclosure only one-third of which is inhabited by a population of 10,000; the main road from Chêng-tu to Shensi, Kansuh and Peking runs between the river and the west wall forming a street where the business of the city is centred; the river is some 40 yards wide, and when I visited the city there were 70 boats moored off it, the larger ones of 5,000 catties burden bringing salt up from Nan Pu and take coal down; the smaller craft (1,500-2,000 catties) bring Kansuh tobacco, medicines, sheep-skins, and furs for Chungking; these boats start from the flourishing little mart of Pai Shui Chiang over the Kansuh border, eight stages by road from Kwang Yuen, and at the head of the

North-eastern
hill country.

The Liang
Tsu Road.

Kuang Yuen.

Communica-
tion with
Kansuh.

navigation of the Chia Ling River. From Pai Shui Chiang a high road leads to Ch'in Chou and Lan Chou, the capital of Kansuh, 35 stages from Chungking. Kansuh goods come down to Pai Shui Chiang on the backs of porters, these porters carry very heavy loads, 150 catties being by no means unusual; two stages north of the Pai Shui Chiang the Pei Ling mountains are crossed, and north of Ch'in Chou mules are used for transporting merchandise. The commercial intercourse between Ssu-ch'uan, a busy city, said to contain 50,000 inhabitants, is considerable, though I have not sufficient particulars to enable me to form an estimate of annual value; the Chungking merchants maintain a postal service which takes letters to Ch'in Chou in 25 days, leaving Chungking every 10 days.

Kansuh
tobacco.

The chief object of commerce is the tobacco known as "water" or Lan Chou tobacco, but a great deal of it comes from Ch'in Chou, so that it cannot all be washed in the waters of the Yellow River as is supposed to be the case; this tobacco is invariably smoked in the water pipes, and is an absolute necessity for the better class Ssu-ch'uanese; it is exported down river to Shanghai and even Canton; it is made up in thin cakes of a brick-red colour, four cakes to the catty, and 150 catties to the case; it is retailed in Chungking after passing numerous likins for 300 cash per catty; it is said to be mixed with arsenic, and its excessive use is admitted to be dangerous to health; opium smokers use large quantities of it; the trade at Ch'in Chou is chiefly in the hands of Hsi An merchants. Fine sheep-skins also come down from Ch'in Chou, but in the comparatively warm climate prevailing in the Ssu-ch'uan plains, the consumption is not great; Ch'in Chou itself, however, is one of the most important centres in the Empire for this valuable trade; "Hsi t'an p'i," the so-called Thibetan goat-skin, comes from this region, but the export is chiefly to Hsi An, Peking, and the upper waters of the Han.

The Pai Shui
or Pi K'ou
River.

I was unfortunately prevented by illness from carrying out an extended trip into Kansuh, but after some delay I was able to cross the frontier of Kansuh to Pi K'ou, an important market town which marks the eastern extremity of the medicine and musk-producing country. Pi K'ou is connected with the Chia Ling River by the Pai Shui, a tributary stream which I struck at the small market town of Shi Kuan Tsū, 50 li from Kwang Yuen, across the alluvial plain formed by the junction of the two streams; Shi Kuan Tsū is at the entrance of a series of close gorges which extends up to and beyond the market town of Pi K'ou. The river is little more than a mountain torrent; a few boats venture down with loads of medicines, but the greater part of the traffic is by portage along a rough and narrow track which follows in the main the course of the river, sometimes along its banks, and sometimes climbing the limestone rocks high above it. The sandstone formation ends abruptly on entering the gorge of Shi Kuan Tsū. 30 miles from Kwang Yuen the mountains open out into the fertile little plain of San Tui Pa, which has a market town with 300 shops, three cash banks, and an air of great

prosperity due entirely to its mulberry trees. After this the road again plunges into a wild and thinly-populated country, the limestone rocks being too abrupt to afford soil enough even for maize.

105 miles from Kwang Yuen we reach Pi K'ou. The little town is entirely surrounded by lofty mountains rising 2,000 to 3,000 feet above the river. There is only one main street, built along the river, and the whole town cannot contain more than 4,000 permanent inhabitants. It is, however, an important outlet for the medicine trade, being at the junction of the mountain tracks from Kai-Chou to the north and Nan P'ing to the west, and the starting point of a mule road to the great mart of Chungpa, over the mountains in the valley of the Fou River. The main street of Pi K'ou simply reeks of Chinese "materia medica," liquorice (kan ts'ao) from Nan Ping and a small quantity of rhubarb are the only drugs known to European medicine; the trade is entirely in the hands of Ssu-ch'uanese merchants from down river who act as agents for the drug hongts at Chungpa, Chungking, &c. There are eight large "tien tsu," or warehouses, which receive drugs as they are brought down by the natives from Kai Chou and other places in the mountains; not more than one boat in every three days leaves for Chungking, and about 16 laden mules per diem leave for Chungpa. From particulars given me at one of the warehouses I estimate that about 70,000 taels of drugs pass through annually for the south; to this must be added a small quantity of hides, sheep-skins, and furs; also "hua ch'iao" (flowery pepper), and "erh tzu" or "ears," known to the customs as "fungus." Flowery pepper is the small black dried seed of the tree *Zanthoxylum Bungei*; it is hot to the taste, and has a pleasant fragrance; it is used as a perfume and also as a spice, being ground up and cooked with cakes, entrées, &c.

"Ears" are a kind of fungus which grows round the roots of the "ch'ing kang" or mountain oak tree. This interesting tree is largely planted in Kuei Chou to feed the so-called wild silkworms, but near Pi K'ou and Kai Chou it is cut down as soon as it has attained the size of a considerable shrub, and the wood makes the very best charcoal. The fungus grows out horizontally from the rotting stumps, and after two years' growth is collected, dried, and sent down to the plain, where it is an indispensable delicacy at all native feasts. The price at Pi K'ou is 250 cash a catty, and at Chungking about 400 cash.

I am inclined to think that although Kansuh is regarded as one of the poorest provinces in the Empire, the southern portion, if immigration was encouraged, would produce greatly increased quantities of wheat, hides, skins, and medicines, and take up far more native cloth and indigo which are at present the only imports, but at present trade suffers from at least four serious hindrances, viz. :—

1. Likin, of which I shall speak later.
2. Bad communications; in these parts there are no rich men or large merchants to make roads by private subscription, and

Pi K'ou and
its trade.

"Wood-ears,"
or fungus.

Obstacles to
Kansuh trade.

the Government, of course, does nothing except provide an occasional rest for refreshment in the shape of a tax station.

3. Want of capital; the richer merchants of the plain content themselves with taking small parcels of goods as they are brought down by natives. This remark, however, does not apply to the Kansuh tobacco.

4. Insecurity of the frontier. There is practically no police, and robberies and homicides are very common along the ill-defined boundary of Kansuh and Ssu-ch'uan. Murders often never come to the ears of the officials at all, and when they do the officials content themselves with quarrelling about jurisdiction. In a desolate spot close to the frontier I came across an old man who had been horribly cut about and thrown senseless into the jungle for the sake of 300 cash and a parcel of tobacco; I did what I could to help him but he died the next day; the officials to whom I reported the matter seemed to think it was quite an every-day occurrence.

Ta Tao Ling.

Owing to continued illness, I was compelled to abandon an excursion to Kai Chou, 96 miles to the north-west, by a rough path following the course of the Pai Shui, and traversing a country so thinly peopled that travellers have to take their own rice and salt. After a few days' rest I started off to the south-west by the Chungpa mule track; this leads over the central mountain range dividing Kansuh from Ssu-ch'uan by a pass called the Ta Tao Ling (6,150 feet), a rough and difficult ascent; on the north side the mountains are uninhabited and covered with scrub. After the pass there is a beautiful valley with a few farms and maize fields; then there is a stretch of park-like country with some remnants of virgin forest which leads up to the Ssu-ch'uan frontier; descending on the Ssu-ch'uan side we pass through extensive cultivation almost entirely maize.

Maize crops.

Throughout North Ssu-ch'uan the maize harvest is the great event of the year. At harvest time, the châlet-like cottages of the hill people present a very bright appearance, as the local custom is to tie the golden corn cobs in festoons all round the house, varied here and there with bunches of red pepper. The unoccupied land in these hills is very extensive; each farmer scratches a bit of the hillside, and when that is exhausted moves on to another plot. Wild pigs are a serious enemy to the farmers all through North Ssu-ch'uan; near the Ta Tao Ling the people attribute these pests to the divine displeasure, and notices are put up requesting travellers not to shout, nor to relieve nature, nor to wander into the forest, nor to do anything which may offend the indignant spirit, but at Kwang Yuen and Lung An the peasants engage skilled huntsmen who hunt the pigs with dogs during the winter months, receiving in return food for themselves and their packs, and a premium on the pigs killed. A French priest told me that a single huntsman brought 73 wild boar into Lung An in the winter of 1896-97.

Descent to Lung An.

Descending the Ta Tao Ling to the valley of the Lung An River, the path leads through numerous orchards of pear trees,

persimmons, and walnuts. Walnuts are so common that they are sold for 300 cash a bushel and crushed for their oil, which is then used to adulterate rape seed oil. The first town in Ssu-ch'uan is Ts'ing Ch'uan where the old military track from Nan P'ing over the mountains joins the Chungpa main route. Still descending we find ourselves among mulberry trees again and strike the Fou River at the market town of Ku Chen, 40 li below Lung An. Leaving the main Chungpa route, which follows down the river, we turned up the stream to the west and reached Lung An Fu after a hard journey of 96 miles from Pi K'ou.

Lung An Fu (the "fu" or prefect now resides in the richer Lung An Fu. and more accessible town of Chiang Yin, down on the plain 70 li to the north of Chungpa) is a picturesque city, with some 9,000 inhabitants, and one busy street situated between the Fou River, which runs under the South wall and a high range of hills, the southern slopes of which are included in the enceinte of the city wall; the upper valley of the Fou has only been subject to China since the early Ming, when two Chinese adventurers made themselves masters of the surrounding tribes, and on being recognised as hereditary "t'u ssü" or chiefs, submitted to the reigning Emperor; the tribes which they conquered are now known as the Wang and Sui Chia respectively, and are still ruled by their descendants. The chief Wang has an official residence in Lung An and a fine temple, the "Pao An Ssü," which contains an honorary inscription by the Ming Emperor Wan Li marks the site of the palace built by the first "t'u ssü" Wang.

Lung An is important as being one of the outlets of the great North-west mountain system. mountain system that fills up the north-west corner of the Ssu-ch'uan; this region, bounded on the north by the Lung An-Sungpan road, on the west by the upper waters of the Min, on the south by the Chêng-tu plain, and on the east by the valley of the Fou, occupies about 3,500 square miles; with the exception of a corner of territory round Sungpan, it is entirely inhabited by Chinese or by Man Tsu who have adopted Chinese language and manners. The country consists of a series of great mountain spurs radiating from the great Pao Hsüeh Shan (above Sungpan), from the snow fields of which the Fou River derives its source. The population is very sparse and of recent origin, large patches of park country and of virgin forest being still unoccupied. There are two large colonies of Catholics in these mountains, driven there by persecution early in the century. They now number some 2,000 souls. A road has recently been opened from Chungpa direct through the mountains to Sungpan, and letter carriers can get through in five days; this should do something to open the country, which is well adapted for rearing cattle and sheep; there is also a rough track through the mountains from Sungpan to Shi Tsuen Hsien; the hill people bring down medicines, musk, and lacquer to the settlements on the Sungpan road; they also take wine, grain, and meat to the Chinese residents in Sungpan. The bark of the lacquer trees is first cut when they are seven years old, and then once again every seven years;

a wide semi-circular incision is made, and under this is fixed an iron bowl in which the sap collects. It is sold in Lung An for 200 to 300 cash a catty, then taken to Chungpa where it is adulterated with wood-oil, and sold in Chungking for about 700 cash.

Fauna.

This country presents great attractions for the naturalist. A Chinese named Wang, formerly of Shanghai, who has had a scientific education under Père David, the well known French naturalist, is now in the district collecting specimens; the rare white bear (pai hsiung), a small black bear whose paws are literally "food for an emperor," a grey monkey, a peculiar reddish monkey, the "p'au yang," a species of wild sheep; the reeves and a great variety of other pheasants; the musk and other deer are among the prizes awaiting the collector.

The Sungpan Road.

The scenery on the Lung-An-Sungpan road is the finest I have seen in China; to the west of Lung An city the road plunges into the limestone gorges of the Fou River, precipitous mountains closing in on either side; the river is a raging torrent but rafts from Shui Ch'ing P'u, a point 40 miles above Lung-An are floated down. Shui Ch'ing P'u is a small town with 100 shops; further west small tumble-down hamlets of log huts occur every 5 or 6 miles, and whenever the gorge opens out or soil has collected on the precipitous cliffs maize and barley are planted. The river becomes a mere mountain stream dashing wildly over great boulders and crossed at intervals by rickety suspension bridges. There is a considerable porter traffic on the road, a share of the Sungpan medicine and wool traffic coming down this way for Chungpa. Loads are terribly heavy, 120 to 140 catties being carried on a bamboo frame strapped to the porter's back, from Sungpan to Chungpa a distance of more than 200 miles for 20 cash per catty. For a region so remote the road is distinctly a good one, and, although the head of the pass to Sungpan is 10,000 feet above Lung-An there is nothing like a steep hill the whole way.

The little settlement of Hsiao Ho Ying in a beautiful valley, 190 li from Lung-An, boasts a mined wall, a large gate, a hsien or police yamen and nothing else. From Hsiao Ho Ying a pleasant journey of 10 miles through splendid gorges with cloud-capped mountains on both sides brings us to Shi Chia P'u a collection of 30 tumble-down huts one of which is an inn "the most villainous on all the road for fleas."

Ascent of Pass.

From this point the ascent of the Pao Hsüeh Pass may be said to commence in earnest; leaving the village we plunge into a gloomy gorge and thence emerge into a defile uninhabited and clad with a dense low jungle relieved by bits of virgin forest. This defile opens out into the small desert plateau of San Lu K'ou surrounded on all sides by magnificent peaks clad with tall pines; here a solitary hut affords the traveller a meal of maize and cabbages and turnips which grow in perfection in this elevated region. Then the road plunges into the defile of Chen Yuan where I noticed a tiny patch of purple poppies, the capsules of which were being scratched for opium in October.

This defile opens into another plateau thickly peopled with Hsi Fan. The approach to the police station of San Shé Hsün is indescribably beautiful, the mountains open out and form a wide valley where herds of yak and long-haired Tibetan sheep find pasture; on both sides rise mountains blazing with the red and gold tints of autumn relieved by patches of dark green pine and above by snow-powdered cliffs. I noted with pleasure that the appearance of the people and the country corresponds exactly with the accounts of Tibetan travellers.

In this valley there is some gold washing in the infant Fou River, and even crushing, or rather hammering of quartz which is taken from the hillside above the valley.

After San Shé Hsün the mountains close in again and some really fine virgin forest more than compensates for the intense solitude; 11,000 feet is the approximate limit of trees. The approach to the head of the pass, 13,000 feet, is a bare open moor with jagged limestone cliffs on the north, and the snowy ridges of the Pao Hsueh Shan shining far away on the south: a path leads across the source of the Fou River which accompanies us all the way to this point, to the temple of Huang Lung Ssu situated near the terminal moraine of a glacier, and surrounded by a clump of pines. The pass itself is a picture of desolation, and it is not to be wondered at that it is a way of terror to the Chinese from the plain; the pass must not be attempted except in the early morning; travellers must observe dead silence. A number of persons are bewitched annually and lose their senses, sometimes their lives; such superstitions as these invariably collect round a high pass in China, and are certainly due to the distressing symptoms of mountain sickness which the Chinese are quite unable to account for except by demons; some of my followers from the plain utterly collapsed at 11,000 feet. A solitary stone hut, $1\frac{1}{2}$ miles below the ruined watch-tower which marks the head of the pass, receives travellers who are prevented from crossing by the night, the wind, or the devils. In spite of protests I had intended to cross the pass in the evening, but a violent thunder-storm directly caused by a sacrilegious attempt to photograph the mountain (under whose snowy mantle beats the geomantic pulse which brings prosperity not only to Sungp'an, but even to distant Chengtu) caused us to take refuge in the hut; in spite of a storm of sleet the temperature did not fall below 45 degrees (October 4).

The next day we descended by a good road; on the west or Sungp'an side the pass is absolutely destitute of forest, the tribesmen having cut down every tree in the place; 1,500 feet below the head of the pass there are many prosperous Hsi Fan Ch'ai 'Tsu (villages), and the sides of the hills are thickly cultivated with barley interspersed with low brushwood, where some excellent pheasant shooting is to be had.

III.—*Sungp'an and its Trade; Non-Chinese Tribes.*

Sungp'an is situated in the valley of the head waters of the **Sungpan**. Min River; the town, which is surrounded by bare mountains, is

a very ancient Chinese settlement, dating, according to the "Ssu-ch'uan Chih" from the early Han dynasty, when it was designed as a military post against the incursions of Tibetan tribes. The fortifications, now ruined, at strategic points along the gorges down to Kuan Hsien, are also of very ancient date.

Attractions of
Sungp'an.

With its clear bracing air; plentiful supply of good beef and mutton, bread, butter, and milk; the excellent sport and riding; the interest attaching to the various tribes that crowd the streets and the important commerce that fills the warehouses, Sungp'an is quite the most fascinating city that I have visited in Ssu-ch'uan. The autumn climate is perfection, temperature averaging maximum 56 degrees and minimum 46 degrees, with frequent thunderstorms in the evening. The Chinese wear wadded clothing all the year round, and the latter part of the winter is very severe, the thermometer falling to zero. The Prefect told me that he found the winter climate colder than at Lhasa.

Merchants of
Sungp'an.

Owing to continued illness I was unfortunately not able to get about much, but as I was hospitably entertained by one of the largest wool merchants in the town I was able to gather some information about the important and interesting trade. The business part of the city is along the river which runs through the town and is crossed by two picturesque bridges. Many of the houses are of wood fancifully carved. The yamen of the Prefect, or, to give him his full title, the "Fu I Li Min Fu," "the barbarian-cherishing Chinese-governing Prefect," is perched on a hill overlooking the business town. The city wall encloses the east slope of this hill, so that the west gate is 900 feet above the east. The permanent population is about 9,000, but the streets are always full of tribesmen who do not live within the city wall.

The trade of Sungp'an is in the hands of about 20 large firms, chiefly agents of Chengtu and Chungking houses; but the most important shops are the four "Ch'a Hao," or Government tea monopolists, who supply the tribes with the tea which is a necessity of their lives. The managers of the Ch'a Hao are entirely Mohammedans from Hsi An, and they do a large general business besides tea. Then there are a number of smaller Mohammedans who deal in wool, sheepskins, &c., and who act as go-betweens between the tribesmen and the Chinese firms who rarely get on good terms with the "savages."

Moham-
medans.

At least half the population of Sungp'an is Mohammedan, and there are some very strict followers of the Prophet. Their cleanliness, intelligence, and honesty is in striking contrast to the ordinary Ssu-chuanese. My Ma, the leading tea merchant, entertained me in his fine house for a day, and I learned that in spite of his 71 years he gets up every morning before daylight and performs his devotions before going to business; besides being a Chinese scholar he reads Arabic well, and requested me to procure some Arabic books for him from Singapore. Several of his assistants have been to Mecca at his charge, he and the other leading Moslems keep the peace with the Chinese and have little or no connection with Turkestan, whence it is said come the

people who cause all the trouble in Kansuh. Occasionally mendicant mollahs appear in Sungp'an; My Ma treats them generously, but sees them out of the place as soon as possible. I was informed that the troubles reported from Ho Chou have again subsided and were never so serious as was at first feared. The two Mas have not thrown off their allegiance, and the execution of a celebrated mufti of Ho Chou in Kansuh has restored order.

The tea, which is directed by the Yen Ch'a Tao, or salt and **Tea chop.** tea intendant of Chengtu, for the supply of the tribes near Sungp'an comes partly from Lei Kuo P'ing in the mountains north of the Chengtu plain and partly from Kuan Hsien. The tea is of a very coarse quality, the bundles which I examined resembling a collection of old crows' nests rather than the ingredients of the cup that cheers but not inebriates. It is done up in coarse bamboo bundles either "hsiao pao," small, of 60 catties, or "ta pao," large, of 120 catties. From Lei Kuo P'ing it is brought up on porters' backs; from Kuan Hsien chiefly by mules (jennets, the large mules of North China, are unknown in Ssu-chuan). The price of tea at Kuan Hsien is 6 to 7 catties for the tael, and the cost of carriage is 20 to 25 cash per catty; each bundle bears a label "Yin Ch'a," *i.e.*, "licensed tea." The tea honggs engage largely in the general trade of Sungp'an. A Mohammedan merchant will have his agents in Chungpa, Kuan Hsien, and Cheng-tu; to the north his commercial relations extend as far as Ta'o-chou, and even to the Koko Nor, which is three weeks' journey across a grass country for a horseman, and about five weeks for laden animals. His assistants, who can usually speak "pidgin" Thibetan, go into the Amdon grass country in the spring, taking tea, foreign cottons and cloth, iron and brassware, and silver; they collect musk, rhubarb, deers' horns, skins, and wool from the tribesmen. The merchants go in large companies on account of the predatory habits of some of the tribes; nor can this be a matter of surprise seeing that there is absolutely no settled government in the Amdon.

Tea is the most important import to Sungp'an; a small **Other** quantity of cotton wool, cotton cloth (foreign and native), salt, **imports.** paper, brass, and ironware make up the remainder; the balance of trade is slightly in favour of Thibet, and in the absence of any regular bank, the "ch'a hao" bring up from 20,000 to 40,000 taels per annum. I never heard of any robbery, though there is considerable pilfering of the wool as it goes down.

From the foreigner's point of view the most important export **Wool.** is wool; the best wool comes down from the grass country; the sheep being shorn in August. The wool from the immediate neighbourhood of Sungp'an is said to be inferior, though the sheep are of the same breed with long twisted horns and fine long wavy fleeces.

I saw a Mohammedan purchase a flock of fat sheep with wool on for 95 tael cents. a head. The average price of wool at Sungp'an is 7 taels a picul, and of this, 15 per cent. is dirt and

lung that has to be washed out at Chungking; the wool is brought down in long ropes and in a very filthy condition; in October the principal hongs are full to overflowing; the wool is then loosely packed on mules and sent down to Kuan Hsien, where it is put on small craft and despatched by water. The trade is a new one and seems capable of indefinite extension; it is on the increase, in spite of a rise in price of some 80 per cent. in the last five years.

From 20,000 to 25,000 live sheep go down to the Chengtu plain from Sungp'an annually.

Fine sheepskins are a valuable export; the bulk of this trade, however, does not come to Sungp'an, but goes out via T'aochou and Han-Chung or the Northern provinces.

Medicines.

Medicines are the most valuable export from the Chinese point of view. Every druggist throughout the Empire professes to sell Ssu-chuan drugs, and Sungp'an is a most important market for them; nearly all the principal "wild" vegetable medicines of China are to be bought at very low prices at Sungp'an. Liquorice and rhubarb are the only kinds known to us; of rhubarb the Chinese distinguish several grades, the best of which are "chuang huang," "yin huang," and "chin wen huang," the roots of which latter, when cut open, show a network of whitish veins; the inferior kinds have a deeper colour, a coarse smell, thin roots, and no veins, the "ch'ou huang" (stinking rhubarb), and "niu shi huang" (or ox-dung rhubarb) being the commonest; the tribesmen only get 7 to 8 taels for 100 catties of the best roots when they are brought to Sungp'an in the rough and dirty state; Owing to the dry climate of Sungp'an, no precautions have to be taken against damp, the chief enemy of the Chinese druggist. By the time the rhubarb has got to Shanghai and has been prepared for the foreign market it is worth five times the price that is paid in Sungp'an.

The following short list covers three-quarters of the medicines actually produced near Sungp'an:—

1. Tan Kuei (*Aralia edulis*) is planted in large quantities by the Hsi Fan, looks like English wild hemlock; the roots and stalks are dried; it is a woman's medicine: Chungking value, 10 taels a picul.

2. Kan Sung: a valerian; the roots are covered with reddish-brown scales, which are hairy; the roots are used as a flavouring and also to purify the blood. Very large production; price, 7 taels the picul.

3. Chiang Huo: root of a plant like celery; used as a febrifuge.

4. Tu Ho: a variety of the above.

5. Tang Shen: root of a wild convolvulus, is used to counterfeit ginseng; is a tonic.

6. Pa'o Shen: inferior variety of the above.

7. Pei Mu: white buds of (*Uvalaria grandiflora*); the shoots are dug up before they are above ground. Used for coughs.

8. Lu Yung, or deer's horns in velvet. Only inferior kinds

come from Sungp'an, and these in small quantities. The supply from Kuan Hsien and Ta Chien Lu is better; the horns should be cut from the animal while living; they should be as long as possible and have blood in them; if they are broken the value is much less. Used for old men as a tonic and aphrodisiac. Ammonia is the principle of Lu Yung, for which fabulous prices are sometimes paid.

9. Huang Lien: rootlets of *Coptis Teeta*, planted everywhere on the West frontier. The plant takes many years (six to ten) to come to maturity; is used as cooling medicine.

Chinese have no belief in extracts or decoctions of the principles of their drugs, and thus large sums are wasted in carrying bundles of rubbish about the country.

Musk: Shé hsiang: the secretion in the navel of the "Chang Mu k. tsū," or musk deer, is used as a drug and a perfume all over China and India; it is also placed among furs and clothing to keep away insects, moths, &c.

It is difficult to give an estimate of the annual supply of this article at Sungp'an, but merchants at Sungp'an collect it with much greater ease than at Ta Chien Lu; good musk is bought for ten times its weight in silver at Sungp'an, and at Chungking for 18 to 25 times; so there is a heavy profit somewhere. Small supplies are brought out to various points along the Lung An road, where every coolie seems to have have some about him, and the inns reek with the sickly smell; the musk is brought down in its pod, *i.e.*, with the skin round the navel; the best kind is recognised by a nice brown colour, and in its pure state by its overpowering stench; pods with greyish or dull-coloured musk are rejected: it is retailed by $\frac{1}{100}$ th of an oz.; but it is adulterated more than any other article in the Chinese market. The musk that is sent to Shanghai is said to contain 50 per cent. of dried bullock's blood, fine sand, and other foreign matter, the tribes near Sungp'an do not, however, understand the art of adulteration.

A Mohammedan at Sungp'an informed me that far the largest herds of musk deer are to be found on the Southern shores of the Koko Nor, and that the supply of musk was larger at T'ao Chou than at Sungp'an.

Great quantities of musk and of other drugs do not come to Sungp'an at all, but are sent East to the great market of Yü Chou, in Honan, where a fair is held in the 9th and 10th moons; many of the Sungp'an traders visit this place.

I venture to estimate the annual Sungp'an-Thibet trade at 1,500,000 taels; considering that Sungp'an is only one of the trade outlets for Western Thibet, and having regard to the distance and heavy taxes, I think that this may be considered a very high figure:—

Estimate of total trade.

	Value.	Total.
	Taels.	Taels.
A. IMPORTS.		
Tea (70,000 large bales of 120 catties) ..	560,000	
„ (50,000 small bales of 60 catties) ..	200,000	
Cotton and woollen goods	15,000	
Brass and ironware, salt and sundries ..	5,000	
		780,000
B. EXPORTS.		
Wool (10,000 to 12,000 piculs)	80,000	
Live sheep (20,000 to 25,000 head)	20,000	
Fine sheepskins and furs	180,000	
Medicines and musk	520,000	
		800,000
Total .. ..	..	1,580,000

I should add that Sungp'an frequently suffers from scarcity of mules and porters.

**Likin in
Ssu-ch'uan.**

I may here conveniently refer to the inland customs or likin of Ssu-ch'uan, this tax has under Viceroy Lu become a serious burden.

Say, for instance, that a Chinese merchant wants to send a bale of wool from Sungp'an to Shanghai, he will have to pay likin at the following places:—

1. Sungp'an: "San fei chü" or "office for the three items of expense." What the three items are does not appear, but it is supposed that "the right and the left hand pockets of the Sungp'an official represent two of them; this is a *ssü likin*," *i.e.*, a secret or private tax, of which the general likin office has no cognisance, and which may or may not be authorised by the Viceroy. The tax only amounts to about $1\frac{1}{2}$ per cent., but it may be raised at any time, and has recently, in effect, been raised by an order to pay in cash at Government rate instead of in silver.

2. Mao Chou, north-gate likin.

3. Kuan Hsien likin.

These two latter stations are new inventions of the Viceroy Lu. The opening of the Kuan Hsien likin three years ago caused a fight between the mule drivers and the police, which ended in the defeat of the latter, but now the tax is collected without hindrance.

4. Chia Ting likin.

5. Lü Chou likin.

6. Chungking likin.

7. Chungking customs, in all amounting to about 8 per cent. on the value of a bale of wool of 100 catties, of which 15 per cent. is, as remarked before, dung and dirt which has to be washed out.

Or if the merchant sends his wool viâ Chungpa at slightly greater cost of carriage he pays.

1. "San Fei Chü."
2. Chungpa double likin, one on going into and the other on leaving the town; this is new since Lu's time; the town is literally blockaded with barriers and watch-stations.
3. Ho-Chou likin.
4. Chungking likin.
5. Chungking customs.

All the above are "pai huo" "hundred goods," or general likins on everything passing through; there are also general likins at the following places:—Pi K'ou and Pai Shui Chiang, over the borders of Kansuh but affecting Ssu-ch'uan trade; Kuang Yuen Hsien in North Ssu-ch'uan, where there is much grumbling at the administration; Sui Fu, at the point of entrance of the Yunnan trade, for goods to and from Yunnan only; Chao Chia Tu the head of the Lu River navigation; and at Chengtu.

Besides this I have noted: indigo barrier at P'i Hsien; tobacco barrier at P'i Hsien; sugar barrier at Han-Chou, and there are probably others which have escaped my notice.

(Goods coming into Chengtu pay two taxes:

Chengtu
likin.

1. Shui, or customs, which is managed by the Prefect.
2. Likin which goes to the general office. The following figures were given me as monthly average receipts at the Cheng-tu gates:—

				Amount.	
				Customs.	Likin.
				Taels.	Taels.
East Gate	..	..	..	1,100	1,000
West Gate	..	..	..	400	300
South Gate	..	..	..	600	500
North Gate	..	..	..	900	600
				3,000	2,400
Total	..	..	..	5,400	

Besides this, certain of the honggs guarantee payment of a monthly sum to the likin office, *e.g.*, the wine and vinegar sellers pay 500 taels per month, and so with other guilds. From an examination of the tariff for goods entering Chengtu, which is, I understand, applicable to all the likin stations with a few modifications, it appears that the tax varies from $1\frac{1}{4}$ to $2\frac{1}{2}$ per cent., it is not a high tariff that causes so much discontent, it is rather:

1. The constant tendency of the likins to increase both in amount and numbers. This has been a principal reason for the great unpopularity of the Viceroy Lu.
2. The vexatious conduct of the underlings in charge of the offices. A "weiyuan" is put in charge and has to remit so much per annum to the general office; of course, the more he makes the

more he puts in his own pocket; his underlings also have to live by preying upon trade, thus there are constant delays, breakages, and extortion without any redress. Nearly every office has a proclamation by the Wei Yuan denouncing the misconduct of his own employés, which I have no doubt is not exaggerated.

Other sources
of revenue.

These frequent inland barriers are all the more obnoxious when the Government might so easily enhance its revenue by such legitimate means as the development of communication, especially with the Yangtse; the encouragement of mines worked by private companies paying royalty, or a land settlement with reference to opium. But of these three sources of revenue the first two are tabooed, because it is supposed that the introduction of foreigners would be necessary; and the third is impossible without an energetic and honest staff. The land-tax of Ssu-ch'uan was assessed at the low figure of 668,000 taels by Chien Lung, and it has been raised by various "ching tie," or supplements in aid of other provinces, to about triple the amount; still it is very low and unequal, land has never been surveyed or measured in Ssu-ch'uan. And above all, opium is retailed all over the province at perfectly absurd rates, 140-200 cash an oz.; the dearest I have noticed was 300 cash for Shensi opium at Sungp'an.

State of cash
currency.

Another obstacle to Sungp'an trade, and indeed to all trade in Ssu-chu'an, is at the present moment more serious even than likin; I refer to the state of the copper cash currency, this is directly due to the negligence not to say stupidity of the officials. In Ssu-ch'uan even large local transactions such as buying land or making roads are effected by copper cash, all wages are of course paid in the same inconvenient medium, but as a string of 1,000 cash weighs 6 to 7 catties, merchants who have transactions with distant places have to accept silver for goods which have often been paid for in cash; silver is the only practicable medium for the transporting or storing of wealth; another inconvenient result of the great weight of cash, especially in places where there is no water carriage is, that very different values may obtain side by side in places not far distant from each other, the flow of the currency being blocked by the cost of transport, thus each little commercial centre has to get on as best they can on the usually insufficient quantity of cash that may be circulating in the immediate neighbourhood, the trade between the tribes and Sungp'an is fortunately in silver, for in Sungp'an it is difficult to get even 20 strings of cash without hunting the town over; the following table shows the differences in cash values (including differences arising from the use of different weights for silver) noted down in the course of two months' travel:—

Place.	Cash Value of Tael.	Difference from Chungking.
		Per cent.
Chungking	1,150	..
Chengtu	1,040	9½
Kuang Yuen	1,100	5
Pikón (Kansuh)	1,100	5
Sungp'an.. .. .	1,020	11½

Any special cause, *e.g.*, the rush of students to Chengtu for the examination, causes a great disturbance of the cash market. The opium and silk traders appear to suffer most from the present dearness of cash. A British subject in Chengtu who receives his remittances in gold, assured me that he lost by the dearness of cash as much as he gained by the dearness of gold.

The quantity of the circulating medium being insufficient to do the work required of it, base and spurious cash known as "red" cash or "hairy" cash, the work of private speculators, are slipped in among the good cash. This is especially the case on the frontiers, where there are often 15 to 25 per cent. of bad cash. They cause endless worry and bargaining, but though sellers object to them, and the law forbids them, bad coins are increasing in the province.

The whole cause of the trouble is that the government of Ssu-chuan has coined very few cash for many years past. Four years ago a considerable quantity of Kuang Hsü cash were turned out of the Chengtu mint and paid as wages to the Manchu soldiers. Though these coins contained 25 per cent. of sand and 25 per cent. of lead, and were of very inferior workmanship, there was no difficulty at all in getting rid of them, and in fact Chengtu and its suburbs absorbed them all. In Chungking a large percentage of the cash in common use dates from Chien Lung, and some even from K'ang Hsi (died 1723); only a small proportion is less than 40 years old. Melting down coin is an offence punishable by death, but it is largely practised, especially, I am told, at Sui Fu. Good Chien Lung cash has 6 catties of copper to the 1,000; at present 6 catties of copper at Sui Fu, the outlet from copper-producing Yunnan, would cost 1.80 taels; now 1.80 taels would change in open market for about 1,900 to 2,000 cash. Thus it is evident that Government cannot coin good cash except at a heavy loss, but if the officials were not bound to buy Yunnan copper, but could purchase in the open market alloy with lead or iron in sufficient quantities to avoid loss, and coin a cash of good workmanship with a clear inscription, the public would take up such cash very readily, even if they were of less weight and thickness than Chien Lung cash, and the present difficulty would be at an end. Unfortunately, the officials rarely take the straight road out of trouble. In Hsien Feng's reign cash, I understand, went up to less than 1,000 for a tael in Chungking, but this was for a short

time only. A high price has never been maintained for so long a period as at present.

Non-Chinese
population.

Thibetan
tribes.

The crowds of tribesmen immediately attract the stranger's attention on the streets of Sungp'an. These people are known to the Chinese indifferently as Hsi Fan or Man Tsu, and the distinction, if one exists, is not made clear in Baber's account of the tribes near Ta ch'ien Lu. The fine division appears to me to be between Thibetans and non-Thibetans, and so far as I could judge, the term Hsi Fan is more strictly applied to the former. I regret that I cannot add much to the little that is already known of these people. But I may mention that the villages situated between the town of Sungp'an and the pass, and also the valleys and hills which are enclosed on the south by the Sungp'an Ling An Road, and on the north by the old military road to Nan P'ing and thence to Lung An, are entirely inhabited by Thibetan tribes speaking a language only dialectically different from Lhasa. The personal appearance of these Hsi Fan exactly resembles that of the fine Thibetans, and the comparatively slight difference in their language and customs is probably due to the fact that they have been cut off from Thibet proper, have settled in villages, and have adopted agriculture, whereas their cousins in the Amdon grass country are pastoral nomads. Polyandry is not, I am informed, practised by the Hsi Fan, but none of them ever adopt Chinese customs, though, as already mentioned, the chief "t'u-ssu" in the hills near Lung An are descended from Chinese. About 15 miles north-west of Lung An is the large Ch'ai tsu or town of Mu Kua Ch'i, entirely inhabited by Hsi Fan, and which may be regarded as their metropolis. 20 miles further west is Pei Ma Lu, another large Hsi Fan village. From these places the Hsi Fan come down to Lung An and the settlements on the Sungp'an Road with barley, wool, flax (not hemp), medicines, and musk. Being simple people they invariably get the worst of a bargain with the Chinese, for whom they have the utmost dislike.

The Hsi Fan population on the Lung An side seems to be diminishing. They have vanished from the south of the Sungp'an Road, and round Nan P'ing I am informed that the Chinese are gradually occupying the best valleys. The t'u-ssu of Nan P'ing was recently dispossessed altogether. Near the head of the Pao Hsueh Pass, however, and round the town of Sungp'an, the Hsi Fan are in large numbers and very flourishing. Their villages, or ch'ai tsu, are perched along the hill-sides, which are thickly cultivated with maize and barley, which is made into tsampa, the staple food of the people. The ordinary Hsi Fan establishment consists of a large yard surrounded with a stone wall, where the yaks, ponies, sheep, and children wallow in the mire. The dwelling is a dark, smoke-begrimed, log hut on a raised stone platform. The barley is strung on large wooden frames or screens some 15 feet high, which form a very characteristic landmark. The richer villages support a lamasery, and the poorer club together for the same purpose. Well-to-do families send one of their sons to Lhasa to study, but the Llamas have nothing like

the supreme power here that they have at Lhasa. The road to Lhasa from Sungp'au leads across a grass country for three-quarters of the distance, and as I was informed by the Prefect who had held office at Lhasa, it is a much easier journey than the Batang route, and would probably be followed by officials if not prevented by the arrangement which places Thibetan affairs under the direct superintendence of the Ssu-ch'uan viceroy, and thus necessitates all officials for and from Thibet passing through Chengtu.

The Hsi Fan wealth consists largely of oxen and sheep. Men and women are clad almost entirely in wool. The men wear a rough felt hat and a heavy gown of coarse undyed wool, of the same cut as a Buddhist priest's robe. The legs and feet are wrapped in "nin tsu," or strips of very coarse woollen stuff; the women wear a somewhat longer gown, with uncured leather boots. The long black hair is plaited into numerous long queues, ornamented with shells and pebbles.

Nomad Thibetans from the Amdon frequently ride down to Sungp'an. Clad in undressed skins with their heads bound up in red cloth or silk, or covered with grotesque caps of fox fur or sheepskin, and with a miscellaneous assortment of knives, &c., in their girdles, they would make their fortunes as stage villains.

A very excellent serge said to come from Derge to the south-west of Sungp'an, is sold in Sungp'an. It is called "p'u lu" by the Chinese. It is dyed claret colour, but with what materials I am unable to ascertain. Medium quality costs 3 to 4 taels a roll 1 foot broad and 36 feet long; the very best costs as much as 7 to 8 taels. It is impervious to ordinary rains and wears for ever.

The Prefect told me that the tribes are utterly impossible to "kuan" or govern. As it is the Sungp'an officials do not attempt to exercise even a nominal control over the Hsi Fan and the Amdon tribes, except in the town itself. The position of the Mandarin at Sungp'an is a very difficult one. He is absolutely responsible for the peace and order of a large mountainous district but thinly populated; he gets little or no land-tax; he has to keep up some sort of establishment, to "gratify" his superiors, and to keep himself alive. For all this no provision whatever is made, so it is not surprising that he resorts to imposts of doubtful legality on the trade passing through to Thibet.

Two missionaries, an Englishman and a Swede, are now temporarily established in Sungp'au. They are among those who came over from Darjiling, despairing of entering Thibet in that direction. Both these gentlemen are good Thibetan scholars, and are busily engaged in learning the local Hsi Fan dialects. They have up to the present confined their ministrations to the tribes in the immediate neighbourhood of Sungp'an, where they have been extremely well received. They hope later to extend their excursions into the Amdon, and have received several invitations from Lamas. I see no reason whatever to believe that they would have any serious difficulty in travelling in the Amdon, if they conducted themselves with tact (which I feel sure these gentlemen will do). The

Thibetans
from Amdon.

Missionaries
for Thibet.

Prefect says he will have nothing whatever to do with them if they depart from the immediate vicinity. If the Prefect keeps his promise it would be a great guarantee for the missionaries' safety, for Chinese "ch'ai" would be positively dangerous among the tribesmen.

The two missionaries, who have rented part of a house at Labrang (see Intelligence Report, November 1) are both British subjects; one, I learn, a Canadian, and one a Scotchman. They are not registered at Chungking, and I have mislaid the names given to me. Their real station is T'ao Chou, a town in Kansuh, some 12 days' journey north of Sungp'an, and which is the principal outlet east from the country between Koko Nor and Sungp'an. Labrang is a great monastery with 2,000 llamas, round which a large mart has gathered. There are numerous Mohammedans there. The place is 75 miles from T'ou Chou to the north-west. The country between is occupied for the present by a tribe of bandits at war with the Chinese, but they do not molest the foreigners, who have been extremely well treated, and have had an interview with the "living Buddha," who is the head of the monastery.

Non-Thibetan
tribes.

The non-Thibetan tribes to whom the term Man Tsu is more strictly applicable are wedged in between China and Thibet proper. They occupy the mountain country to the west of the Min River down to the Kuan Hsien, and beyond that to Ta Chien Lu. Within recent times there were large numbers of them in the hills to the east of Maochou, but these have now become Chinese in language, dress and manners. The Mantsu are altogether distinct from Thibetans, and are generally supposed to be the remnants of the aboriginal race which occupied Pa and Shu *i.e.*, Central Ssu-ch'uan, before the Ts'in dynasty, and which has left its traces in the curious sandstone caves noticed by all travellers. The Man Tsu are now divided into a great number of clans, cut off from each other by precipitous mountains. Each valley seems to possess a different dialect. The type of face is very European, and the Man Tsu would pass anywhere for an Italian peasant. They are extremely shy of any intercourse with strangers, especially Chinese, and judging from the number of their villages near the Maochou road that are in ruins, I should imagine that they are gradually retreating into the mountains. The very striking Man Tsu architecture has been remarked on and described; the loftiest and most inaccessible peaks seem to have been chosen for the villages; the houses are large piles of rough stone wall from two to five storeys high, with here and there a lofty watch-tower. The formation of this part of the country being a shale and limestone that is very easily worked, there is abundance of building material. The interior of a Man Tsu house is very inconvenient, as the ceilings of rafters and mud are very low, and there is no arrangement for letting the smoke out.

IV.—*Sungp'an to Maochou and Chung-pa.*

The route from Sungp'an to Chungpa viâ Maochou is extremely grand, but there is little of commercial importance to be noted. From Sungp'an the traveller descends to Maochou in five easy stages the distance being 120 miles; the last 120 li are very "long" requiring two full days' march. All the way from Sungp'an the road is confined in the gorges of the Min River, a boiling mountain torrent. The hills on the west are crowned with patches of forest and an occasional Nan Tsu village, the river forming the boundary between savagedom and China; cultivation is only occasional and the villages and markets are few and far between and miserably poor, depending for their existence on the rearing of sheep and ponies, and a small traffic in drugs from the hills on either side of the gorge. Salt, cotton, cloth and other supplies are brought up by pedlars from Chungpa. Most of the villages are old fortified posts, as the names testify; "Chen Chiang" or "Guard the River," "Ching I" "pacify the savages," &c. The whole district down to Maochou is known as the "Chin Kuan," or mine passes; the road is always busy with tea going up and wool and drugs coming down from Sungp'an.

Maochou is on a circular "fa" or plain some five miles across and surrounded on all sides by an amphitheatre of mountains. The main road continues down the Valley of the Min for five stages to Kuan Hsien on the edge of the Chengtu plain. Here the Sungp'an wool and medicine traffic receives a large accession from the Chinese settlement of Fu Pien, 500 li from Kuan Hsien to the west on the Ta Chin River, which is the boundary between the Man Tsu and the Thibetan countries. The path of Fu Pien crosses a series of lofty mountains and is 10 days' journey for merchandise. The tribes come out to Kuan Hsien by this route but are not allowed to spend a night in the city, a camping ground being provided for them outside the west gate. Goods for Chungking are put on small craft of 3,000 to 5,000 catties burden and sent down river to be transhipped at Chia Ting or Chiang K'ou according to the state of the water. I shall return to the Kuan Hsien waterways later on.

As I intended to cross the south of the hill country I left the main road at Maochou and turning east traversed the barrier of the Maochou plain by an easy pass 6,200 feet high, thence the road dropped down into the smiling valley of Moe Tsu P'ing whence the Shih Tsuen River has its source. The population is now entirely Chinese, though there are many undoubted descendants of the Man Tsu. After passing the considerable market town of T'u Men, formerly the seat of a T'u Ssu, the Shi Tsuen River plunges into a series of gorges and we climb along the hillsides high above it. The road, though a mere track, is much frequented by porters bringing tea from Lui Kuo Ping and cloth, salt, and paper from Mien-chou. They have to return empty-handed unless they chance to get a load of drugs from Maochou. The gorges of the Shi Tsuen River are not so rugged as those of the

Shi Tsuen
Hsien.

Min and the hillsides support a large population of farmers; after a journey of 42 miles from T'u Men through a wild and beautiful country we reach the little hsien town of Shi Tsuen, built in a narrow valley along the north side of the river at a point where it receives a small affluent from the Sungp'an mountains to the north. The town has not more than 5,000 inhabitants, but it is the centre of supply for a large section of the mountainous country. A small quantity of very excellent opium is produced. The making of "chien tsu," or carbonate of soda, which the Chinese bakers use for yeast, is a considerable industry and the inevitable medicines come down from the hills. Among those not found at Sungp'an I noticed:—

1. Chuan Hsiung, the root of a "Lewisticum," used as a cooling medicine.

2. Nie Tung, *Ophiopogon Japonicus*. The lilaceous root is used for bilious patients.

A road leads from Shi Tsuen over the range dividing the river from the north of the Chengtu plain descending to An Hsien (40 miles) the first city on the flat, whence the important town of Mien Chu Hsien is reached in one stage. Another road leads east down the river to Lui Kuo P'ing the market of the tea hills, where the Mohammedans have agencies.

By a little blasting and dredging the river could be made navigable from Mien-chou as far as Shi Tsuen. The few rapids that now prevent navigation are mostly of shingle not rock. Then if a feasible mountain track were to be made direct to Sungp'an, the journey to Sungp'an would be considerably shortened and Shi Tsuen would attract to itself a large share of the Chungpa and Kuan Hsien carrying trade.

Bamboo
bridge.

The great sight of Shi Tsuen is its bamboo suspension bridge which connects the town with the Chungpa and Lui Kuo P'ing road on the south of the river, spanning a distance of 100 yards. This bridge is the best example that I saw of a type peculiar to this district and which deserves a particular description; eight cables of bamboo strips woven together and of the thickness of a man's leg are slung loosely across the river. The cables are doubled at both ends and hitched through heavy wooden posts which are fixed in masonry, but in such a manner that they can be turned round like a windlass. The cables can thus be tightened up. Fixed under the cables at intervals of $1\frac{1}{2}$ yards are cross girders made of thin strips of bamboo which are brought up on both sides and made fast to a great bamboo cable about 5 feet above the bridge, which thus acts as a railing or banister. The bridge is paved with rough hurdles; it sways fearfully and a hill pony of mine which had never seen such a structure before, laid down in the middle and had to be carried over by main force.

The Ch'ü
Shan route.

Following the Shi Tsuen River for 20 miles along the Lui Kuo P'ing track we reach the foot of the Ch'ü Shan a great mass, several feet high, which blocks the way. The river takes a great bend of 15 miles to the north and the tea road goes off to the south, but the Chungpa path leads over the hill by a very rocky, slippery, and

difficult track. The descent of 5 miles passes a large coal mine which supplies Chungpa and brings us out at the market of Tung K'ou, situated at the point where the river finally issues from the mountains into the main basin of the Fou River. The mountains, an abrupt barrier, bend away to the north and south, and an easy walk of 18 miles through indigo fields and paddy lands brings us to Chungpa.

Chungpa is one of the most important marts in North Ssu-ch'uan; it is a sub-district city subject to Chiang Yin Hsien, 50 li to the north. The town is situated on an island formed by two arms of the Fou River; the houses are low and unevenly built, and the streets narrow and dirty. Adjoining Chungpa to the south-west is the mart of San Ho, to the south-east the mart of T'ai-p'ing, forming one large town of 18,000 inhabitants; but as every day is a market day the streets are always crowded with country people. The trade of Chungpa is said to be on the decline owing to the increase of likin, but the town must always be an important centre:—

1. As being on the plain at the junction of routes from Sungp'an, Pi-k'ou, Shi Tsuen, and other smaller places in the hills.

2. As being the head of navigation for Chungking craft; only boats of 5,000 catties however can get up so far.

3. As being the centre of a large agricultural district, rich, densely-populated, and which takes up large quantities of salt, native cloth, and foreign yarns.

4. For two important special products:—

(a.) Indigo.—This flourishes greatly all round Chungpa, the shrubs being large and the leaves of a very deep green. The furnaces and vats are made of rubble and stones plastered over with lime; these vats are dug in the open fields by the roadside. Indigo is exported north to Kansuh and south to Chungking; there is also a large consumption in Chungpa, where I saw whole streets festooned with native cloth freshly dyed and hung up to dry. The price of indigo in Chungking, where it is sold in large tubs containing 200 catties, is 5 fên per catty.

(b.) "Fu Tsu," or aconite; generally sold in slices ("Fu P'ien"); the rich purple spiral flowers of this plant give a pleasant dash of colour to the country landscape. The root which resembles the horse radish is a deadly irritant poison if taken in its natural state; a greasy juice oozes from the root when it is cut; the Chinese expose it to heat, salt it, dry it and cut it into slices, when the colour turns to a greyish black. It is a very popular medicine with old men, as it is said to sustain the vital energy; as much as an ounce is prescribed at a dose, and it is usually cooked up with meat or fowl; it is largely exported from Chungpa, and ladies with a grievance sometimes choose the raw root as a means of suicide. The local price is about 25 cash for an ounce.

Chungpa receives all kinds of drugs from a wide area of country; the drug-sellers are in great force and have a street of hong's all to themselves.

From Chungpa to Mien Chou is an easy river journey of 35 miles; both banks are densely cultivated and show every sign of a prosperous population.

Mien Chou.

Mien Chou is a clean and well-built town of about 60,000 inhabitants situated on the main north road to Peking from Chengtu. The east wall is protected from the river by a handsome cobble bund, the water communication is good, and Chungking can be reached in six to seven days in autumn. The characteristic trade is silk, and in the country there is a considerable cotton-weaving industry; in the shops there is a large display of foreign yarns, and foreign goods generally seem to be in favour. The town is a great emporium of She Hung salt, and the display of silks, furs, fancy stationery, drugs, and general goods testifies to the wealth of the district. The title "Hsiao Chengtu," or little Chengtu, usurped by Chungpa would be much more fitly borne by Mien Chou.

When I reached Mien Chou the ex-Viceroy Lu was in the town en route for Peking, and the two chief examiners were expected the next day from Chengtu. I met their excellencies on the road; besides four bearers, 18 soldiers were harnessed on to their chairs, and they were surrounded by a larger mob of riff-raff than I have ever seen attending an official: following them was a train of 30 laden mules and 28 large double porter's loads; it would have been interesting to know what all these goods were. It appears that the examiners invest all the money they can in Ssu-ch'uan drugs, which find a ready market in Peking; taxes en route are not paid at all, and cost of carriage is borne by the local officials. This kind of thing is no joke for the latter functionaries; I was informed that the Viceroy and the examiners between them would cost the Mien Chou magistrate some 2,000 taels.

High road to Chengtu.

The road from Mien Chou to Chengtu is certainly one of the broadest and best in China; 40 miles from Mien Chou and 10 from the district city of Lo Chiang the road crosses a low ridge, the Pai Ma Kuan, 200 feet above the level of the plain; this is the divide between the Fou River basin and the plain of Chengtu. Frequent mule trains from the north are met, and the wheelbarrow traffic flows in an almost continuous stream taking tobacco and sugar from Mien Chou. Tê Yang Hsien, two stages from Mien Chou, is a town of about 15,000 inhabitants, surrounded by large sugar plantations and with some fine country houses in the suburbs. The next stage brings us to Han Chou, with an estimated population of 45,000 and a great sugar and tobacco trade; small boats can get to this city from the Lu Chou River at high water. Hsin Tu Hsien, a busy town nearly as large as Tê Yang, is 15 miles from Han Chou and 12 miles from the north gate of Chengtu.

V.—*Note on the Chengtu Plain and its Irrigation.*

Geographical description.

The extraordinary fertility and dense population of the Chengtu plain have attracted the notice of all travellers; the

absolutely flat country round the capital is divided from the basin of the Fou River on the east by a ridge 55 miles from Chengtu by the Peking road (I'ai Ma Kuan); where the high road crosses it the ridge is only 200 feet above the plain, but further south it becomes a considerable range.

The Fou basin is on a lower level than Chengtu, and the city of Mien Chou (which is north of Chengtu and therefore nearer to the head of the watershed) is 200 feet below Chengtu. The Chengtu plain again rises gradually towards its north and north-west extremities. The city of Kuan Hsien, 40 miles north-west of Chengtu, is 700 feet above it, though the rise is so gradual as to be quite imperceptible without observing the flow of the waters and the barometer.

To the south and south-east a journey of 30 miles brings us off the plain into the low hill country around Chien Chou; in the south-west corner the plain dips down to Chiang K'ou (200 feet below Chengtu), a mart where all the various branches of the Min River are gathered into one stream; on the west the plain is bounded by the hills on the right bank of the Min River as far as Kuan Hsien, from which city the mountains trend across to the north-east, passing beyond the large city of Mien Chou. Hsien, which may be termed the north gate of the plain, the whole includes an area of about 2,500 square miles. Besides Chengtu, with its estimated population of 400,000, there are no less than 15 distinct cities in the plain, of which at least two (Han Chou and Mien Chou), contain at least 40,000 inhabitants each; besides this there are flourishing marts at intervals of 4 or 5 miles along the numerous roads which intersect the plain; two of these, Chiang K'ou at the southern exit of the plain, and Chao Chia Tu at the head-waters of the Lu River, being reckoned among the principal commercial centres of the province; water communication with the Yangtse is somewhat defective except from Chiang K'ou, but boats go down from Kuan Hsien in high water, from Chao Chia Tu and from Chengtu. The port of Chengtu is outside the east gate, and small "Wu-fan" boats with a capacity of 10,000-20,000 catties are far the most common; small "kua tsu," or house-boats, carrying passengers but not as a rule goods, are also seen. Freight averages 9 cash a catty between Chungking and Chengtu, whereas by land it is as much as 50 cash. The landing place at Chengtu is along a narrow canal about 25 yards broad, where (early in November) I counted about 100 Wu-fan and 15 larger house-boats. Two miles below the landing-place the river emerges from the suburbs and passes under a fine 9-arch bridge; from this point the river broadens to 60 yards, but there are numerous shallow places, and at low water boats have to content themselves with half-cargoes.

The most striking feature of the plain landscape is the extraordinary number of well-built farmhouses, each surrounded with its vegetable garden, fruit trees, and grove of bamboos, giving an air of prosperity almost unique in China; viewed from the hills above Kuan Hsien the country looks like a great forest of fruit

trees. Much of the land is owned by religious and other corporations in Chengtu, but it is all cut up into very small farms, the chief products of the plain are:—

1. Silk near Chengtu and to the south-west at Chian K'ou.
2. Tobacco from Pi Hsien, Chin Tang, &c., a very large production.
3. Sugar from Han Chou and Te Yang.
4. Rapeseed oil from Kuan Hsien and the north-west.
5. Mien Chu Hsien produces paper, indigo, and fine flour.
6. Most important of all, large supplies of rice come from Chin T'ang, also from Peng Hsien, Kuan Hsien, and the north-west of the plains.

**Irrigation of
the east of the
plain.**

The whole of this great and rich population depends for its existence on irrigation works, without which the east and west of the plain would be a marsh and the north a waterless desert; the east of the plain is watered by the numerous streams, of which the most important are the Lo and the Mien Yang Rivers, which with their tributaries, descend from the hills round An Hsien, and flowing through the country between Lo Chiang and Hsin Tu, join together at Chin T'ang to form the Lo Shui, otherwise known as the T'o River, which debouches into the Yangtse River at Lu-Chou. During the summer the rush of water down these streams is great, as is proved by the large shingle and sand-banks formed in places where the bunds have given way. Between Han Chou and Chengtu, a distance of 30 miles, no less than 14 bridges are crossed, and I gather that some of the streams which they span are artificial, but they are all banked up, in some places with earth dykes, and in others with stones plastered together or packed in bamboo baskets, to such an extent that it is impossible to say which are natural and which are artificial channels; the principle evidently has been to break the force of the water by providing it with as many channels as possible; besides these main channels there is a great net-work of deep cross ditches, averaging 5 yards broad, by which water is conducted to every field that requires it; at frequent intervals water gates with low dams are erected by which the water when it falls to a certain level, shuts itself off.

**Kuan Hsien
irrigation.**

The works at Kuan Hsien on the west edge of the plain (120 li from the west gate of Chengtu) deserve for their ingenuity and simplicity and utility to be ranked among the first public works of China. A reliable tradition ascribes the commencement of the work to Li Ping, the first "t'ai shou," or hereditary governor of Chengtu, who was appointed by the Ch'in, after they had overthrown the aboriginal kingdom of Shu, and the completion of the work to Li Ping's son; it is satisfactory that the Kuan Hsien irrigation is not attributed to the great Yü, about whom so many fabulous stories are current in the province, and who is popularly worshipped as the Lord of the Waters; for we could not but be reluctant to accept stories about a man who was born in three places and died in as many more.

The objects which the ancient engineer seems to have set

before himself were (1) to prevent an excessive rush of water down the west of the plain; (2) to irrigate the north and centre of the plain; (3) to effect this by connecting the watersheds of the Min and Lu Rivers by streams across the plains.

The city of Kuan Hsein is situated at the point where the Min River issues from a magnificent gorge on to the plain. The west bank of the river is fringed by high mountains, and the east bank is separated from the west wall of the city by a high bluff which runs south beyond the city into the plain for about 200 yards. Just under the south-west corner of the city an artificial gorge (A on the plan) about 100 feet deep has been cut through the living rock. Through this gorge a copious stream about 40 yards broad has been diverted eastwards at right angles from (B) the main stream of the river; the tail of the cliff (C) has thus been left like an island, surrounded to the north and west by water, and the east and south by the plain. The plain dips down to the east and south (though this is not perceptible to the naked eye), thus a part of the water of B, foiled in its effort to go south partly by the cliff (C) and partly by the big dyke (D), forms a whirlpool under the cliff, and then rushing out of the gorge (A), runs like a mill race past the south gate (E). Both sides of the channel are strongly bunded with stones packed in bamboo baskets. Just east of the south gate this stream is artificially divided into two channels, one of which (F) flows across the plain to the south gate of Chengtu, and the other (G), navigable in summer for timber rafts, flows to the north gate, and is connected with F by the navigable stream which flows under the east wall of Chengtu. The high road from Kuan Hsien to Chengtu thus passes between the two channels F and G. Between Kuan Hsien and P'i Hsien (22 miles) these two streams are connected by two minor channels flowing from F to G, *i.e.*, from south to north across the high road, but the bulk of the water that comes through the gorge is diverted past the east gate of the city, and away to the north-east (channel H on the plan), passing between the cities of P'eng Hsien and Ch'ung Ning Hsien (each 20 miles from Kuan Hsien to the N.N.E. and N.E. respectively). Flowing across the whole of the plain and irrigating it as it goes, this important channel joins the upper waters of the Lü River at the city of Hsü Tu, 12 miles to the north-east of Chengtu, thus connecting two distinct watersheds. The channels near Kuan Hsien are certainly artificial, but further to the east advantage has probably been taken of natural water-courses. I may add that the latest map of China (Bretschneider) has got these streams all wrong.

Li Ping bequeathed to posterity as the principle of regulating the waters the two sentences, "Shen t'ao t'au, ti tso yen," *i.e.*, "dig the channels deep and make the dykes low," that is, keep the water at its natural level, a principle which if it had been applied to the Yellow River would have saved untold misery and loss.

Just below the point where the Min issues from the mountains it sends off a subsidiary stream (I). Advantage is taken of this to construct a movable barrier (K) consisting of a series of tripods,

each made of three saplings 15 feet high lashed together at the tops and fixed in the bed of the river. These are then filled up with bamboo baskets full of large stones, the great dyke (D) is of a similar character; this is thrown slant-wise across the main stream at the mouth of the gorge (A), with the object of driving the water into the gorge. In the month of November, when the water is sufficiently low, the Shui Li Fu or prefect of the waterways, who is resident at Kuan Hsien, and has direct control of the works, set to work to make the western half of the barrier (K). This shuts off the water from the subsidiary channel (I). (I) is then dug out for a distance of three-quarters of a mile, and the stonework is pulled to pieces and carefully restored. The west half of the barrier (K) is then removed, and the eastern half is constructed. This turns the water back to (I), and shuts it off from the main channel (B), and in consequence from the gorge and its three channels (F), (G), (H). All the channels (B), (F), (G), (H) are then carefully dug out for a distance of about three-quarters of a mile. From 5 to 6 feet of gravel and sand, the accumulation of the year, is removed. In the middle of the gorge are three iron pillars placed flat on the bottom of the stream; one is dated Hsien Feng, one is of the Ming dynasty, and one has now vanished altogether. The object of these pillars is to mark the proper level of the stream, and the workmen have to dig down to them and no further. The great dyke (D) is repaired, and the stone bunds along the various channels are entirely removed and replaced as strongly as possible. Thus year after year for 2,000 years has Li Ping's motto been carried out.

By the month of March, when water is required for the paddy fields, all is ready and the "deus ex machinâ" in the person of the Taotai from Chengtu appears upon the scene; he solemnly receives a present of 200 taels from the two magistrates of Chengtu for his expenses; then he performs ceremonial devotions at Li Ping's temple (L on the plan), and then he orders the barrier K to be removed.

At this juncture his attendants are supposed to dash at the water and urge it forward with strokes of the bamboo: the Min thus hastened in its course, rushes back into its main channel, and the gorge (A) with all its channels (F, G, and H), are at once filled with the fertilising stream which is poured over the whole plain.

The object of the great bund (D) is to secure a sufficient supply of water through the gorge. If the water rises very high it flows over the barrier and down to the south; a gauge is cut in the rock in the middle of the gorge, and it can be seen at a glance if too much or too little water is coming in. But a hitch very rarely occurs.

The Viceroy, Ting Pao Cheng, the predecessor of the notorious Lui, got into trouble by making the big dyke too high when he repaired it, with the result that too much water came through the gorge, and the plain was flooded.

Two special Commissioners came down from Peking to settle up the trouble that ensued.

The temple (L) erected in honour of Li Ping along the side of the cliff, near the point where the Thibet road crosses the river by a light bamboo bridge, is certainly the most beautiful I have yet seen in China; the buildings are kept scrupulously clean; the chief shrines to Mr. and Mrs. Li Ping and their son, the "Erh Wang," respectively, literally blaze with coloured lacquer and gorgeous painting. Every available corner is filled with honorary inscriptions presented by past Viceroys and other high officials; while before the images are hung the banners given by the Emperor; Li Ping and his descendents enjoyed the posthumous title of Wang or Prince.

Temple of
Li Ping.

The galleries in front of the shrines are exquisitely carved with lacquered fretwork; the sentences "Shen t'ao t'an ti tso yen" are all over the temple, executed in various designs of woodwork and calligraphy. One of the adjoining shrines is much frequented by barren women, and the walls of the court are entirely wainscoated by inscriptions given by those who have become the joyful mothers of children. In another court there is a huge teak tree which it requires more than three men to span. At the back of the main shrine a series of graceful pavilions and dainty minarets, erected chiefly at the charge of Viceroy Ting, ascend the cliff and are lost among the fine trees that crown the summit.

The temple is occupied by about 30 Taoists. A smaller temple to Li Ping's son, is perched on the top of the cliff (C), just above the whirlpool in the gorge; this is a favourite summer resort for the people of Kuan Hsien.

I am indebted to Mr. Grainger, now resident at Kuan Hsien, for an explanation of what I saw when inspecting the irrigation works.

VI.—*Foreigners and Foreign Prospects.*

During more than two months' travel I was only insulted by natives twice, and on both occasions by Yamen underlings; the people of all classes I found to be particularly friendly; of course, crowds of the curious gathered in places where a foreigner is rarely seen at all, and never in foreign dress, but the crowds were invariably orderly. Missionaries resident in the interior unanimously report the same state of affairs. Everywhere they entertain good social relations with the better class of Chinese, who have no sympathy whatever with rioting, invariably the work of a small body of criminals, or very ignorant persons instigated by the officials. The Ssu-ch'uanese are certainly very law-abiding. The criminal class seem to be confined to Chengtu and one or two of the larger cities. Great sums of silver are carried about the roads as far as Sungp'an or Tachienlu in perfect safety. I came across 88 loads of specie on the road from Kwang Yuen; it was guarded by half-a-dozen men with rusty spears, and two old gentlemen asleep in sedan chairs.

Friendly
disposition
of people.

Large quantities of cash are also exposed on open stalls in the streets, a practice which would be utterly out of the question in Canton, not to mention cities in Europe.

**Intelligence
of commercial
classes.**

I notice that the Blackburn Commission complain of the difficulty of extracting information from the merchants. In the part of Ssu-ch'uan which I traversed, my experience was very different, and I was asked far more questions than I could answer, especially about Thibet (a subject of very general conversation in Ssu-ch'uan), foreign companies, opening of mines, steamers, and railways, and price of foreign goods.

I believe that there is a widespread desire for knowledge of foreign affairs and commerce among a number of educated persons in Ssu-ch'uan. This is chiefly to be attributed to the work of the Protestant missionaries who have spread ideas that were utterly unknown before.

If the merchants and capitalists (and there must be much capital hidden away in the country houses of Ssu-ch'uan) could depend on the good will or even the neutrality of the officials, I feel sure that companies would be started, machinery introduced, and other steps taken in the direction of progress.

**Ignorance of
masses.**

I do not, however, wish to exaggerate this tendency. The merchant class has but little influence in Ssu-ch'uan, where the rich man is always the "ta liang fu," or great landlord; and among the masses of ignorant people the most absurd and wicked rumours gain ready credence, especially when such rumours proceed (as they usually do) from the yamêns.

When I arrived in Pao Ning Fu, my single Chinese attendant was magnified by popular rumour into 30 foreign soldiers. A missionary arrived in the same place in a boat with a stove and a stove-pipe; it was at once noised abroad that a steamer had arrived. A wide-spread tea-house rumour has it that the Emperor of Russia has become a Confucian, has erected a temple to the sage, and has sent to Peking for a batch of Hanlins to instruct him.

In various places I was informed that the fall of the Viceroy Lu was due to the British Minister, who had insisted on the dismissal of an official with a forward policy in Thibet, the presumption being that England wants Thibet herself. More serious are the ever-recurrent rumours that foreigners kidnap and devour children.

I firmly believe that these rumours are set about chiefly by Yamên underlings. The majority of the people have a large fund of common sense, but they are impulsive, ignorant, and accept almost any tale that comes from official sources, and so such rumours get about. It is quite certain, as several recent cases have proved, that a good official can extinguish these rumours immediately, if he has a mind to. In one town near Chengtu the baby-eating rumours had circulated for seven or eight months and the missionary's position was almost intolerable, till one day he happened to hear some rascals in an opium-saloon crying out: "There goes the foreigner after children." Being thus able to fix one definite house whence the trouble came, the missionary promptly informed the officials and sent word to Chengtu, where the Viceroy was informed of the matter. The next day an express.

came down from the Viceroy. The local official seized the opium saloon, made its owners go security for all the bad characters in the place, and sent round a proclamation, promising 1,000 blows to anyone who said that foreigners kidnapped children; the rumours died out immediately and have never since been renewed.

The strict orders given by ex-Viceroy Lu are undoubtedly the cause of the present state of affairs; cases like the above convince me that among a people so mild and friendly no riots can ever take place except at the direct instigation of the officials. At present many of the local officials taking their cue from their chief go so far as to pay visits to missionaries, invite them to dinner, &c. All the officials that I saw repeatedly told me that they were very afraid of any trouble with foreigners on account of the Viceroy's anger which they would be certain to incur; Lu gave his personal attention to the protection of foreigners. On one occasion some soldiers amused themselves by firing blank cartridges into a missionary compound at Chengtu, the Viceroy heard of it, and all soldiers were forbidden even to enter the street on which the compound was situated, though it was the direct road to the parade ground. It is not necessary to speculate whether Lu's policy was directed by his own sympathies, his predecessor's fate, or the recollection of the heavy indemnity paid to the Missions Etrangères, but it is to be hoped that his successor will follow in his steps.

Orders of
Viceroy for
protection of
foreigners.

No foreigner can travel about Ssu-ch'uan without the unwelcome "protection" of one or more Yamèn runners who follow the traveller's footsteps from Hsien to Hsien, this has now become quite a matter of "old custom" in Ssu-ch'uan, Yunnan, and Kueichou, but not, I believe, in any other province. At every district city the traveller's passport is demanded and solemnly copied from beginning to end; in some towns where missionaries are continually passing this must be quite a serious addition to the clerical labour of the Yamens, perhaps many years hence some genius among Chinese clerks may make the surprising discovery that passports issued to the subjects of the same nation are couched in the same language, and that is unnecessary to copy out each document. If, as frequently happens, the traveller turn off before reaching the Hsien city, the runners none the less go on without him. The Hsien issues another "sung piao," or escort ticket, and the protectors go on to the next Hsien either "protecting" a traveller who is a day's march on ahead, or who perhaps has never passed that way at all.

Escorts for
foreigners.

Though highly disagreeable and inclined to be insolent behind one's back, the runners have, I suppose, to be endured by foreign travellers, as it is not easy to protest against their presence except when there are more than two of them; a greater number I have never tolerated because of the danger that they will extort goods from the inn-keeper in the foreigner's name.

As regards trade prospects in Ssu-ch'uan, it seems to me that the basin of the Chia Ling River and the country to the east of it is (with the exception of the corner round Wau Hsien and Liang

Trade
prospects.

Cotton cloth
trade.

Shan, and perhaps a few places along the Yangtse) very poor in spite of dense cultivation and population. The people seem to lack all energy and neither want nor can pay for anything that is not of purely local production except some cotton, but if we may regard the present currency troubles as temporary only, then I think it may be said that the Min, the Fou, and the Yangtse above Chungking enclose the most promising undeveloped commercial area in China, perhaps in the world; the people not only in the Chengtu plain and the Mien Chou district, but also in the salt well districts and round Chia Ting and Sui Fu, are extremely prosperous and well-to-do, and I feel sure it is only the general ignorance of foreign goods and the extreme difficulty of getting them that prevents a largely increased consumption. Foreigners and natives in the interior have frequently remarked to me that it is impossible to get good foreign cloth at any distance from Chungking. An enormous majority of the great population of Ssu-ch'uan is clad entirely and all the year round in cotton, yet the import of foreign cotton piece goods only averages 298,000/. per annum, of which a considerable part goes to Yunnan and Kueichou, two thinly populated but cottonless provinces. Foreign yarns, however, have become thoroughly established in the face of rising prices, and the imports have averaged 18,000,000 lbs. a-year for the last three years (including what goes to Yunnan and Kueichou.) It is to be remarked that a very large proportion of the foreign yarns, I have heard two-thirds as an estimate, go up the Fou River, and to other places in the chief cotton-growing districts of Ssu-ch'uan, which may be roughly defined as a square piece of country having its four corners at the towns of Sui Ning and Ting Chuan on the Fou River to the east, and the towns of Chien Chou and Tsu Chou on the Lü River to the west. The cloth merchants and pedlars who are to be met with all over Ssu-ch'uan, come either from Tai Ho Chen (near Sui Ning) or Tsu Chou. The explanation of this distribution of yarns is to be sought in the fact that they are required to be mixed with the native cotton in weaving, which is very largely practised in these districts, whence indeed, the cloth supplies of the whole province are drawn; yet the industry is a wholly domestic one, in much the same condition as it was in England before the invention of the spinning-jenny. An old woman spinning yarn cannot make more than 6 oz. a-day, and a piece of the coarse native cloth 25 feet long and 1½ feet broad takes two days to make.

Under these circumstances I cannot doubt that if a good stout sheeting could be placed on the market in the towns round Chengtu it would have a great sale; now such a thing is not to be got, and foreign cottons are regarded as a flimsy luxury confined entirely to the rich shopkeeper class and on which native dealers always expect an exorbitant profit. Chungking is not a centre either of consumption or production, it is simply a point of distribution at a long distance from such centres; and though the permanent establishment of foreign merchants in Chungking would do much, it must be remembered that Ssu-ch'uan market

will require much educating, so complete is the ignorance of foreign wares prevailing at present. On the other hand, the people are by no means so conservative in dress as might be supposed, for in large districts in the north of the province, cotton clothing has quite recently superseded grass-cloth and hemp.

There is an unlimited market for cotton scarves of blue, black, or white, averaging 3 feet by 1 foot; these are used for turbans and waistbands, and for tying round the legs. Great quantities of coarse cotton tape used for tying up gaiters and trouser-ends are hawked about the country. At present such articles are entirely of rough native manufacture.

Red blankets, so popular in South China, are unknown in Ssu-ch'uan, where the bedding consists of a vermin-infested quilt of wadded cotton. Other suggestions.

Such are some of the lines where there seems to me to be a large opening for foreign goods if local requirements were only better known; there are plenty of people ready to pay a good price for a good article.

Take another article, kerosene oil; one might suppose the market to be unlimited. The native rapeseed oil is sold for 140 to 160 cash per catty, giving far less light than kerosene sold at Chungking for 72 c. per catty. But as soon as the kerosene gets into the hands of the Chinese dealer he bores a hole in the tin, abstracts a good share of the oil, pours in water and solders it up; the retailer who sells by weight also wants his share of unlawful profit, and by the time the kerosene gets into the consumer's hands only half of it will burn. Kerosene.

Wherever missionaries have been, and that is nearly everywhere, common foreign medicines, especially quinine, santonin, and antiseptic ointments, are highly appreciated and would sell at a fair profit. Medicines.

Cheap foreign soap and candles are also much esteemed, but are not to be had except in Chengtu, and at extravagant rates; the Ssu-ch'uanese esteem almost anything that is in a serviceable tin or bottle; advertisements would, I believe, do much for foreign trade; everybody in Ssu-ch'uan meets everybody else in the tea-houses, and any notice of foreign wares stuck on the walls would be certain to attract discussion.

Of exports silk and wool seem to be capable of most expansion. It is satisfactory that an English firm has been the first to establish direct relations with Ta-chien-lu and Sung'pan. There is enough liquorice and rhubarb in the west and north-west mountains to dose the whole of Europe. A firm with correspondents in India or the Straits would certainly pay attention to musk, on which at present there is a very big profit somewhere. Exports.

All possible suggestions are, however, of minor importance in comparison with the steamer question. It seems to me to be doubtful whether much good can be done even by commercial experts travelling through the country; what is wanted is better communication rather than better information, which capitalists might be trusted to procure for themselves if once there were steamers to bring them to Ssu-ch'uan. At present, in spite of Communi-
cation.

various rumours, everyone appears to be waiting for someone else to "shoot first," and if an outsider were to succeed in bringing a steamer up from Ichang it is to be feared that he would be crushed by prohibitive freights demanded by the down-river companies, whose Ichang cargoes depend on their chartered junks. There is, I suppose, no way in which the Government of a commercial country could spend some money more usefully than in organising a regular survey of the Yangtse gorges. Such a survey, to be complete, should extend throughout a whole year, so that the river might be observed both at high and low waters. A master accustomed to navigate rapids should assist, and it would be most useful if a coal expert could at the same time examine the numerous deposits situated near the chief waterways of the province, for the coal supply would be an important element in the profit of working a steamer.

Waterways of
Ssu-ch'uan.

Apart from the steamer question, the waterways of Ssu-ch'uan, which make much show on the map, are very unsatisfactory in practice. The annexed table will give some idea of the delays which occur in transporting goods by water between Chungking and the principal ports in the province. The variations in time are due to high and low water. High water is from June to October, medium from November to January, and low from February to May:—

TABLE of Distances by Water from Chungking to the Chief Native Ports in the Province of Ssu-ch'uan. (Giving average duration of Commercial Voyages.)

Port.	Time to Chungking.		Time from Chungking.	Capacity of Boats. †	Distance in air line to Chungking.		Remarks.
	Days.				Miles.		
Fuchou ...	4	to 7	2 to 4 days	Catties. 100,000	45	Down Yangtse	
Wan Hsien ...	12	21	4 8 "	100,000	120	Up " Yangtse for Yunnan	
Sui Fu ...	4	6	10 20 "	100,000	130	Head of Yangtse navigation	
Ping Shan ...	6	8	15 25 "	50,000	155	On Min River for Tibet	
Chia Ting ...	5	9	15 30 "	80,000	185	Capital of Ssu-ch'uan	
Cheng Tu* ...	7	11	1 2 months	20,000	205	On Chengtu plain, head of Lu Chon River navigation	
Chao Chia Tu* ...	6	10	14 24 days	10,000	180	On Min River for Sungpan	
Kuan Hsien* ...	7	11	1 2 months	5,000	220	To Chiating only	
Ya Chou ...	1	2	...	Rafts only	210	Cothon port on Fou River	
Tai Ho Chen ...	3	6	12 to 30 days	50,000	115	Head of Fou River navigation	
Chung Pa* ...	5	8	20 35 "	5,000	190	On Chia Ling River	
Pao Ning ...	7	10	21 31 "	30,000	140	Head of Pai Shui; in Kansuh	
Pi Kou* ...	10	17	No cargoes up	1,200	240	Head of Chia Ling in Kansuh	
Pai Shui Chiang* ...	13	24	42 to 60 days	2,000	270	Head of Chti River navigation	
Sui Ting ...	6	10	18 28 "	25,000	120	To Fuchou only; violent rapids	
Kung Tan... ...	2	4	15 25 "	25,000	100	Via Chi Chiang for Kuei Chou	
Sung Kan* ...	3	5	8 12 "	8,000	65		

* Signifies that navigation is impeded in low water.

† These figures refer to general cargo; salt junks carry 20 to 50 per cent. more.

Next to steamer traffic, I believe that the opening of Chengtu would have the most favourable effect on foreign trade; not so much on account of the actual commerce that would immediately spring up, though that would be very considerable, but on account of the moral effect and the greater knowledge of foreigners and their wares which would be spread thereby. With steamers at Chungking, Chengtu would not be more inaccessible than Chungking is now. The capital as noted above is already a considerable port for native craft. I do not believe that foreigners in Chengtu would require any special protection against the people, and protection against the officials could be exercised from Peking. The chartered junk system would be well suited for such a place as Chengtu, but it is quite inadequate for Chungking, and in fact none of the results which have occurred elsewhere in China when so important a port has been opened have taken place at Chungking (such as the building of large warehouses, introduction of foreign banks with large capital and agencies at other ports, partial introduction of machinery, residence of foreign merchants, &c.). But with steamers on the Yangtse, as far as Sui Fu, and chartered junks running up to Chengtu, Ssu-ch'uan would take its proper place in the commerce of the world.

VII.—*Silk Production in Ssu-ch'uan.*

On this subject I have the following notes:—

On the north road from Chungking, mulberry trees are first met with in considerable quantities at Shun Ch'ing. They increase largely as we proceed north to Pao Ning. North of Pao Ning they are planted in the valleys which run into the hill country. Farmers in the alluvial valley of Kwang Yuen used to derive great profit from their worms, but leaf disease destroyed many of the trees some years ago, and the people are too lethargic to start planting again. In the few places where the valley of the Pai Shui River opens out, the mulberry flourishes greatly. In the Shun Ching and Pao Ning districts the trees are planted at haphazard, sometimes round the homestead, more frequently along the edge of the sandstone terraces in the divisions of the paddy fields. The mulberry receives none of that careful attention which the Ssu-ch'uanese peasant bestows on his rice or opium, yet the profits of the silkworm belong entirely to the tenant. I never heard of rent being paid in silk; it is always in rice. Not only could a far greater quantity of trees be planted without interfering with other crops, but such trees as these are allowed to grow to heavy timber instead of being lopped down every year close to the ground as is done in Canton, where such a thing as mulberry wood is never seen. In Ssu-ch'uan a branch here or a few leaves there are taken off as required for the silkworms. There are a few places in the remote valley of the Pai Shui River, where more care is given to vericulture, *e.g.*, in the little town of San Tui Pa. Here on the alluvial ground the trees are planted in regular groves, about 10 yards apart from each other. The tops and the side

Area of
mulberry
cultivation

branches are carefully pruned every year. The prosperity of this little oasis in the mountains shows what could be done in other parts.

The mulberry of North Ssu-ch'uan is, I believe, of a different species from the shrubs of South China, the leaves being smaller, rougher, more serrated, and of a much deeper green.

In the upper valley of the Fou River, about Lung An and Chiang Yin, the mulberry is common, but the leaves are small and very rough, and the silk of an inferior quality. It is said that "huang sha feng," *i.e.*, yellow sand winds, from the north prevail in the spring, and do much harm to the buds of the trees.

In the places mentioned above, yellow silk is produced.

In the lower valley of the Fou River there is little or no vericulture. Mien Chow, so important a centre of the silk trade, is not a centre of silk production, and Chengtu, where the weaving industry of the whole province is becoming more and more concentrated, depends for its supplies not only on the plain but on Pao Ning and North Ssu-ch'uan generally, and in fact on every silk-producing centre in the province.

The last of the great silk-producing districts is the basin of the Min River from Meichou down to Sui Fu, the junction with the Yangtse. Meichou and the adjacent district of Jen Shou produce some of the best silk in the province; the looms of Chiating draw their supply of white silk from the neighbourhood of the town itself; there is also an inconsiderable production in the districts along the Yangtse as far as Chungking.

Raw silk
sales.

In the early summer the silk dealers, "ssu fan," of Mien Chou, Pao Ning, Chengtu, Chiating, and Chungking proceed to the various country markets to "shou chien tsu," *i.e.*, to collect cocoons, and to buy locally reeled silk. Silk production, like everything else in Ssu-chuan, is an affair of "petite culture," and the dealers pick up a catty here or a few ounces there, in the same manner as in the opium trade; the farmers usually sell the cocoons and have nothing more to do with the matter. Reeling is, of course, skilled labour, and so far as I can gather the tendency is more and more to bring the cocoons into the larger towns for reeling. Mien Chou has a speciality for this industry, the best "kuu p'en" silk coming from that city. The common method of reeling is to place the cocoons in a pan of hot water under which a charcoal fire is kept going; the cocoons are then stirred about with a pair of chopsticks till the silk becomes loose, the single threads are then caught up with a chopstick and passed through a brass eye which is fixed on a piece of wood above the basin; from the brass eye the silk is passed over another brass hook, and reeled off on to a sex-angular wooden frame, which is turned from beneath by a double set of wheels kept in motion by the foot of the person who with his hands is holding the chopsticks and manipulating the threads; the cocoons which at any given moment are in process of being reeled can be detected by the manner in which they bob about; the single threads frequently break and have to be gathered up again, which accounts for the tough and knotty appearance of so

Reeling.

much Ssu-ch'uan silk. At Chiating the silk is reeled very thick, as many as 10 to 12 cocoon threads forming a single thread of reeled silk; in Chengtu and Pao Ning as many as 6 to 8 cocoons go to the thread; but with the "kuo p'en," or "changed basin" silk, only two or three cocoons go to the thread. This silk is chiefly reeled at Mien Chou, but some comes from Pao Ning and Shun Ch'ing. "Changed basin" silk means that the silk is not reeled straight off from the hot water pan, but that the cocoons, after having been sufficiently loosened by the hot water, are changed into cold water, and thence reeled off; this silk is stronger and more glossy, as well as finer than the common kinds. All silk is made up into "fa," or skeins, and cost about 13 taels.

Tradition says that in the Ming dynasty Ssu-ch'uan produced some of the best woven silk in China; but if so, it must be presumed that the art was lost during the convulsions that attended the establishment of the present dynasty in power, for at present the looms are of extremely rough construction, and the silk piece-goods coarse and easily unravelled, as much inferior to Hangchow and Soochow silks as the latter are to the produce of foreign looms; if, however, the farmers would give more attention to their mulberry trees, if the skilled method of weaving practised at Mienchow could be extended to other silk-producing parts of the province, and above all, if the Government would import skilled weavers from Chekiang, the silk trade of Ssu-ch'uan might increase by leaps and bounds.

The following particulars relate principally to weaving:—

Weaving.

(i) In *Paoning and Shun Ch'ing* there are 70 weaving establishments, with about 160 looms; the best silk from Paoning goes to Chungking for export, the medium to Chengtu, and the inferior quality only is kept for the local weavers; the silk trade is in the hands of seven firms at Paoning; a considerable quantity of the silk goes to Shasi, and native cloth is sent back in return; these merchants have been hard bit by the dearness of cash.

The goods woven at Paoning and Shun Ch'ing are (i) king tsu, a very thin and loosely-woven stuff of "kuo p'en" silk; it is usually figured, and is used for pasting on scrolls, screens, boxes, and books, and also as a lining for wadded cotton garments. Shun Ch'ing has a speciality in this line, and exports even to Chengtu. (ii) A coarse ch'én tsu, or wearing silk, exported in small quantities to Shensi and Peking; this trade used to be very considerable and was reinforced by satins and flowered silks from Chengtu, but latterly it has declined, owing to the competition of Hangchow stuffs.

(ii) In Chengtu the weavers are divided into three guilds. (a) The Chekiang guild of weavers, whose ancestors came from down river. (b) The Eastern Ssu-ch'uan guild. (c) The Chengtu natives' guild. They all join together to give a theatrical performance in the 9th moon.

The total number of looms is slightly over 3,000, and the

tendency is for all the weaving industry of the province to become centred in Chengtu.

The higher grades of woven silks and satins, and flowered silks in imitation of Hangchow goods, occupy about 1,800 looms, and each loom on an average produces three pieces a month, working full time. A weaver's wages amount from 3,000 to 3,500 cash a month, and the Chengtu looms practically have a monopoly of the finer silks in Ssu-ch'uan; in ordinary years the looms are at work for about nine months in the year, but recently, owing to the excessive price of cash, masters have had to stop work more frequently. About 1,200 looms are employed in turning out various grades of light pongees and crapes known as "fu tsung," which are more worn than any other kind of silk in the province; there are plain and figured sorts, and much of it is woven with undyed silks.

Of these light stuffs one loom can produce 10 pieces in a month of an average measurement of 40 to 50 feet by $1\frac{1}{2}$ feet.

Wages are paid by the foot, usually 10 cash per foot. The plain kinds are woven at single looms, the flowered require two men.

In the city of Chia Ting there are about 170 looms, all engaged in making various grades of "fu tsung," with two men at each loom. The silk is thicker and heavier than Chengtu "fu tsung." About 14 Chinese feet is an average day's work, breadth 9 Chinese inches to 1 Chinese foot; the weaver who sits below gets $9\frac{1}{2}$ cash per foot, and the man who sits above 6 cash per foot. In a village 7 miles outside Chia-Ting there are about 500 looms entirely engaged in making "ta ch'ou," a strong unflowered silk which is much esteemed and is usually of undyed white silk: it is sold by weight, and is also retailed at 4 Chinese feet for a tael. It is woven at single men looms, and the average length is 30 Chinese feet; the work is done at about the same rate as the "fu tsung," and the wages paid are 12 cash the foot.

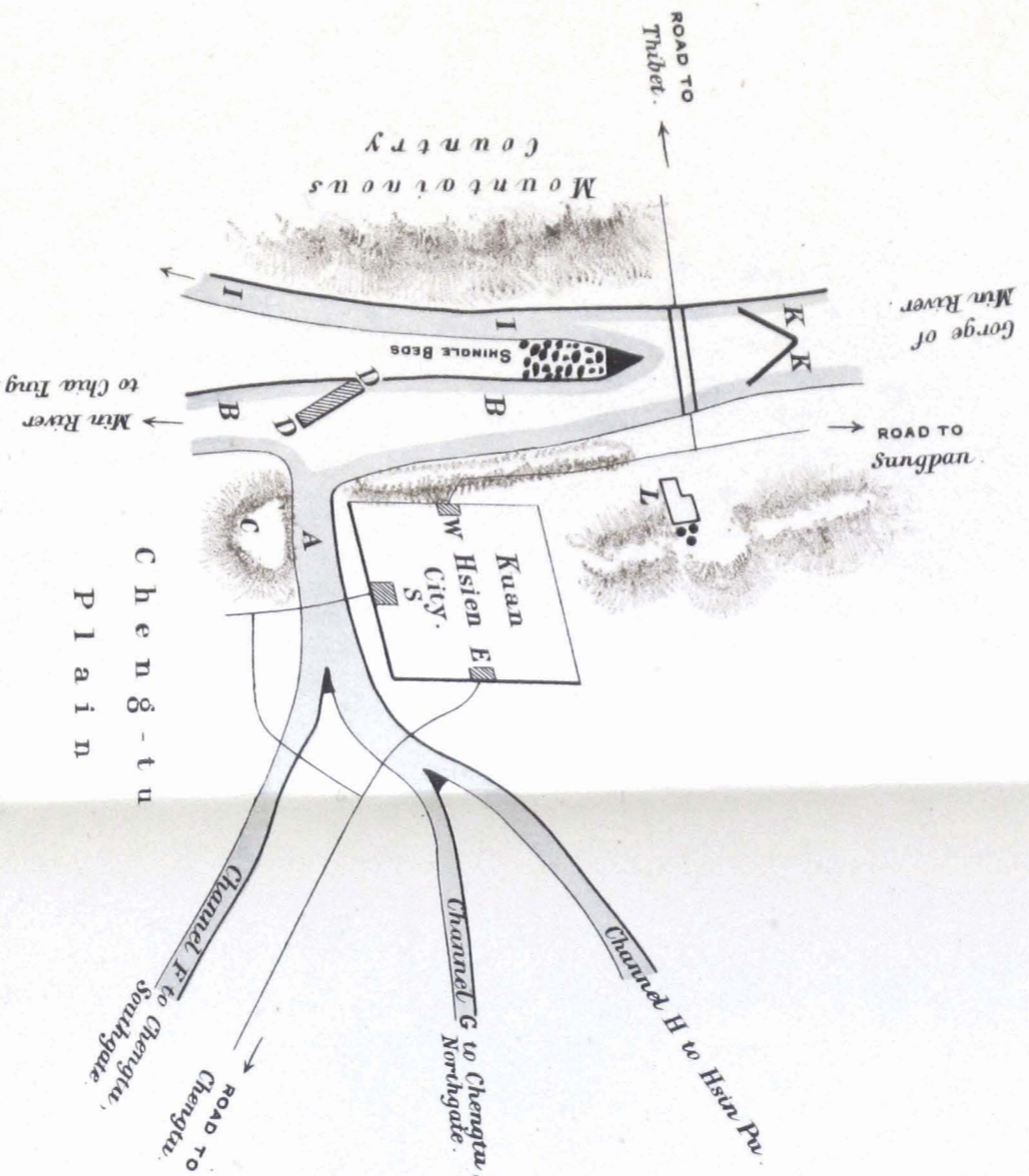
Much of the cheaper "fu tsung," both at Chengtu and Chia Ting, is made up into short pieces of 7 to 14 feet for the Thibetan market; these pieces are known as "Ts'ang Pa" or Thibetan handkerchiefs, and are indispensable for ceremonial uses, receiving guests, &c., in Thibet.

For the particulars about the Chia Ting looms I am indebted to Mr. Endicott of that city.

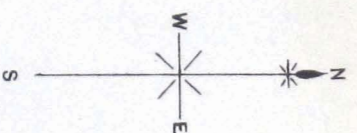
At and near Lu-Chow there are about 80 looms, where a very inferior kind of crape is made for local consumption; at and near Chungking a small quantity of cotton-silk stuffs are woven, but for local consumption only.

The following table gives a rough estimate of the total annual value of the Ssu-ch'uan silk trade, not including Chengtu ribbon, of which I have not reliable particulars.

SKETCH MAP
 OF
KUAN HSIEN.
WATERWORKS.



- A..... Artificial Gorge
- B..... Main Channel of Min River.
- C..... Cliff & Temple.
- D..... Great Dyke.
- E,G,H..... Artificial Channels.
- I..... Subsidiary Channel of Min River.
- K..... Movable Dyke.
- L..... Temple of Li Pung.

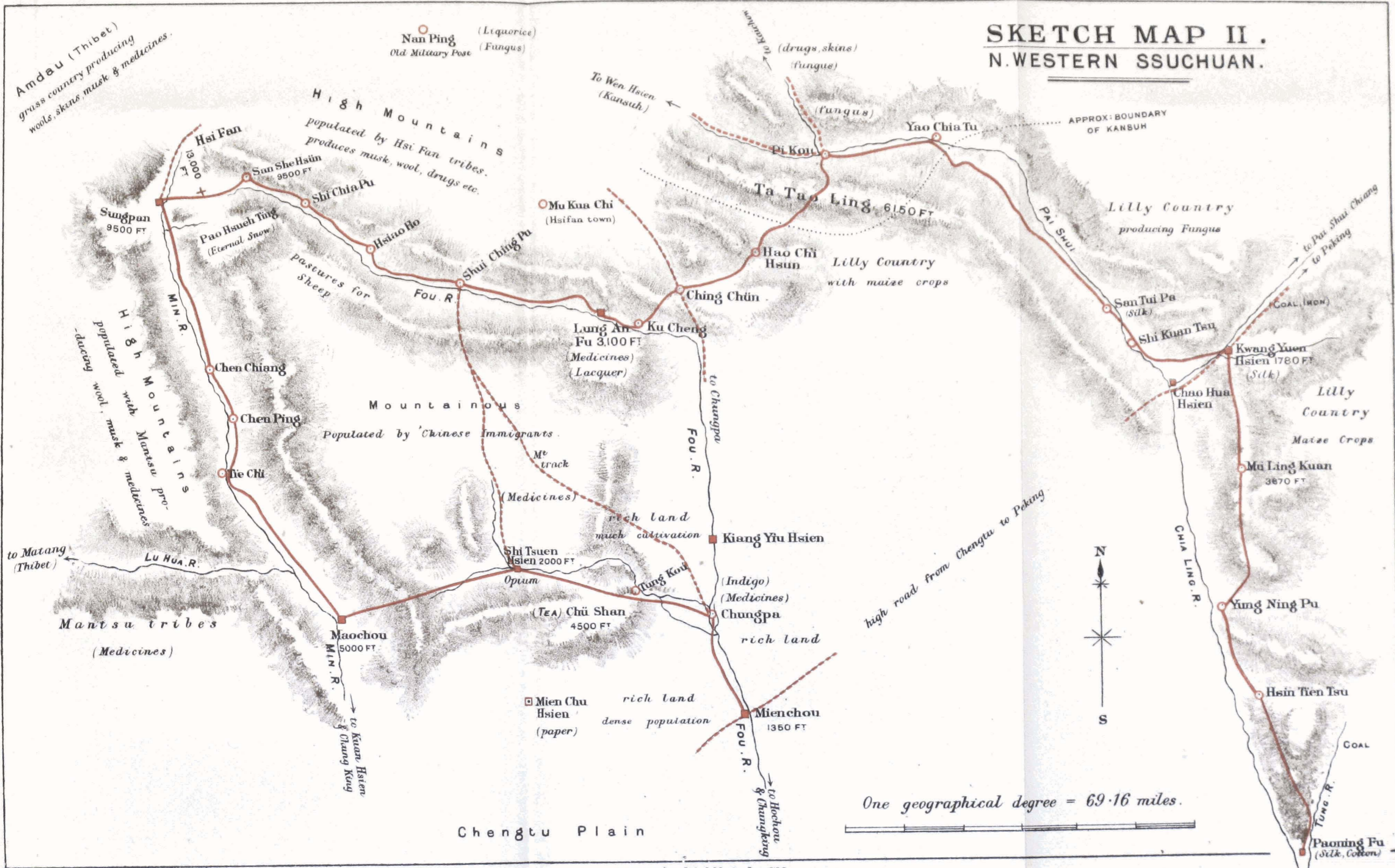


SKETCH MAP I.

CHUNGKING TO PAONING.

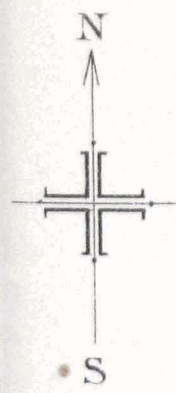
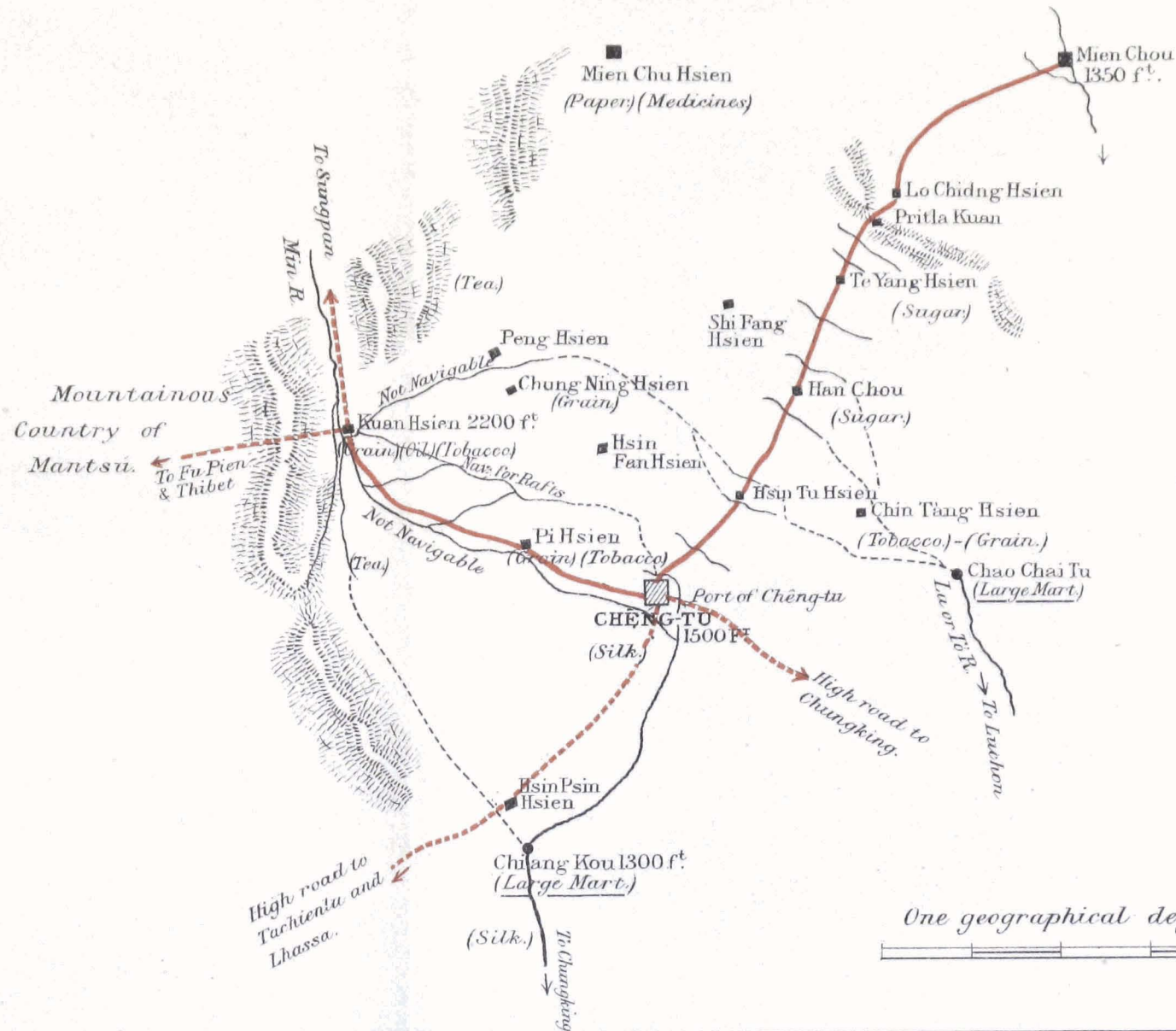


SKETCH MAP II. N. WESTERN SSUCHUAN.



SKETCH MAP III.

PLAIN OF CHÊNG-TU.



One geographical degree = 6.9 16 miles

Place.	Quality.	Weight.	Value.
		Piculs.	Taels.
Cheng-tu. . .	"Ta Ch'ou," satins and figured silks	1,063	850,500
Cheng-tu. . .	Light woven pongees, or "fu tsung"	1,700	540,000
Chia Ting ..	"Ta Ch'ou"	540	360,000
Chia Ting ..	"Fu tsung"	214	73,340
Shun Ching (and Paoning) ..	"Ling tsu"	110	80,000
Shun Ching (and Paoning) ..	"Ta Ch'ou"	72	38,400
Luchou, &c. ..	Inferior "fu tsung"	80	20,480
	Total .. .. .	..	1,962,720
	EXPORTS (average of 3 Years).		
	Raw silk and cocoons	3,436	592,000
	Refuse silk and refuse cocoons	8,313	222,000
	Grand total .. .. .	..	2,776,720

ITINERARY.

	Distance.	Remarks.
	Li.	
Chungking to—		
Yueh Hai Ch'ang ..	70	Across Chiang Pei hill country
Sha Chi Miao	85	In gorges of Ho Chou
Ho-Chou.. ..	25	In sandstone basin
Hui Lung Ch'ang ..	85	" "
Lie Mien.. ..	90	" "
Ts'ing Chou Chie ..	75	On Chia Ling River
Shun Ching Fu ..	30	" "
Lu Chi	65	Low sandstone hills
Shi Lung Ch'ang ..	110	" "
Nan Pu Hsien	40	" "
Paoning Fu	70	" "
Hsien Tien Tsu ..	120	On "Liang Tsu"
Yung Ning P'u ..	51	"
Mei Ling Kuan.. ..	85	"
Kwang Yuen Hsien ..	75	Descent to valley of Chia Ling River
San Tui Pa	90	In gorge of Pai Shui River
Pik'ou	220	Ditto in Kansuh
Ta Tao Ling	40	Difficult ascent
Ku Chen Ch'ang ..	190	Descent to valley of Fou River
Lung An Fu	40	In valley of Fou River
Lung An Fu to—		
Shui Tsing P'u ..	120	Gorge of Fou River
Hsiao Ho Ying ..	70	" "
San She Shün ..	80	Ascent of pass
Feng Tung Kuan ..	30	Head of pass, 13,000 feet
Sungp'an.. ..	40	Descent
Sungp'an to--		
Tie Ch'i	260	In gorge of Min River, three stages
Mao Chou	120	" " two stages
T'u Men.. ..	70	Over pass to gorge of Shi Tsuen River
Shi Tsuen	140	In gorge of Shi Tsuen River
Hui Lung Ch'ang ..	50	" "
Ting Ko'u	60	Over Chü Shan
Chungpa.. ..	50	Across valley of Fou River
Mien Chou	90	Down valley of Fou River
Lo Chiang Hsien ..	90	Across valley of Fou River
Ilan Chou	100	Chengtu plain
Chengtu	90	"
P'i Hsien	50	"
Kuan Hsien	70	"

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