THE UNIVERSITY OF MICHIGAN

THE SHU TAO OR THE ROAD TO SZECHUAN

A STUDY OF THE

DEVELOPMENT AND SIGNIFICANCE OF

SHENSI-SZECHUAN ROAD COMMUNICATION IN WEST CHINA

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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PREFACE

In presenting this dissertation I wish at the same time to take the opportunity of expressing my gratitude to Professor Robert B. Hall at whose encouragement I became a geographer. To his interest in the communications system of China I also attribute the inspiration for the subject of the present dissertation.

I am indebted to Dr. Arthur W. Hummel, Mr. Wu Tzu-ming and Mr. Wang Yu-san of the Asiatic Division of the Library of Congress for their helpfulness during the course of my research there. Dr. Hummel first drew my attention to the existence of the sixty-foot scroll map of the Ch'in-ling Shan Trestle Road, illustrations of which are included in the present volume.

I wish to thank Mr. Schuyler Cammann for the use of his notes on his trip through the Ta-pa Shan and Ch'in-ling Shan, and Mr. Sydney Franklin of Brockton, Massachusetts, for the use of photographs taken by him on a trip over the same route.

To Mr. T'ao Hsi-sheng of the Generalissimo's Headquarters at Nanking, China, I wish to express my thanks for his pains in writing several long letters in answer to my questions concerning certain aspects of Chinese history.

Many others whose aid I have not acknowledged individually have contributed to hasten the completion of this work. I hope they may accept these anonymous thanks now tendered.

Finally, I wish to voice my indebtedness to my wife who has suffered neglect that this work should be finished, and who has assisted me in the final drudgery of proof-reading, typing captions, and preparing the manuscript for binding.

H.J.W.

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INTRODUCTION

"Hard are the Ways of Szechuan,
Harder than scaling the sky.

Peaks join on to the heavens,
Scarcely a foot between;
Hollow old firs o'er-drooping
Chasms of depth unseen.
Torrents and cascades rushing
Rage with a stunning roar,
Boulders whirling before them
In thundering caverns pour.

Dangers such as are here..
Invaders, ah! from afar..
Why come to this scene of fear?
Why come to this world of war?
Buttressed on towering rock,
The Hall of Swords ascends.
Thousands can never shock
This Pass, if one defends." [1]

Thus describes the famous Chinese post, Li Po, the Shu Tao or the Road to Szechuan, with its chief barrier fort, the Chien-ko or Hall of Swords. Romantic though the theme be for poetic fancy, what is the geographical significance of this road that allows it to merit a serious study?

Two regions of China have made unique contributions to the rise and growth of the Chinese nation, and the links that have bound together their contrasting features are of more than passing interest. One, the Wei Ho valley of Shensi Province in the northwest of China, is the site of one of the earliest civilizations of the world. It was the cradle of the Chinese nation and the core of what Ch'ao-ting Chi calls "the key economic area" of China until the end of the Han

[1] Translation by W.J.B. Fletcher, China Information Committee, A guide to Chungking, 1939, preface.

period (A.D. 220). The other, the Szechuan Basin, adjoining Shensi on the south, has been called the "store-house of China". It is now by far the most populous province of the Republic and one of the richest in natural resources. Conquered by the Chinese from the Wei Ho valley in the 3rd century B.C., it has been important in Chinese history for over two thousand years as what C.T. Chi calls one of the two "secondary key areas". It has long since surpassed the former area in economic if not political importance. As Shensi gave birth to the old, so Szechuan has nurtured the new political and social system of China. In the nine years of war with Japan concluded in 1945, Szechuan proved to be the salvation of China.

As an older brother to a younger, so has been the relationship of Shensi to Szechuan. By this analogy, Shensi as the center of a mature civilization of high culture extended its cultural hand to improve the crude primitiveness of barbarian Szechuan, as well as to chastise it upon occasion. At the same time, the natural endowments of Szechuan added materially to the political strength of Shensi. On the other hand, as Shensi has aged and weakened, Szechuan has gained maturity and strength, so that during the last war with Japan, it has been from Szechuan that political and cultural support has been extended to a weak and backward Shensi, thus reversing the role.

What have been the channels of communication by which this political, economical and cultural nourishment have traveled from one to the other? They were the transmontane roads across the Ch'in-ling Shan and Ta-pa Shan. In contrast to the relative accessibility of most other parts of China that are of key economic

and political importance, Szechuan is severely isolated geographically by mountain borders. Its only natural gateway is the Yangtse Chiang whose swift waters and turbulent rapids for long ages proved to be as formidable barriers to penetration as the rough mountains. Between the loess basin of the Wei and the Szechuan purple clay basin intervene two parallel mountain ranges, the formidable 11,000 feet Ch'in-ling Shan to the north of the Han Chiang, and the steep-sloped, 8,000 feet Ta-pa Shan to the south of the Han Chiang. To the obstacle of high altitude is added the precipitous nature of the mountains. Yet, despite these handicaps, the Chinese engineered amazing roads crossing these barriers, roads which made possible the early extension of Chinese culture to the Szechuan Basin and which in turn brought to the support of the Chinese state the resources of Szechuan.

As long as the "key economic area" remained in the Wei Ho and Huang Ho region, the transmontane routes were of prime importance in maintaining the unity of Szechuan with the core area of the state. The decline of these routes coincided with the shifting of the "key economic area" to the lower Yangtse Chiang valley. The north-south channel of communication by road was superseded by the east-west channel of communication by the Yangtse Chiang, a shift which was given impetus by improved boat transport. This accounts in part for the great neglect of the transmontane roads especially during the latter part of the Manchu dynasty, although the devastation of Shensi by the Mohammedan T'ung-an rebellion of 1870 left this province so prostrated that there was little stimulous for trade between the two areas, thus reducing the use of and interest in the maintenance of the roads.

Two events of modern times have accentuated the separation of

Shensi from Szechuan until the beginning of the Sino-Japanese war in 1937. Both emphasized the east-west alignment of interests of the two regions. One was the building of the Lung-hai Railroad from the coast to Pao-chi in the Wei Ho valley. The other was the initiation of steam navigation through the gorges of the Yangtse Chiang into the Szechuan Red Basin. The position of the transmontane roads as political, economic and cultural channels between the northwest and southwest appeared to have reached its lowest ebb.

Then came the Japanese invasion and with it the loss of the vital Yangtse Chiang plains. The "key economic area", so far as the Chinese government was concerned, although not in the sense used in Chi's historical study, now shifted to the Szechuan Red Basin. The westward migration of refugees stimulated a new interest in the northwest "frontier provinces". The importance of Shensi-Szechuan communications revived. One of the few major engineering works on public roads during the war brought the first motor highway across the Ta-pa Shan and Ch'in-ling Shan mountain belt, following the same route between Ch'ang-an and Ch'eng-tu that was used in Han dynasty days. A new outlook developed toward the largely unexploited northwest. China, as it were, instead of standing in the Wei Ho valley and looking toward the Red Basin as of old, now stood in the Szechuan lowlands directing its gaze northward over the Ch'in-ling.

Although the rapid envelopment of China in civil war has obscured the trend, today, the building up of transmontane communications in the Ch'in-ling Shan and Ta-pa Shan region has assumed a new significance in economic, social and political aspects. In the economic aspect, two facets of the situation are of particular relevance to China. One is the facilitating of transportation of surplus food

from the seldom deficient Szechuan Basin to the food deficient and unreliable crop areas of Shensi and adjacent parts of North China, as well as parts of north Szechuan. Evidently, this also has social implications. The other pertains to the development and exploitation of resources, primarily mineral, in the areas west and northwest of the Wei Ho Basin.

In the political aspect, the Chinese Government has been perturbed over the status of China's northwestern territories where Soviet Russian influence and ambitions have been disturbing factors. The strengthening of economic and cultural ties with traditionally conservative Szechuan through improved communications would have important political repercussions.

Suggestions have been made in some Chinese Government quarters that the present motor highway be followed by a railroad. The lack of both motor vehicles and of gasoline to power them makes for expensive motor transport, whereas cheap coal and perhaps water-power could be made available for railroad locomotives. Both airways and wire and wireless communications have substituted in part for the functions of road communications of past ages. Nevertheless, earth-bound transport, whether by vehicular highway or railroad or the combination of one or both with navigable waterways, still plays important roles.

The objective of this study is to describe the nature of these transmontane road routes, to discover the roles they have played in cultural interchange and political and economic relationship between northwest and southwest China, and to obtain an understanding of the present and future significance of these channels of communications

in the development of China. "Economic history, or dialectical economics", writes Ch'ao-ting Chi in the preface to his book 'Key Economic Areas in Chinese History', "recognizes the fact that fundamental problems of China today cannot be understood merely by studying contemporary conditions, but must be approached historically..." While Chi is applying this statement to economic fields of study, the same statement applies as well to geographical fields of study where cultural or political change is involved.

China has rediscovered her west under the stimulation of war. Any extensive exploitation such as is envisioned in some of the plans of Chinese leaders must await improved communications. Whether these plans will be shelved or lost in the shuffle of the vast postwar rehabilitation needs of war-devastated areas is hard to prognosticate. Undoubtedly such plans will meet extended delay in view of present conditions. On the other hand, if the Chinese Communists should gain the upper hand in China and control the destiny of the country, without doubt the orientation westward would be even more marked. The transmontane routes of the Ch'in-ling Shan and the Ta-pa Shan region would become vastly more significant as the ties with the "Western world" deteriorate and those with Soviet Russia become intimate.

CHAPTER II

THE PHYSICAL SETTING

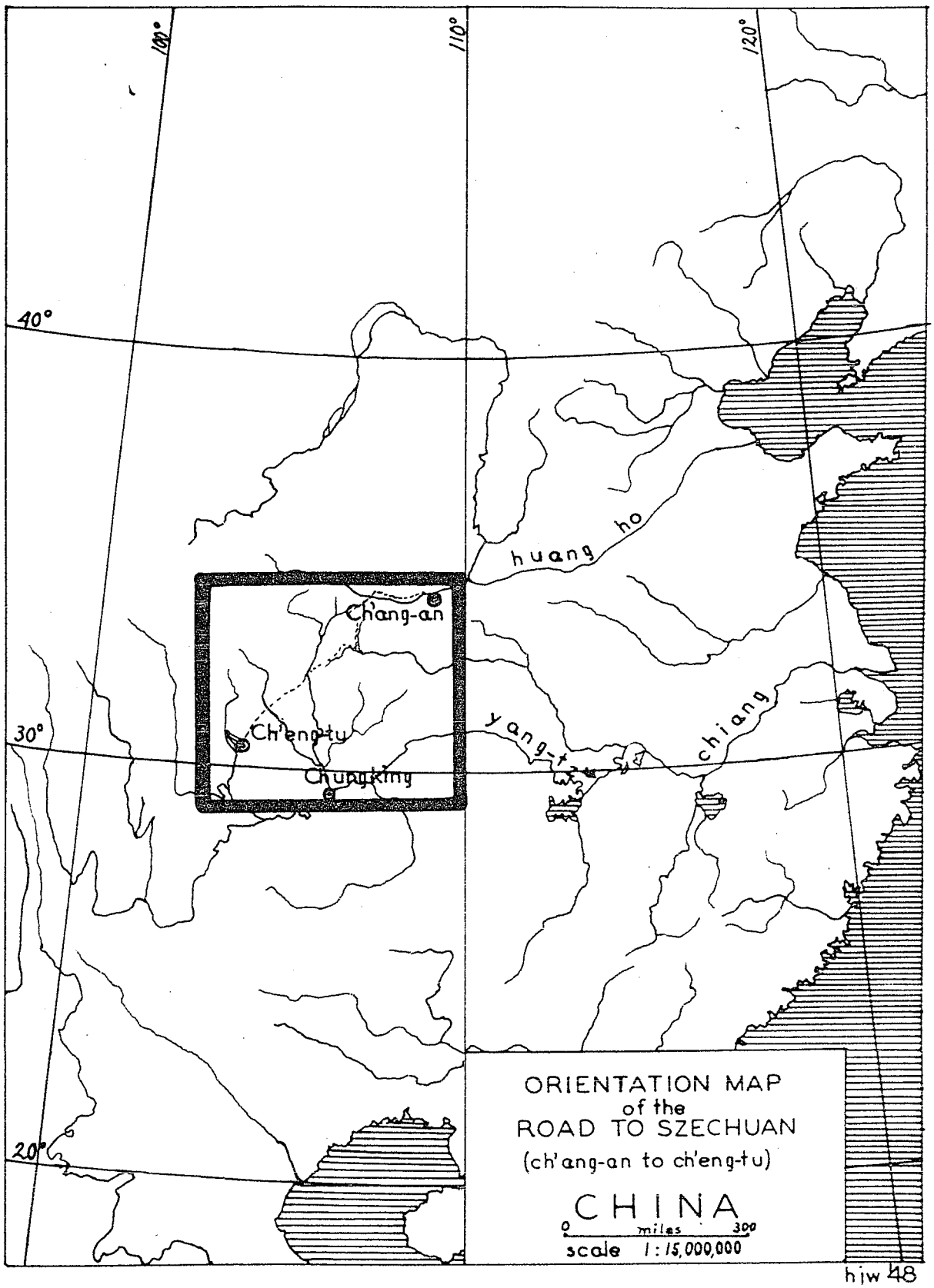
The location of the geographical environment. (See Map 1)

About 500 miles west of the Pacific coast of Kiangsu Province, China, three provinces of this country meet in the highest and most significant mountain mass within China Proper. These provinces are Shensi, Szechuan, and Kansu. The mountain mass is that of the roughly parallel ranges of the Ch'in-ling Shan and Ta-pa Shan. Running across these ranges diagonally from the ancient cultural center of China at Ch'ang-an, Shensi,[1] in the northeast, to the breadbasket of China at Ch'eng-tu, Szechuan,[2] in the southwest, and skirting Kansu borders in the center, is the channel of communication formed by the famous Linking-Cloud Road and the Road of the Golden Oxen.

While there are a number of trails that pierce the Ch'in-ling Shan in southern Shensi and the Ta-pa Shan in northern Szechuan, the principal route and the only one of importance today is the route running via Pao-chi, Pao-ch'eng, and Ning-chiang to connect the Wei Ho valley with the Red Basin of Szechuan. That this does not represent all periods in historical times, however, will be brought out in this study, a fact which necessitates examination of the alternative routes as well as the primary route of our study.

[1] at Lat. 34 15' N, Long. 108 55' E.

[2] at Lat. 30 39' N, Long. 104 07' E.


100°
110°
120°
40°
30°
20°
huang ho
Chang-an
Ch'eng-tu
Chungking
yang-tzu
chiang
ORIENTATION MAP
of the
ROAD TO SZECHUAN
(ch'ang-an to ch'eng-tu)
CHINA
0 miles 300
scale 1:15,000,000
hjw 48

MAP 1

The topographic regions traversed by the routes. (See Maps 2 & 6)

The road between Ch'ang-an and Ch'eng-tu runs through five separate regions, two of which are mountain regions and three of which are valley plains. Starting from Ch'ang-an (Sian), the road runs westward, for the most part along the north bank of the Wei Ho until it reaches Pao-chi. At this point the broad plain of the Wei Ho narrows to canyons from which the river plain spreads eastward. Pao-chi marks the western limits of the Wei Ho plain and is approximately 115 miles from Ch'ang-an by the present motor road.

Striking south from Pao-chi, the road winds through the second topographic region, that of the Ch'in-ling Shan. The southern terminus of this mountainous section of the road is Pao-ch'eng near the junction of the Han Chiang with its tributary, the Pao Shui or Hei-lung-Chiang. While the north-south width of the Ch'in-ling Shan measures only about 81 miles in the band between its western reaches near Pao-chi and its eastern reaches near Ch'ang-an, the road winds around for a total of 155 miles. This makes the mountain road longer than the section of the road through the Wei Ho valley, although on the map the Ch'in-ling Shan road appears much the shorter.

The upper Han Chiang valley is the next region through which the road runs. As Sir Henry Yule remarks in his notes on the travels of Marco Polo, this valley is "the most notable feature between the valley of the Wei and Chingtu-fu", and "it is, moreover, the only piece of level ground, of any extent, that is passed through between these two regions, whichever road or track be taken." [1]

[1] Yule, Sir Henry, The travels of Marco Polo, Vol. II., 1875, p. 29.

Proceeding from the valley of the upper Han Chiang, the road runs southwestward through the fourth region, that of the Ta-pa Shan. This mountain belt is at its narrowest where the road crosses it between the Han Chiang and the Red Basin. The Ta-pa Shan belt increases in width north and south as it extends southeastward, in this respect similar to the Ch'in-ling Shan which also increases in width as it stretches eastward of the road route. The coincidence of the narrow parts of the two mountain zones undoubtedly has an important bearing upon the historical location of the principal road along the present route.

Finally, the road enters its fifth region, that of the rich agricultural basin of western Szechuan, the so-called Red Basin. Here in the midst of an intricate network of irrigation canals dating back over two thousand years lies the fabulous Sindafu (Ch'eng-tu Fu) of Marco Polo and the southern terminus of the Shensi-Szechuan high road.

The Wei Ho valley. The Wei Ho valley basin structurally has the shape of a human foot from a side-view. The tip of the toe is at Pao-chi in the west. Ch'ang-an forms the nodule of its ankle. The heel points sharply backward toward Shang Hsien, southeast of Ch'ang-an. The column of its leg runs up northeastward to meet the Huang Ho or Yellow River between its great bend and the junction of its tributary, the Fen Ho. The sole of the foot is implanted against the northern slope of the Ch'in-ling Shan. Ch'ang-an occupies the widest section of the basin at a point about 12 miles from the base of the Ch'in-ling to the south and about 25 miles to the hummocky northern boundary of the basin that gradually rises to the Kansu-Shensi plateau.[1]

[1] Von Richthofen, Ferdinand, China, Ergebnisse eigener Reisen, Berlin, 1882, p. 550.

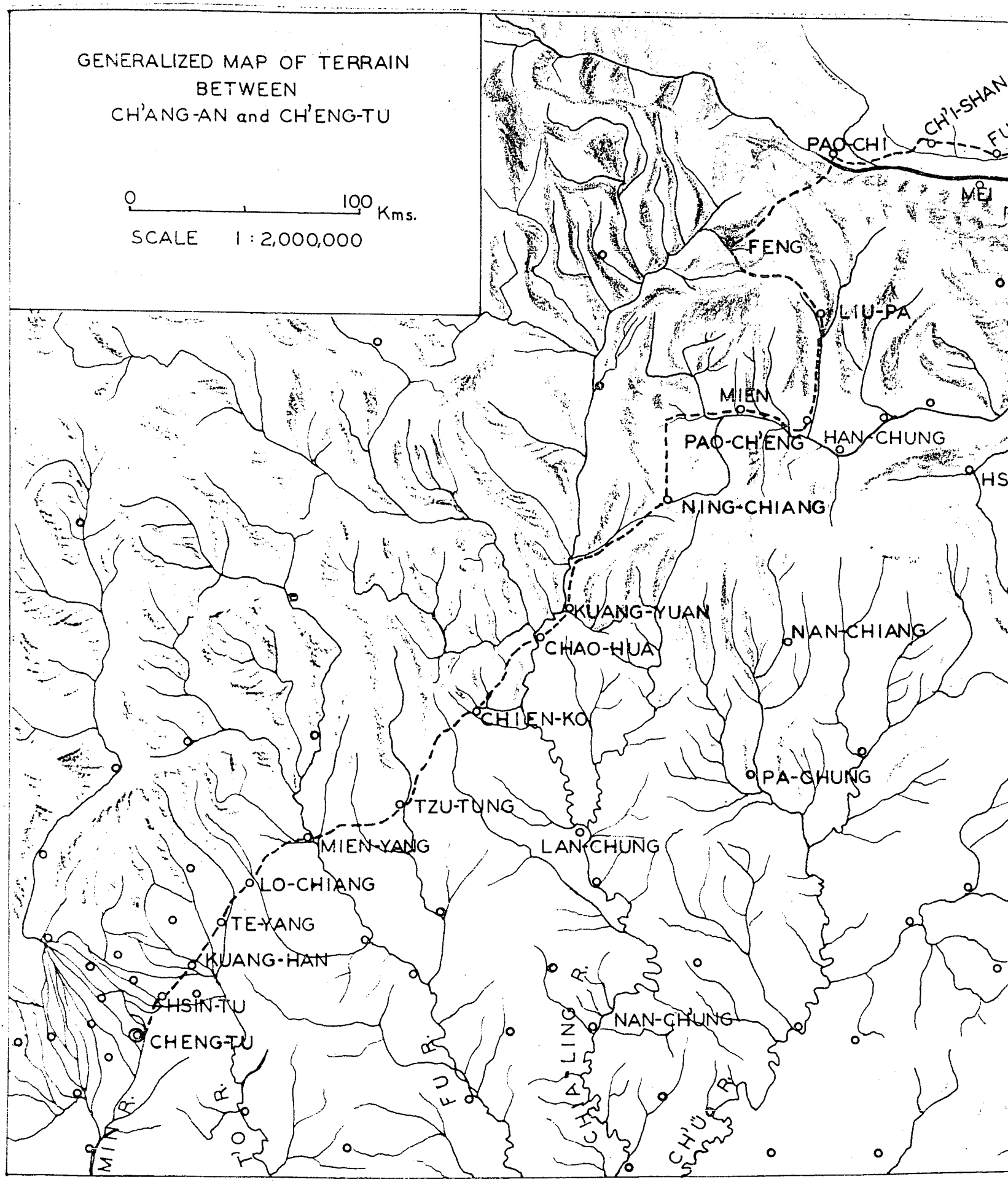
Topographically, the Wei Ho Basin (see Plate 1) is isolated from south and east-central China. To the south the Ch'in-ling Shan presents extremely difficult barriers to surmount. In the north the deep and endless canyons of the loess badlands are a barrier almost as insurmountable. From Honan in the east the route to the Wei Ho Basin is restricted to a narrow passageway along or adjacent to the Huang Ho near the fortress city of T'ung-kuan. The whole of the Wei Ho Basin is overlain with windblown loess accumulations of great thicknesses, some of it water-washed and re-deposited, in places up to 300-400 feet depth. The road in many places for miles has been worn down below the loess surface to depths 200 feet deep in narrow defiles (see Plate 2, figure 1).[1] Relatively easy access is had only from Kansu in the northwest and Shansi in the northeast.

The Wei Ho is the largest tributary of the Huang Ho and flows through the richest agricultural land of northwest China. As the aorta of the northwest water arteries, its effect on the Huang Ho can be great. Yet, because of the lack of rainfall, the annual water discharge of the Wei Ho is surprisingly small. Generally, the river is only a few feet deep, and in winter time can be waded across.[2]

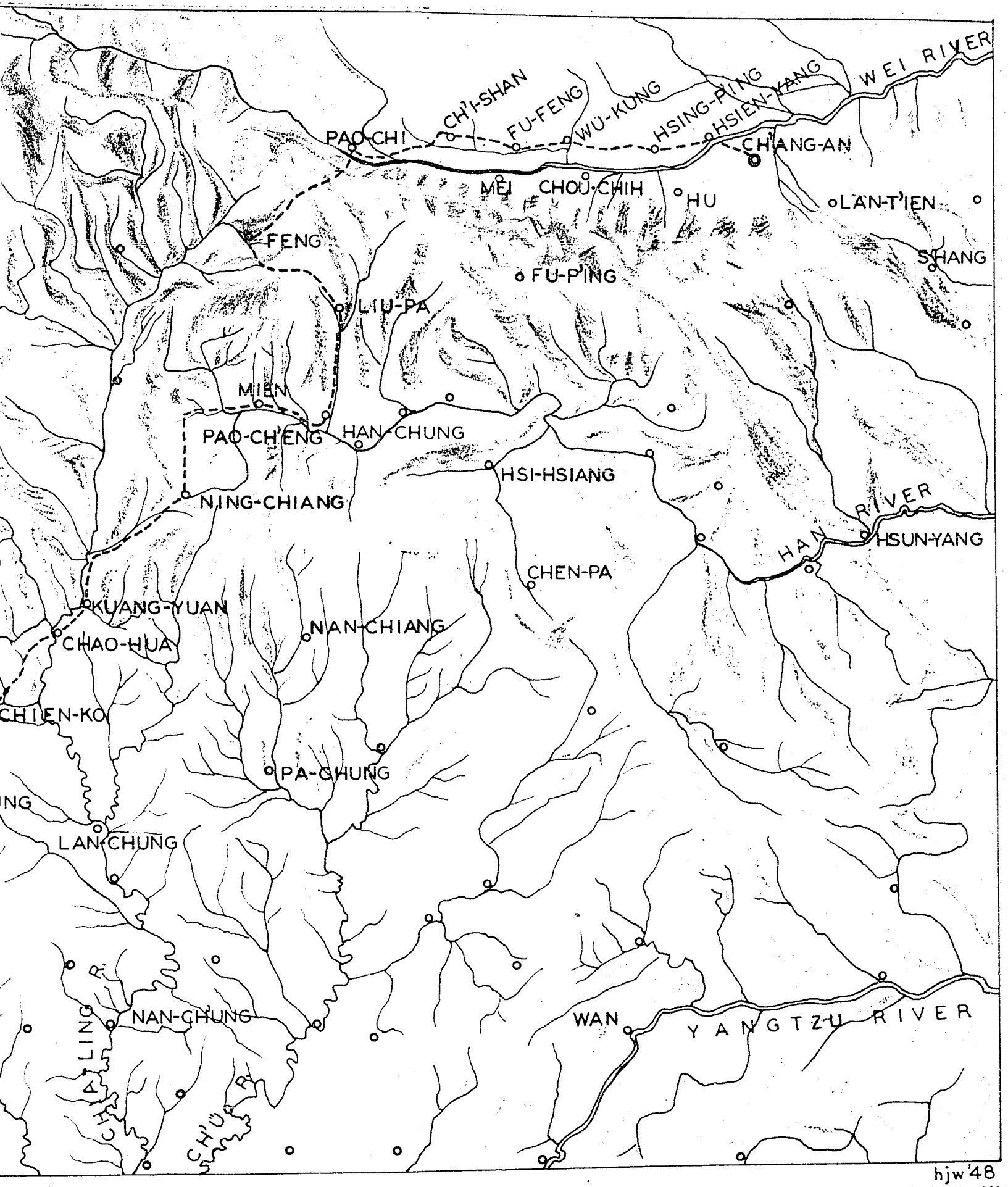
Pao-chi is at the gateway of the Wei Ho where it debouches into the river basin. West of Pao-chi rise the mountains. East of it spreads the plain. Pao-chi gorge is the hub of the river. It lies

[1] Von Richthofen, China, op. cit., p. 520-521.

[2] Huang, T.K., The geology of the Tsinlingshan, China geological survey, 1931, bulletin No. 9 (Nanking).


GENERALIZED MAP OF TERRAIN
BETWEEN
CH'ANG-AN and CH'ENG-TU
0
100 Kms.
SCALE 1 : 2,000,000
PAO-CHI
CH'I-SHAN
FU
MEI
FENG
LIU-PA
MIEN
PAO-CH'ENG
HAN-CHUNG
HS
NING-CHIANG
KUANG-YUAN
NAN-CHIANG
CHAO-HUA
CHIEN-KO
PA-CHUNG
TZU-TUNG
MIEN-YANG
LAN-CHUNG
LO-CHIANG
TE-YANG
KUANG-HAN
HSIN-TU
CHENG-TU
NAN-CH'UNG
MIN R.
T'O R.
FU R.
CHIA LING
CH'U R.

MAP 2


WEI RIVER
CH'I-SHAN
FU-FENG
WU-KUNG
HSING-P'ING
HSIEN-YANG
PAO-CHI
CH'ANG-AN
MEI
CHOU-CHIH
HU
LAN-T'IEN
SHANG
FENG
FU-P'ING
LIU-PA
MIEN
PAO-CH'ENG
HAN-CHUNG
HSI-HSIANG
NING-CHIANG
HAN RIVER
HSUN-YANG
CHEN-PA
KUANG-YUAN
NAN-CHIANG
CHAO-HUA
CHIEN-KO
PA-CHUNG
LAN-CHUNG
NAN-CHUNG
WAN
YANGTZU RIVER
hjw'48

MAP 2

Plate 1. The Wei Ho valley as one looks toward Pao-chi in top center distance.
The Wei Ho and Ch'in-ling Shan at upper left; loess badlands at upper right.

Figure 1. A section of the road cut below the loess surface at Lin-kuan-ch'iao in Pao-chi District.

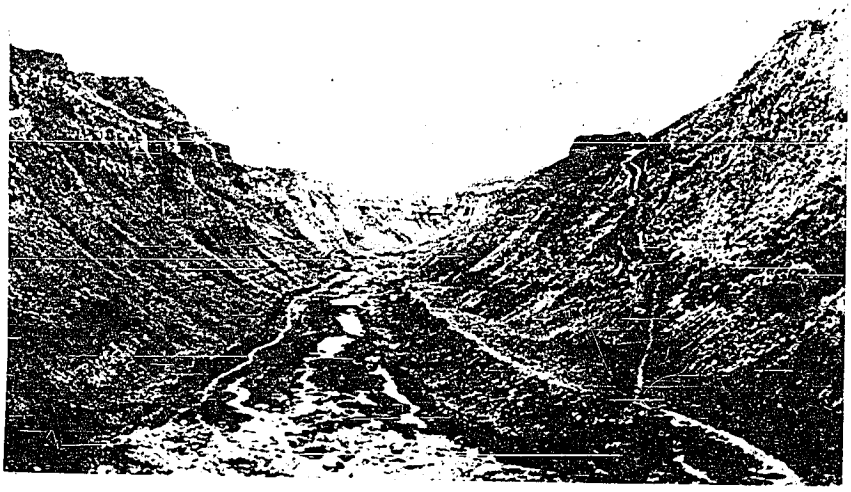


Figure 2. A typical loess canyon crossed by the road at Lung-i-k'ou in Ch'i-shan District.

(Photos by Y.T. Chao)

about five miles west of Pao-chi. Rising sheer from the river-bed, the exposed rock cliffs here reach a height of some 960 feet, while the width of the river scarcely exceeds 320 feet. The drop is rapid, the slope of the river-bed being about one foot in 400 feet.[1] From the gorge the river-bed gradually spreads, so that about six miles east of Pao-chi, the stream-bed was measured by von Richthofen at 2,000 paces width.[2] Because of the unequal distribution of the annual rainfall in the northwest, most of it pours down in the three months of late summer and fall. The discrepancy between flood and low water is such that almost 200-300 times as much water flows in the flood period as during the low water period.[3]

The rainfall distribution and the flood situation both affect transportation and communications in the Wei Ho valley. While the nature of the loess is such that rain quickly drains into it to leave a dry surface shortly after the rain is over, nevertheless, during the period of relatively heavy rains, sections of the roads, particularly those that are sandwiched in the narrow defiles, cut deeply into the loess and become real quagmires. Not infrequently muleteers will find their mules and horses plunging into such mud-holes down to their shoulders, so that much difficulty is encountered in extricating the animals. Passage for carts under such circumstances

1 China, Executive Yuan, Shui-li wei-yuan-hui chi-k'ang, Vol. I, No. 6, June 1944, p. 24-27.

2 Von Richthofen, China, op. cit., p. 556.

3 China, Executive Yuan, op. cit.

is impossible until the soil has dried up to provide firm foundations. Thus, for a large part of the rainy season, in fall and early winter transportation and communication along the roads in the Wei Ho valley slows down greatly, if not to a standstill.

The flooding of the lower part of the Wei Ho Basin provides further difficulties to communications during this period, so that trans-river movement is delayed, not only across the Wei Ho, but also across some of its tributaries. For instance, the Yeh-ku Ho south of Ch'i-shan city, also called the Shih-t'ou Ho because of the stones and boulders in its bed, rises to great turbulance in fall. The stream is so violent that ferry boats cannot cross in safety, those that dare often being smashed. This has resulted in interruption to travel between the eastern part of the Han-chung Basin south of the Ch'in-ling Shan and the northern part of Shensi, as well as in interference with the daily activities of fuel gatherers in the mountains[1], an important aspect of livelihood in this section.

In what manner the flood waters affect the Wei Ho itself is described by von Richthofen, who found that where he crossed the Wei Ho opposite the town of Kuo-chen, the stream during the winter dry season was only 400 paces wide, whereas the sandy bed of the river which was inundated during flood periods stretched to a width of 2,000 paces, or five times its dry-season width. A temporary bridge was put up for use during the dry season, spanning the Wei Ho at this point, but the bridge had to be taken down for the flood period when trans-river

[1] Ch'i-shan Hsien Chih, 1937, ch'uan 9, p. 19.

communication was interrupted or furnished by flat-bottomed barges.[1]

To the observer looking over the Wei Ho Basin from the air, the cultural effects of man's work upon the earth's surface here is strikingly demonstrated (see Plates 3, 4, & 5). Several aspects of these effects are immediately outstanding. The first is the view of the hundreds of thousands of narrow strip fields, almost all in rectangular shapes with lengths that appear to be from ten to twenty times their widths, fitted together parallel or at right angles to each other. No part of the flat plain appears untilled.

A second outstanding aspect is the pattern of the dark patches of villages sharply outlined in square or rectangular shapes by their enclosing walls, scattered fairly regularly over the seemingly even plain. These villages appear like flies caught in the spider-web of small paths that connect each village with the others around it. An indirect result of man's wasteful cultivation methods in the loess plain are the deep gashes that furrow the plain at intervals, particularly in the rise of land toward the northwest part of the basin. These results of severe erosion present an arresting sight where they scour out canyons several hundred feet deep across the overall smoothness of the plain (see Plate 4). The larger Hsien or District cities also are impressive with their high surrounding walls which occasionally are arranged in curiously symmetrical outlines having little to do with the actual residential or business occupance of space within the walls.

[1] Von Richthofen, China, op. cit.

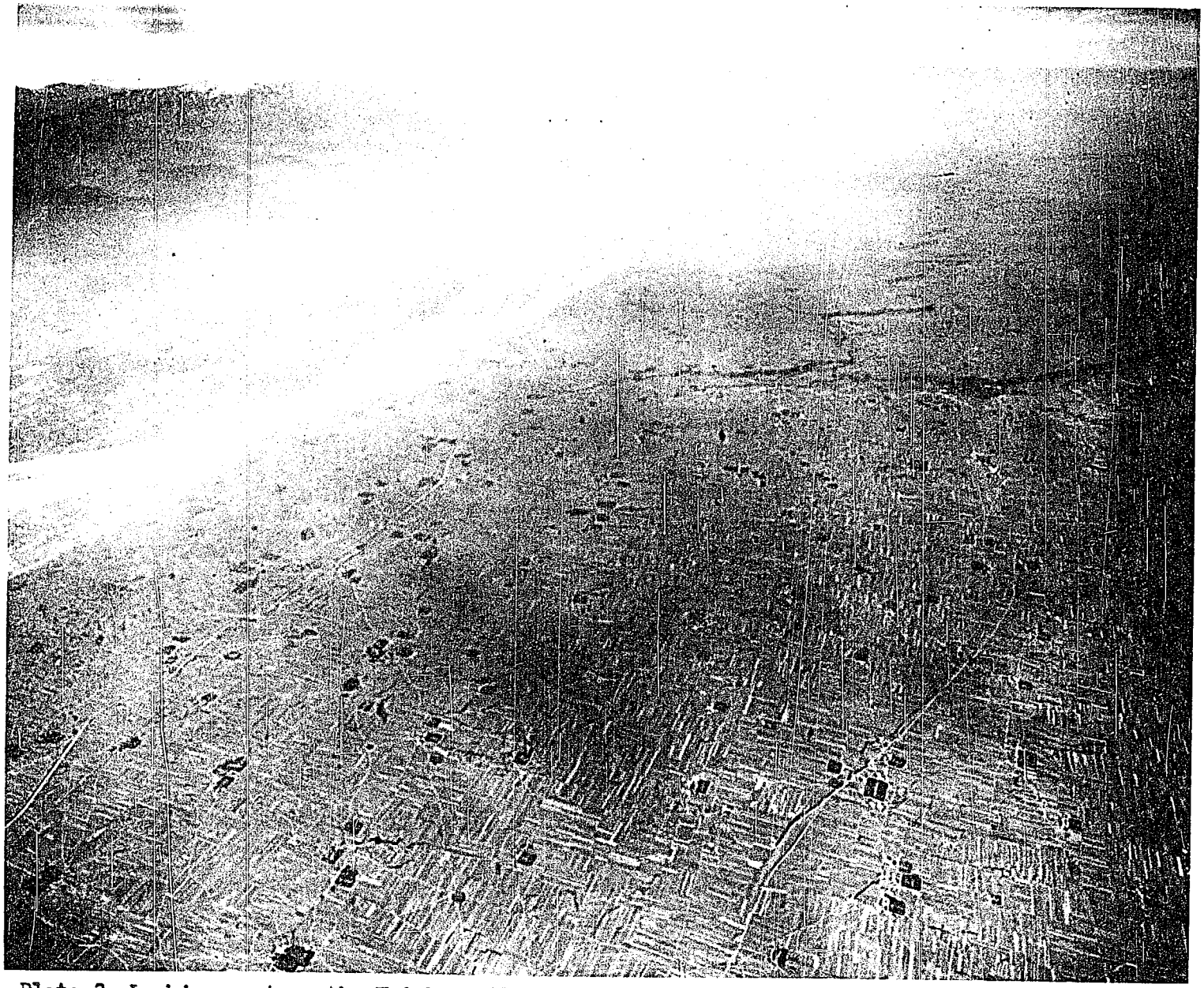


Plate 3. Looking west up the Wei Ho valley, showing routes of railroad and motor highway. Wu-kung city is situated in deep canyon at road crossing in upper right.

Plate 4. The pattern of village settlement and agriculture around the district town of Yung-shou in the Wei Ho valley. Note sunken fields in the vicinity of the town.

Plate 5. The agricultural landscape in the vicinity of Mei, south of the Wei Ho which is seen at lower left. The reader is looking south.

Not so apparent at first glance is another feature of the land surface resulting from man's activity. Upon closer examination of the seemingly even plain with fields adjoining fields, one discovers that many of the farms are in sunken excavations many feet deep below the general surface of the plain. It is as though a giant had been working on a vast linoleum block-print, cutting and gouging out neatly squares and rectangles for a huge design. These excavations actually are man-made for purposes peculiar to the loess region. Von Richthofen writes that the natural tendency toward formation of terraces is aided by farmcraft in which the farmer chips off the edges of the loess-cliffs to obtain a level field and to get new soil to spread over the old.[1] He found that in his day these sunken plots were favored spots for opium poppy culture, the plots being from 10-12 feet below the level of the surrounding surface. At thensame time, the farmers tunneled into the loess cliffs thus formed and dug out homes for themselves under their fields. The porosity of the loess is such that water drains quickly through the soil which does not slide and pile up as clay soils would in similar situations.

Why the chief east-west road along the Wei Ho valley crosses to the north bank of the Wei Ho from Ch'ang-an instead of running directly west from Ch'ang-an along the south bank can be explained by geographic as well as historic reasons. Between Hsien-yang (locally called Han-yang) across the Wei Ho from Ch'ang-an, and Pao-chi at the western end of the

[1] Von Richthofen, China, op. cit., p. 553.

basin very few tributaries flow into the Wei Ho from the north. A quite different situation obtains in the same area south of the Wei Ho where numerous streams, many of which are dry part of the year, are tributary to the Wei Ho. This situation requires a large number of bridges or fords, a condition which would be expensive to meet for an important high road. At the same time, the valley is wider north of the river than it is south of the river, so that the northern part is more important from the view-point of population numbers and economic production. A road to the south of the Wei Ho meets with many more wash-outs in many more sections, for the streams are not only more numerous but more violent in flood, with their steep, short drop from the Ch'in-ling Shan.

The Ch'in-ling Shan belt. The second topographic region represents an abrupt change from the first. Instead of the generally even valley plain, the Ch'in-ling Shan present rough terrain, rising to heights of over 11,000 feet above sea-level and more than 10,000 feet above the floor of the basin of the Wei Ho. The rise is not gradual along the north face of the range adjoining the basin (see Plate 6). No "foothills" intervene to make the transition gentle. The line of rise is sharply marked. Valleys of the northern slope are short, steep-faced, and narrow ravines, and they lead to a water-shed of differing altitudes. The pass of Yeh-ku-kuan southwest of Mei in the Wei Ho valley has an altitude of 6,234 feet, while on Kuang-tang-Shan, which itself rises to 12,172 feet, the altitude of the pass appears considerably higher than that of Yeh-ku-kuan.[1] South of Ch'ang-an the road rises quickly

[1] Von Richthofen, China, op. cit., p. 632.

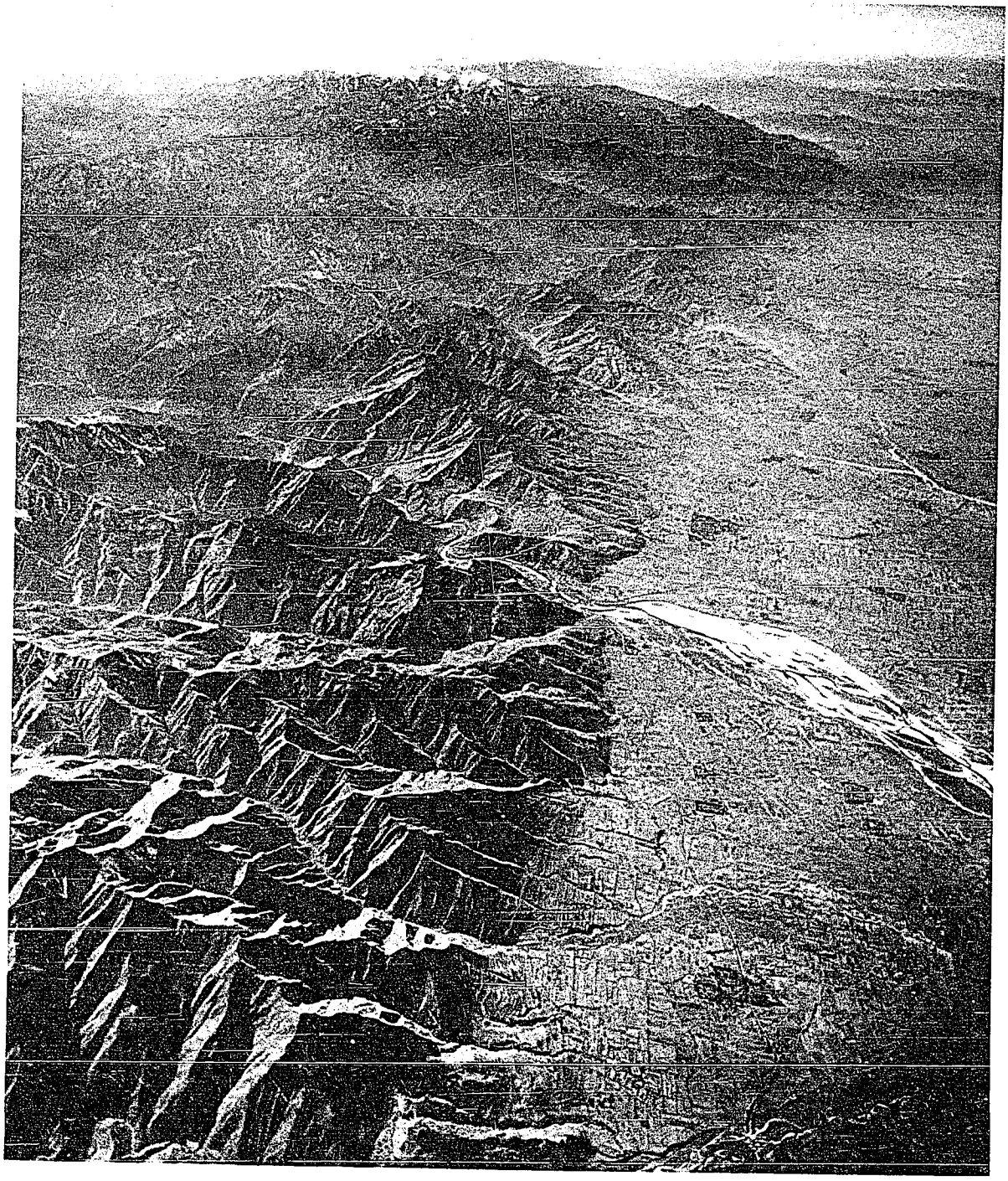


Plate 6. Looking westward at the abrupt rise of the Ch'in-ling-shan from the valley of the Wei Ho at a point near the city of Chou-chih. The snow peaks of the T'ai-pai-shan are seen at the top of the photograph.

to a pass 2,430 feet higher than the foot of the mountain.[1]

The northern piedmont sinks in part into the level valley land of the Wei Ho. In part this piedmont is accompanied by a loess terrace which reaches a height of some 650 feet over the valley floor, climbing the slopes up to an altitude of 3,200 feet above sea-level. Into these terraces the local peasants and mountaineers tunnel to make their homes.

The trend of the Ch'in-ling Shan is from west to east, and there are no breaks, with the exception of the various saddles or passes through which paths find their way, until one comes to the vicinity of Shang at about 109° 30' E. There are no naturally easy routes for crossing the Ch'in-ling Shan in this stretch of almost 170 miles between Pao-chi and Shang. Near Shang, however, a noteworthy change occurs. Here it seems as though some gigantic force had shoved the north wall of the Ch'in-ling Shan northwestward 20 or 30 miles, so that a wedge of mountains points toward Ch'ang-an from the southeast and east. It is this northward shift of the mountain belt that has restricted access to Shensi from the east to a narrow passage on the south bank of the Huang Ho.

At the same time a rift valley cuts almost through the Ch'in-ling Shan toward Ch'ang-an from a southeasterly direction. Through this rift valley flows the Tan Chiang, a river navigable by boats past the Honan-Shensi border. Between Shang which is on the upper reaches of this tributary of the Han Chiang, and Lan-t'ien in the Wei Ho Basin, there is only a short distance of mountainous road, with a relatively low pass, the Lan-kuan. This is the easiest route

[1] Younghusband, Francis, Peking to Lhasa, London, 1925, p. 33.

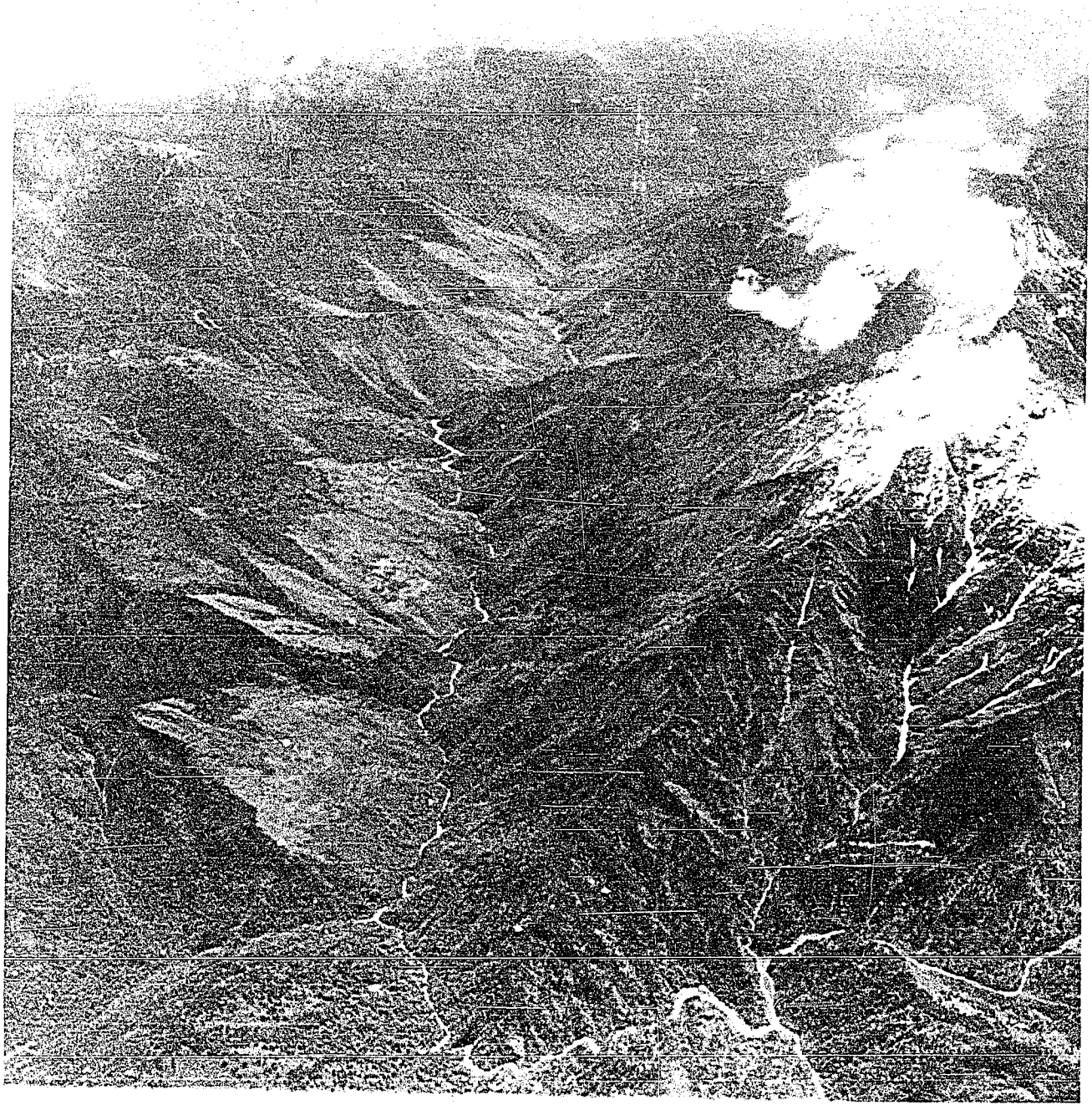


Plate 7. A view of the western section of the Ta-pa Shan looking toward Chien-ko from a point above the vicinity of Chiang-yu, Szechuan.

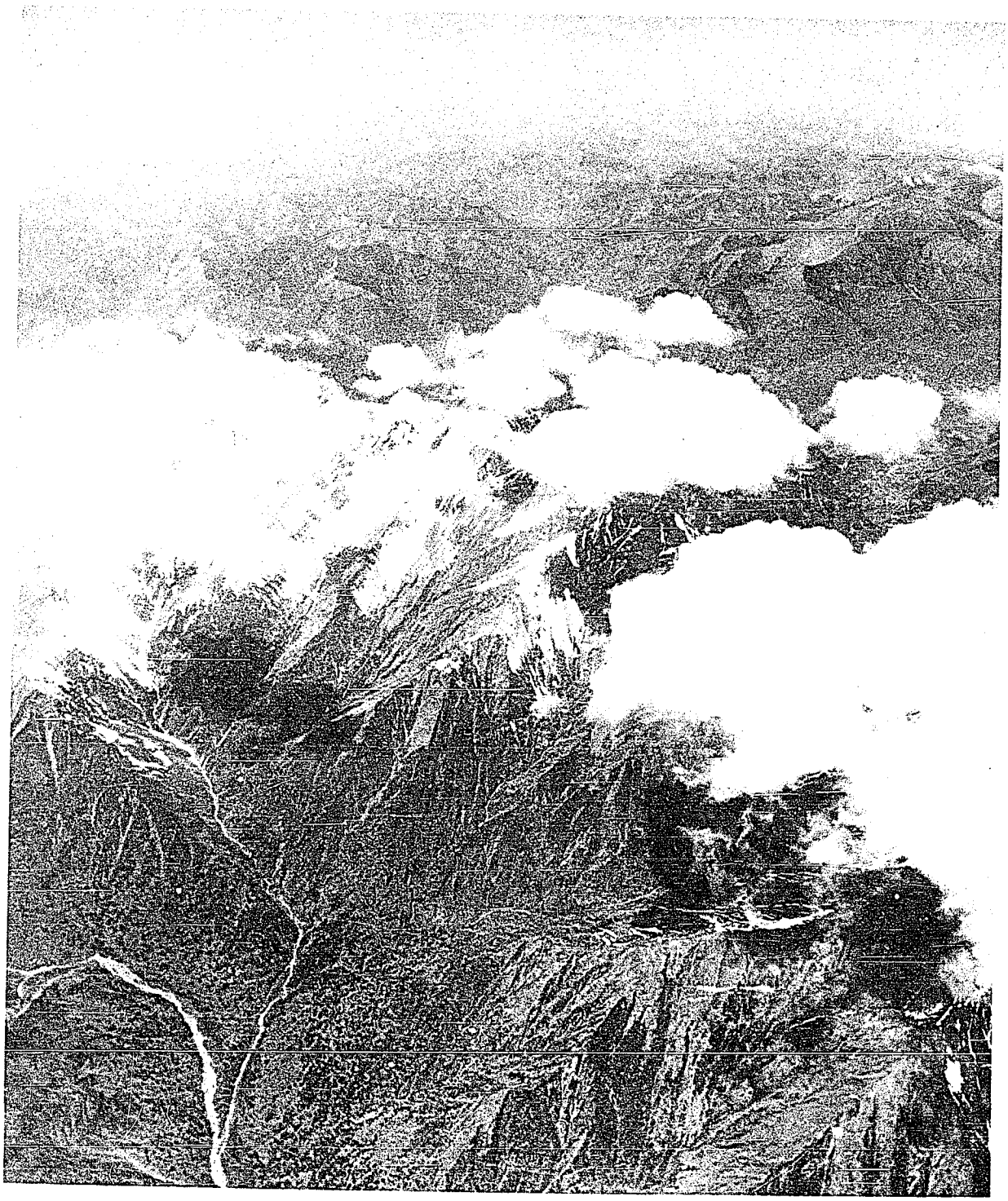


Plate 8. The Ta-pa Shan as it rises into the Tibetan Plateau in northwestern Szechuan, seen from above the vicinity of Chiang-yu, Szechuan.

into the Wei Ho Basin from the Yangtse Chiang valley, with the exception of the Huang Ho passage at the great bend of that river. However, this passage does not connect the Wei Ho Basin with the Han-chung Basin except by the very round-about way down the Tan Chiang and then up the Han Chiang.

The change of vegetation cover is very dramatic and abrupt along the crests of the northern Ch'in-ling Shan. In large part this is attributable to climatic change resulting from the effects of the the mountain barrier. Along the modern motor road it is possible to name the pass at which the transition takes place. Schuyler Cammann, who traveled over the road as a United States naval officer in 1945, states that at the pass just north of Ch'ai-kuan-ling an amazing change comes over the scenery, from that of south China greenery to the bleak dry landscape of loess-covered Shensi. Farther west the transition is more gradual because of the intrusion of a long tongue of loess mantle which penetrates as far south as Hui, although the mantle here is very thin, and the vegetation at Hui is more like that of south China (see Plate 9).

On the south slope of the Ch'in-ling Shan streams become numerous and have greater absolute and consistent volume than the streams flowing down the north slope of the mountains into the Wei Ho Basin. The drop is still too steep for use by boats, except within a limited distance of their junctions with the Han Chiang. Possibilities for water power development exist. The silt content of streams is low, and for a large part of the year the streams are azure-colored instead of a muddy yellow.

While the less accessible parts of the southern slopes of the

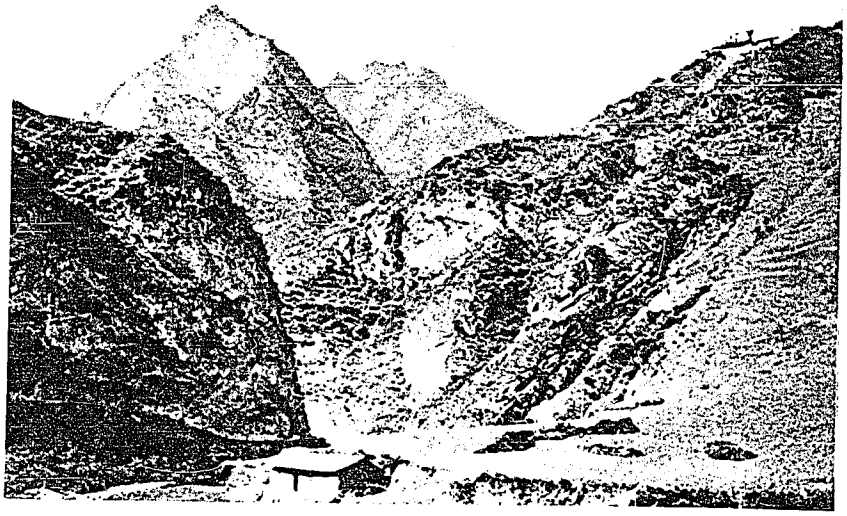


Figure 1. The Ch'in-ling Shan near Ta-ho-tien in Hui District of southeastern Kansu.

(Photo by Y.T. Chao)

Figure 2. A part of the small basin which supports the population of Hui which is located in the basin.

(Photo by T.K. Huang)

Ch'in-ling Shan contain useful timber, and most parts of the southern slopes are well covered with forms of vegetation familiar in the Yangtse Chiang valley, the northern slopes are largely barren and have a seared look about them. There is evidence to support the belief that many thousands of years ago some of the northern slopes of the Ch'in-ling Shan as well as the southern parts were densely wooded, particularly in the eastern sections. Heavy forests even in the region of the Wei Ho valley are said to have been an obstacle to early roads. "Some forests, for example that of the T'ao-lin (Forest of Peaches) to the southeast of the junction of the Wei and the River [Huang Ho] are given as occupying immense spaces."[1] In traveling to Szechuan from Shensi, Marco Polo was impressed by the great forested areas. He talks of the Ch'in-ling Shan and Ta-pa Shan as a region which "abounds in forests wherein are many wild beasts such as lions, bears, lynxes, bucks and roes, and sundry other kinds, so that many are taken by the people of the country who make a great profit thereof."[2]

The Jesuit naturalist, Armand David, offers the reasonable explanation for the disappearance of most of the forested areas as due not only to the clearing of the land for farming, but also because of the annual firing of wide areas of forest to drive away animals that preyed on man and his crops and stock. Moreover, "excessive cutting of forests for building materials seems to have followed periods of

1 Granet, Marcel, Chinese civilization, New York, 1930, p. 74.

2 Yule, Sir Henry, The book of Marco Polo, 1875, 2nd ed., Vol. II, p. 24-27.

rebellion and disorder, as well as being done to meet extraordinary demands. The statement, 'The Ough Fon [sic] Palace was not completed until Chu Mountains were made bare', refers to the denudation of the Tsin-ling Mountains for material to construct the fabulous palace of Tsin Shi Hwan... Following the Mohammedan rebellion of Northwest China from 1860-70, excessive cutting of forests in the Tsinling Mountains is described by the Abbe Armand David."[1]

In contrast to the Wei Ho valley, exceedingly little of the land surface of the Ch'in-ling Shan is farmed. Only small arable patches of land exist, and while tilling of mountain slopes occur in small fields here and there (see Plate 12), most of the cultivable land is in small strips and patches wedged in narrow valley bottoms. The isolation of such farmers is extreme.

The Han Chiang valley. The third topographic region is so small and narrow that it hardly merits being called a region, being more in the nature of a dividing line between two mountain systems rather than a region as such. As von Richthofen remarks, to a person who comes from the mountain land of the west the upper Han Chiang basin must appear as a wide beautiful plain, but to one who has come from the plain of the Wei Ho, it seems but a small valley. Nevertheless, in its rich irrigation, its mild climate, and luxuriant vegetation yielding the varied products of the southern lands, the valley around Han-chung appears like a paradise. With a length of about 60 miles, it has a breadth hardly exceeding 12 miles at its widest point, though for the most part the width is much smaller, so that in area it would at most be some 25-30 square miles.[2]

1 Lowdermilk, W.C., Forestry in demuded China, AAA of the Pol. and Soc. Sciences, Nov., 1930, p. 127-128.

2 Von Richthofen, China, op. cit., p. 589.

Taking its source in the Han-yuan Shan near Ta-an-i, the Han Chiang runs eastward along a steep-sided valley to Mien where it flows into the cigar-shaped basin of Han-chung. Extensive cultivation is carried on with the aid of irrigation on the fertile valley land. A short distance east of Yang the basin comes to an end, and the river thereafter winds through gorges cut through solid rocks.[1] The important tributaries from the north in the Ch'in-ling Shan are the Ch'ü Shui, the Pao Shui, the Hsü Shui, and the Tzu-wu Shui and Hsün Ho in order from west to east respectively.

The hills around the Han-chung basin are low and subdued and covered with a more or less continuous mantle of reddish clay. The even surface approaches the condition of a peneplain. A very low water divide separates the Han Chiang drainage from that of the Chia-ling Chiang which flows south into the Yangtse Chiang. The distance between Yang-p'ing-kuan on the Chia-ling Chiang and Ta-an-i on the Han Chiang is about 30 miles. The difference in elevation is about 640 feet. Since the prevailing strike of the rocks is parallel to the river valley of the Han Chiang, there can be no rock ridge existing across the route between Yang-p'ing-kuan and Ta-an-i: "that is to say, the Han and Chia-ling rivers have no true water divide", according to T.K. Huang of the China Geological Survey. He expresses the opinion that it appears probable, therefore, that in past geological periods the Chia-ling Chiang above Yang-p'ing-kuan was connected with and formed a part of the Han Chiang. Its subsequent jointure with the main stream of the Chia-ling Chiang he attributes to river piracy.[2] It is not surprising, therefore, that this

[1] Huang, T.K., op. cit. , p. 207-208

[2] Ibid.

naturally low and relatively level passageway became an important road route.

Despite the small size of the basin around Han-chung, this city has played a role of great importance in early historical times, such as its position as capital of the Shu or Szechuan Han dynasty during the period of the Three Kingdoms. Because of its strategic situation as the only piece of flat, productive land of any considerable extent between the basin of the Wei Ho and the Szechuan Red Basin, this intermontane valley will always occupy a significant status.

The Ta-pa Shan belt. Although the Ta-pa Shan are considerably lower in altitude than the Ch'in-ling Shan, for the most part being at a maximum height of about 8,000 feet above sea-level, the difficulty of passage through them in some ways has been greater than that presented by a crossing of the Ch'in-ling Shan. The nature of the mountains is very complex and they are exceedingly precipitous.

The vegetation of the Ta-pa Shan is similar to that of other parts of Szechuan. In the less accessible recesses, dense forests occur, such as the section between Wu-lien-i and Chien-ko Barrier, where forests almost exclusively of horse-chestnut are found.[1] Like the Ch'in-ling Shan, the Ta-pa Shan is thinly populated because of the lack of level land for agriculture, although occasional small basins, such as that at Kuang-yuan, can prove highly productive. In the western portion of the Ta-pa Shan there is very little cultivation of any kind.

The Red Basin and the Ch'eng-tu Plain. The final topographic region with which the road route is concerned is that of the Red Basin

[1] Imperial Japanese Government Railways, An official guide to East Asia, Tokyo, 1915, Vol. IV, p. 177.

of Szechuan. While the Ch'eng-tu Plain is a part of this basin, it merits special attention for a number of reasons, and more space will be taken to deal with its special situation.

Szechuan province for the most part is a vast basin topographically, by far the largest of the regions with which we have been concerned. The escarpment of the Tibetan Plateau forms a semi-circular arc to the west of the basin, rising generally very sheer from the basin floor. Running from the northern part of this arc, the Ta-pa Shan forms the northern wall of the basin and encloses the province without a break until the Yangtse Chiang is reached. Trending northeastward from the southern part of the Tibetan wall, the Ta-lou Shan follows the south bank of the Yangtse Chiang from I-pin where it breaks through the junction of the two mountain systems, to the Yangtse Chiang gorges where the Ta-lou Shan meets the southeastern extension of the Ta-pa Shan.

The interior of the basin is filled up with considerable thicknesses of purplish sandstone, from which is derived the name Red Basin. The Red Basin is the bed of an ancient lake or sea. The basin as a whole is by no means a flat or level plain. This bed of the sea has been cut up by stream and rain erosion, so that the larger surface might well be considered rugged, although it is below the level of the surrounding mountain lands. The summit of the hills resulting from this erosion lies between the 3,000 and 4,000 feet contours.

In the Red Basin the slope of the land makes irrigation by gravity easy. Intensive agriculture is carried on the year around. Temperatures are mild and fairly uniform throughout the basin in contrast to the extremes found in the valley of the Wei Ho.

Within the basin various rivers with their associated valleys are important natural features. The most noteworthy of these is the upper part of the Min Chiang which together with the upper part of the T'o Chiang form the irrigation network of the Ch'eng-tu Plain. There are few regions in China, if equal areas are compared, which can rival the Ch'eng-tu Plain in wealth, prosperity, density of population, and productive power.[1] Its length from southwest to northeast is about 90 miles, while its greatest width, running from northwest to southeast, is about 40 miles. Its area is between 2,400 and 2,800 square miles. Without the irrigation system developed thousands of years ago, the southern portion of the Ch'eng-tu Plain probably would be marshy land while the northern part would be a boulder-strewn sand-bed caused by the numerous mountain stream. It is the irrigation system that has made the Ch'eng-tu Plain one of the most productive pieces of land in the world. This system has its source in the high mountains of the north and west. The part of these mountains to the southwest of Kuan, known as the Ch'ing-ch'eng Shan or Azure-wall Mountains, fences in the plain like a wall, with limestone cliffs descending into the level ground which is cultivated up to its very feet. The plain is not level, however, but drops 700 feet from northwest to southeast, from 2,400 feet at Kuan to 1,700 feet at Ch'eng-tu, forty miles away.[2]

Crops grown are those common to sub-tropical China. Rice is the

1 Chang, G.Y., International geography, Shanghai, 1934, p. 97.

2 Little, Archibald, The Far East, Oxford, 1905, p. 78-81.

staple, followed by maize, wheat, barley, buckwheat, beans, and tobacco. Patches of sugar cane, cotton, aconite, saffron, madder, egg-plant, and other vegetables are grown, as well as orchards of oranges, persimmon, and other fruit-trees.

Climatically, the summer temperatures of the Red Basin as a whole are fairly uniform. The 47° F. line curves to enclose not only the Basin itself, but also the Ta-pa Shan and Han Chiang regions as well. July temperatures get increasingly higher as one proceeds northward from Ch'eng-tu to Ch'ang-an. This is a result of the increasing continentality with the cutting off of marine influences by the Ch'in-ling Shan and the lack of vegetation cover on the semi-arid land north of the mountains. January temperatures show more steady gradation northward even within the Red Basin itself, ranging from 43° F. in the northern part of the Ch'eng-tu Plain to 39° F. at Tzu-t'ung, 36° F. along the Ta-pa Shan crests, and 32° F. at Pao-chi in the Wei Ho valley. Rainfall is heavier toward the southeast past of the Szechuan Red Basin, but from the northern edge of the Basin there is a fairly uniform decrease northward with the change in latitude. The Ch'eng-tu Plain gets from 35-40 inches of rainfall annually. In the Han-chung Basin this is reduced to about 27.5 inches, while the Wei Ho valley gets from 15-20 inches, mostly in the drier ranges of the scale. Since, however, data is generally from very scattered stations and statistics have been kept for only a few years in most of these stations, the above are generalizations which must be treated with caution.

Navigable rivers crossed by the chief road route.

Of the navigable rivers crossed by the present road route between Ch'ang-an and Ch'eng-tu, the Wei Ho is probably of least importance

ROUTES AND RIVERS
CH'ANG-AN TO CH'ENG-TU
I
Foot and pack roads
Provincial capital
Hsien (district) town
Village
0
100
Kms.
SCALE 1:2,000,000
KANSU
SHENSI
SZECHWAN
T'IEN-SHUI
FENG-HSIANG
CH'I-SHAN
PAO-CHI
MEI
FENG
CH'ENG CHUI
LIU-PA
WU-TU
LUEH-YANG
MIEN
T'ai-pai R.
YANG
PAO-CH'ENG
HAN-CHUNG
CH'ENG-KU
Yang-p'ing-kuan
NING-CHIANG
HSI-HSIANG
Chia-ling R.
Pai-shui-chieh
Pai-shui R.
Chao-t'ien
P'ING-WU
KUANG-YUAN
CHAO-HUA
NAN-CHIANG
Ch'ien-men-kuan
CHIEN-KO
PEI-CH'UAN
CHIANG-YU
TUNG-CHIANG
PA-CHUNG
TZU-TUNG
MIEN-YANG
LAN-CHUNG
WEN-CH'UAN
LO-CHIANG
TE-YANG
LAN-T'ING
KUAN
SAN-T'AI
KUANG-HAN
YING-SHAN
HSIN-TU
CH'ENG-TU
NAN-CH'UNG
CH'Ü
TA-CHU
SUI-NING
FU RIVER
CHIA-LING R.
CH'Ü RIVER
MIN RIVER
T'O RIVER
P'ENG-SHAN
LO-CHIH
WU-SHENG
CHUNG
TA
HSU

MAP 3


SHENSI
SZECHUAN
WEI RIVER
FENG-HSIANG
CH'I-SHAN
FU-FENG
WU-KUNG
HSING-P'ING
HSIEN-YANG
CH'ANG-AN
PAO-CHI
MEI
CHOU-CHIH
HU
LAN-T'IEN
WEI-NAN
FENG
SHANG
FU-P'ING
TSO-SHUI
YANG-SHAN
LIU-PA
Tai-pai R.
MIEN
YANG
NING-SHAN
Kan-yu R.
PAO-CH'ENG
HAN-CHUNG
CHENG-KU
Yang-p'ing-kuan
HSI-HSIANG
SHIH-CH'UAN
HAN-YIN
NING-CHIANG
HAN RIVER
TZ'U-YANG
HSUN-YANG
Chao-t'ien
CHEN-PA
AN-K'ANG
KUANG-YUAN
NAN-CHIANG
CHU-CHI
WAN-YUAN
CH'ENG-K'OU
TUNG-CHIANG
PA-CHUNG
LAN-CHUNG
HSUAN-HAN
WU-CH'I
TA
YING-SHAN
FENG-CHEH
WU-SHAN
HSIEH-YANG
NAN-CH'UNG
CH'U
TA-CHU
WAN
YANGTZU RIVER
WU-SHENG
CHUNG
LI-CH'UAN

hjw '48

MAP 3

from the viewpoint of water transportation. Only in the lower reaches of the Wei Ho is there any considerable use of the river for water transport. This use ends at the ferry crossing between Ch'ang-an and Hsien-yang, above which the water is too shallow to be important in navigation. From this point down to the bend of the Huang Ho at T'ung-kuan the river distance is 118 miles. It takes four to five days for boats to travel this distance upstream and two to three days for the course downstream. In low water, only the smaller boats can make the trip, but during other times boats up to six or seven tons weight may use the channel. This waterway allows produce to be carried into or out of the Wei Ho Basin along the Huang Ho, and thus counts as one channel of communication for Ch'ang-an, which is near the upper terminus of this navigable channel.[1]

In the upper reaches of the Han Chiang, the river is shallow and full of sand-bars, especially above Ta-an-i. The Han Chiang is augmented by the waters of the Yü-tai Ho somewhat eastward of Ta-an-i, and from here down river, native boats utilize the waterway for transport. It is 39 miles from Mien to Han-chung along the river and 71 miles more to the gorges of the Han Chiang just below Yang. The whole stretch of 1,318 miles of river distance between Mien and Hankow at the confluence of the Han Chiang with the Yangtse Chiang is navigated by native boats.[2] During flood periods steamers of small tonnage can reach Lao-ho-k'ou from Hankow, and native boats drawing up to three feet can reach Han-chung.[3]

1 Chung-kuo ti-li hsin-chih, Shanghai, 1935, Section 5, Cha 9, p. 205.

2 Ibid.

3 Ts'ai, Yuan-p'ei, Chung-hua tsui-hsin hsing-shih t'u, Shanghai, 1938, appendix 3.

In Szechuan three tributaries of the Yangtse Chiang crossed by the road route between Shensi and Szechuan are navigable from their junction with the Yangtse Chiang to or above where the road crosses them. These are the Chia-ling Chiang, the Fu-Chiang, and the Min Chiang. The latter flows into the Yangtse Chiang at I-pin near the highest point of navigation by steamers on the Yangtse Chiang. The former two unite at Ho-ch'uan before reaching the Yangtze Chiang at Chungking.

As far as Szechuan is concerned, the Min Chiang is the more important of the two rivers variously claimed as the main branch of the Yangtse Chiang, the other being the Chin-sha Chiang flowing in from the southwest. Together with the T'o Chiang system, the Min Chiang system supplies the water for the complex and extensive irrigation canals of the Ch'eng-tu Plain.[1]

Although the Min Chiang has been navigated as far as Lo-shan by a British steam gunboat during high flood conditions in 1901, the irrigation canals divert so much water that only small native boats normally penetrate up the river, traveling as far as the head of the irrigation works at Kuan, 265 miles above the mouth of the river at I-pin.[2] At Ch'eng-tu the river distance down to I-pin is about 225 miles. While there are several branches of the river near Ch'eng-tu, it is the so-called Outer River, a continuation of the Yu-tsu Ho, that is the navigable channel. It flows past the east

1 Huang, T.K., op. cit., p. 210

2 Ts'ai, Yuan-p'ei, op. cit.

gate of Ch'eng-tu city wall. The road northeastward from Ch'eng-tu to Shensi crosses the Yu-tzu Ho by a bridge at the village of Ssu-ma-k'ou.[1]

The Fu Chiang is a tributary of the Chia-ling Chiang which unites in turn with the Yangtse Chiang at Chungking. In 1902 a British gunboat penetrated as far as Ho-ch'uan during high water, about 65 miles up the Chia-ling Chiang from Chungking. Steam launches continue to navigate the river as far as Ho-ch'uan. Above this point along both the Fu Chiang and Chia-ling Chiang, only native boats travel. From Ho-ch'uan up to T'ai-ho-chen, some 123 miles up the Fu Chiang, large native boats of 40 tons burthen can traverse the river during high water. Above this point, however, only smaller native boats use the waterway as far up as Chiang-yu District, a total distance from Ho-ch'uan of about 190 miles along the river.[2]

The most important of all the navigable waterways crossed by the Shensi-Szechuan road route is the Chia-ling Chiang. This river in reality services three provinces, Kansu, Shensi and Szechuan. It has its source in the Chia-ling Ku or Chia-ling Valley just over the Ch'in-ling Shan divide from Ta-san-kuan, and less than fifty air-miles from Pao-chi in the Wei Ho valley. While silting of the river has lessened the usefulness of the upper stretch, native boats traverse the river as far up as the village of Pai-shui-chiang at the border of Kansu Province. Junks of over 18 tons are able to ascend as far as Lan-chung during most of the year. If the upper stretch were dredged, 10-ton native boats

1 Wylie, Alexander, Notes of a journey from Ching-too to Hankow, Proceedings of the Royal Geog. Soc., London, Vol. XIV, 1870, p. 169.

2 Ts'ai, Yuan-p'ei, op. cit.

would be able to traverse the river as far as Pai-shui-chiang, which is some 558 miles up the river from Chungking. Kuang-yuan, the important cross-roads point through which the road from Shensi passes, is 458 miles up river from Chungking.[1]

[1] P'eng, Hsueh-p'ei, Chien-kuo kai-lun, Chungking, 1944, p. 108.

CHAPTER III

TRANSMONTANE ROUTES AND STRATEGIC PASSES

The possible routes through the mountain belt.

The great significance of the Ch'in-ling Shan route, wrote the Baron von Richthofen in 1872, lies in the fact that it is the only convenient and passable route from the Wei Ho valley to the great areas of Szechuan and southwestern China, including Tibet. Von Richthofen wrote in terms of the only thoroughfare for travel that had been used for official courier and primary commercial travel for many centuries and which still is considered the chief route today. However, several other routes through the Ch'in-ling Shan have held the primary place in certain periods of Chinese history, and the present route through the Ta-pa Shan is not the only possible one.

Formerly, travel across the Ch'in-ling Shan was largely confined to courier routes where officially engineered and maintained roads facilitated travel, and where protection against bandits was afforded by guard stations at intervals. The Feng Hsien Gazetteer of 1892 notes, however, that "the ancient trestles are gradually becoming dispensed with. One may go through all kinds of routes now."[1] The fact is that the Ch'in-ling Shan and Ta-pa Shan belt has a very strategic situation. While these mountains may not be considered as passageways rather than barriers in the sense that the European Alps have sometimes been held to be, nevertheless, they have a number of corridors the holding of which determined the control over the

[1] Feng Hsien Chin, 1892, ch'uan 1, p. 15-20.

mountain belt and frequently of the Szechuan Basin.

The strategic situation of the Han-chung Basin.

The Han-chung Basin of itself was too small an area to support a separate political state. However, control over the Han-chung Basin was a prerequisite to conquest or control over the Szechuan Basin by outside forces. Control of the Han-chung Basin made possible control of the Ta-pa Shan and Ch'in-ling Shan passes. The Ta-pa Shan constitutes the more critical factor, for the state that controlled the Ta-pa Shan almost invariably controlled Szechuan, as well as the south central part of the Ch'in-ling Shan through which the chief travel routes ran. From a study of the rival dynastic territorial holdings[1] during the last two thousand years, one is led to the conclusion that where there occurred a division of political control over the area between Ch'ang-an and Ch'eng-tu, the line of division always occurred somewhere along the trend of the ranges near the water-shed of the Ch'in-ling Shan in the north, never in the Ta-pa Shan. This would seem to indicate that the Ch'in-ling Shan and Ta-pa Shan passes are easier to penetrate from the south to the north than from the north to the south.

Nevertheless, when the Wei Ho Basin and the Szechuan Basin have been unified under the control of one state, the direction of conquest always has been from the north to the southwest. Thus, in the case of political division during the Three Kingdoms period, Shu with its capital at Ch'eng-tu held sway as far north as the northernmost rim of the Ch'in-ling Shan. In similar situations this was true of the

[1] See Hermann, A., Historical and commercial atlas of China, Cambridge, 1935.

Ch'eng-Han period (A.D. 304-347), the period of the Sixteen States of the Eastern Chin dynasty (A.D. 317-420), the period of Division Between North and South (A.D. 420-581), the Five Dynasties Period (A.D. 907-960), and the Southern Sung Period (A.D. 1127-1279).

An exception is the period of the Contending States when Shu (Szechuan around Ch'eng-tu Plain) was still a mere "geographic expression" south of the Ta-pa Shan, and the state of Ch'u extended a wedge up the Han Chiang to control the Han-chung Basin without control of the Szechuan Basin. However, even in this case, control extended to the northern ramparts of the Ch'in-ling Shan.

On the other hand, when the area between Ch'ang-an and Ch'eng-tu has been unified under the control of a single dynasty, this rule has been imposed from the north, as in the cases of the Ch'in (B.C. 255-209), Han (B.C. 206-A.D. 220), Western Chin (A.D. 265-305), the Northern Chou (A.D. 558-581), the Sui (A.D. 581-618), the T'ang (A.D. 618-905), the Sung (A.D. 960-1126), the Yuan (A.D. 1206-1341), the Ming (A.D. 1368-1628), and the Ch'ing (A.D. 1644-1911).

In effect, it would appear that in order to control both the Ch'eng-tu Basin and the Wei Ho Basin, it has been necessary to control the eastern approaches of the upper Han Chiang valley, that is, what is now Hupeh and southern Shensi. In this respect, it seems that the Japanese military strategists committed a grave error in neglecting to drive into the Han-chung Basin, if historical situations indicate any precedent. By such a move, they would have controlled the Ch'in-ling Shan and facilitated entry into the Wei Ho valley to the north and presented a serious threat to the Ch'eng-tu

Plain, Chungking's back door, while at the same time cutting off the supply and communications route not only from Chungking and Ch'eng-tu to the northwest and Ch'ang-an, but also from Russia and Sinkiang Province to Szechuan.

The Ch'in-ling Shan routes and control points.

Since the routes and passes are of importance both strategically and commercially, it is of interest to describe the important ones. They are set forth in the following account.

Between the valley of the Wei Ho and the valley of the upper Han Chiang there are seven routes of travel which at one time or another have been important. Some have been more important and more used than others. Generally, only one has been the official thoroughfare during any one period and was, therefore, the one which was kept in such good repair as to merit more than the name of mountain path.

The one that has held this position during recent centuries is, of course, the road named the Lien-yün Tao or Linking-Cloud Road, running from Pao-chi via Feng and Liu-pa to Pao-ch'eng. Farther west are an old route called the Ch'en-ts'ang Tao and another that follows the valley of the Chia-ling Chiang from Mien to Lueh-yang and thence to Hui and Liang-tang.

East of the Lien-yün Tao is the route known as the Pao-yeh Tao from the names of two valleys, the Pao and the Yeh[1]. This route starts

[1] This is referred to as the Hsieh valley by Chi on page 85 of his Key Economic Areas in Chinese History. The character used in this name has two pronunciations. When applied to the valley in question, it should be pronounced Yeh. See the Tz'u Hai encyclopedia, Section Chi, p. 201.

from Mei on the south bank of the Wei Ho, runs through the Yeh Ku or Yeh Valley and the Ch'in-ling Shan crests to join the Lien-yün Tao just south of Liu-pa. A fourth route eastward of this is known as the Tang-lo Tao, from the names of the two valleys Tang Ku and Lo Ku. Along this route the road starts at Chou-chih on the south bank of the Wei Ho and runs to Fu-p'ing and thence further south to Yang on the north bank of the Han Chiang. A fifth route still farther eastward is the Tzu-wu Tao, probably second in fame to the Pao-yeh Tao. This name, too, is derived from two valleys, the Tzu Ku and the Wu Ku, to the north and south of the Ch'in-ling Shan water divide respectively. The Tzu-wu Tao starts at Ch'ang-an and runs southwestward to cross the Ch'in-ling Shan crests not far from the village of Chiang-k'ou. From here the route goes through Ning-shan and reaches the Han Chiang where the Tzu-wu Ho empties into the Han Chiang. Finally, there is the route which crosses the mountains south of Ch'ang-an to follow the Ch'ien-yu Ho to its junction with the Han Chiang.

According to Li I-chih, a Chinese engineer who investigated the latter route a few years ago,[1] the shortest of the routes between Ch'ang-an and the Han Chiang is this route following the Ch'ien-yu Ho. Of course, any direct route measured from Ch'ang-an reaching the Han Chiang westward of the mouth of the Ch'ien-yu Ho would necessarily be longer, since the distance westward from Ch'ang-an increases, while the north and south distance remains about the same.

This route runs from Ch'ang-an to the village of Yin-chia-hui which is still in the valley of the Wei Ho and at about the same elevation above sea level as Ch'ang-an, i.e., 1,312 feet. From here

[1] P'eng, Hsueh-p'ei, op. cit.

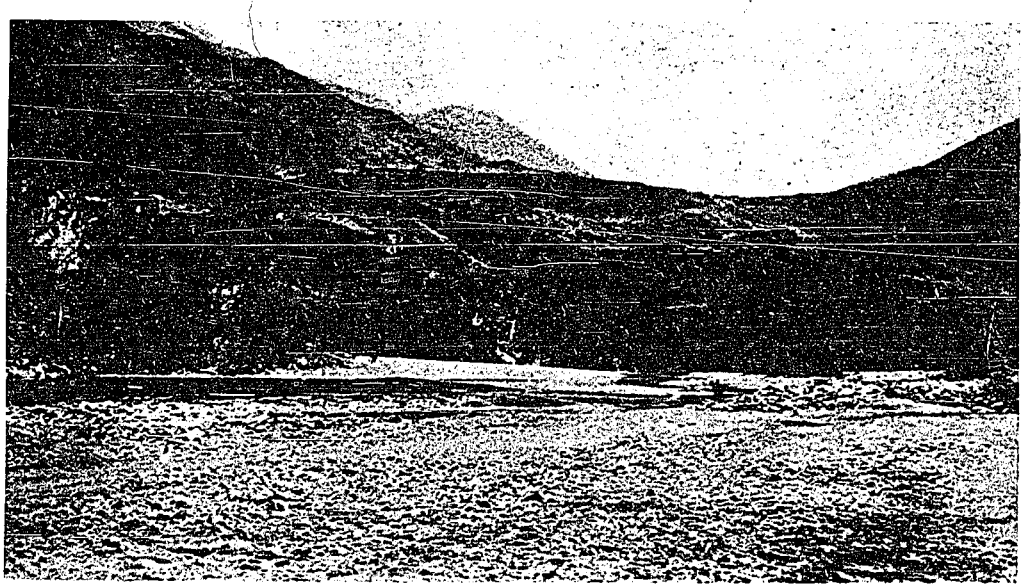


Figure 1. The valley of the Ta-yü Ho in the eastern Ch'in-ling Shan.

Figure 2. A view of the upper Ch'ien-yu Ho valley in the eastern Ch'in-ling Shan.

(Photos by T.K. Huang)

the route proceeds to climb to Pan-miao in the Ta-yü Ho valley. Pan-miao is about 31 miles from Ch'ang-an and at an elevation of 4,854 feet. The slope for the most part is about 15%. The next 10 miles brings one to an elevation of 7,150 feet at Fen-shui-ling (see Plate 15, figure 1). Of these 10 miles, about seven follows the Ta-yü Ho valley (see Plate 10) and rises comparatively gently. The last three miles, however, rise sharply to cross the range, here called the T'ai-hang Shan. The descent on the southern face of the range is extremely steep, but thereafter the rest of the five miles before reaching Lung-t'an is comparatively easy. Eight miles further along the upper reaches of the Ch'ien-yu Ho brings one to Ying-p'an village, where the river is over 60 feet wide. The river flows southward past Tso-shui and Chen-an to join the Han Chiang at the District city of Hsün-yang. The distance from Ying-p'an to Hsün-yang is about 183 miles, thus making the distance between Ch'ang-an and Hsün-yang to be altogether about 241 miles.[1]

The chief control barrier in the past was about 17 miles north of Tso-shui and is known as the Ta-shan-ch'a-kuan. The Shensi Province Gazetteer describes this as the gateway from the north to Tso-shui and the funnel through which travel must pass in going to Ch'ang-an from An-k'ang in the Han Chiang valley. From it radiates small and large ravines, hence the name Ta-shan-ch'a, meaning Great Mountain forks. It once was the site of a sub-district seat, and the parapets of the fort still remain.[2]

1 P'eng Hsueh-p'ei, op. cit.

2 Hsi-hsiu Shan-hsi-sheng T'ung-chih-kao, 1934, ch'uan 55, p. 10.

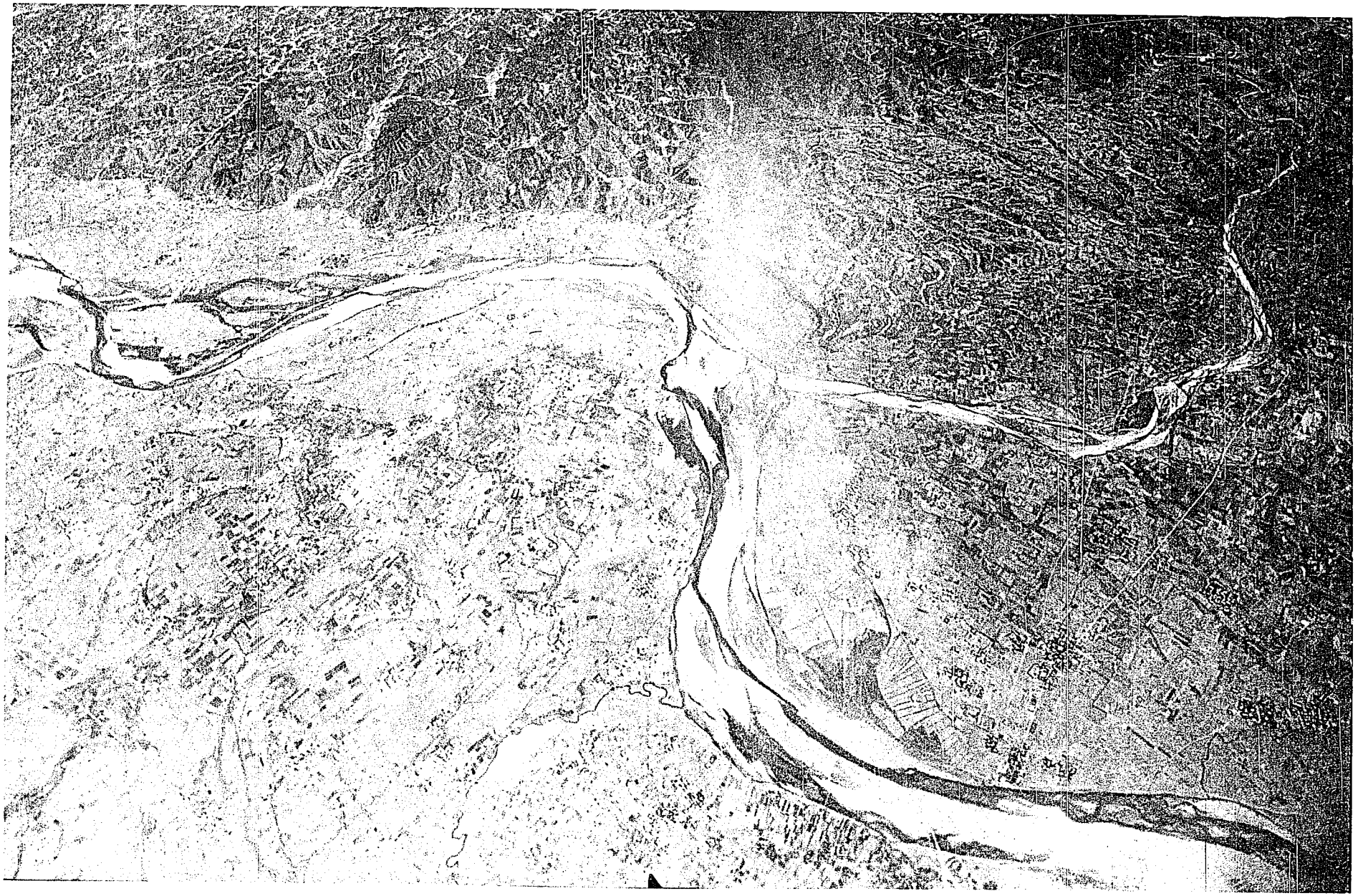


Plate 11. A view southward toward the Ta-pa Shan and the valley of the Lien Shui at upper right. The Han Chiang is crossed by ferries from Han-chung off lower right.

the path is fairly well-kept. It descends the valley of the Hsün Ho, a tributary of the Han Chiang, to reach the town of Tung-chiang-k'ou which has a population of about a thousand families. Picturesque roofed bridges such as are rarely found in North China are crossed by the path shortly after leaving this town. Rising sharply, the path now climbs to the 7,150 feet high pass of Chi-kung-liang. The highest point reached by the route is at the pass of P'ing-ho-liang, some 8690 feet above sea-level.

For the most part, the scenery especially after this high pass is comparable to that seen in Szechuan. Hill-sides are covered wtih trees and flowering shrubs. In the valley floors rice and wheat fields fringed with fruit-trees interpose cultural patchworks into the natural wilderness.

In the southern section of the route, the path runs westward across several north-south spurs of the Ch'in-ling Shan, requiring several climbs and descents of 1500 to 2000 feet elevation before Han-chung is reached. The distance from Ch'ang-an to this city is about 243 miles.

Two passes with barriers on this route in the past listed by the Shensi Province Gazetteer are the Tzu-wu-kuan (also called the Shih-yang-kuan or Stone Sheep Barrier), and the Yao-ling-kuan where a bridge crosses the Ch'ang-an Ho. The former is about 140 miles north of Ning-shan, while the latter is some 13 miles north of this District seat.[1]

No detailed description of the Tang-lo Tao by travelers is

[1] Hsi-hsiu Shan-hsi-sheng T'ung-chih-kao, op. cit., p. 9.

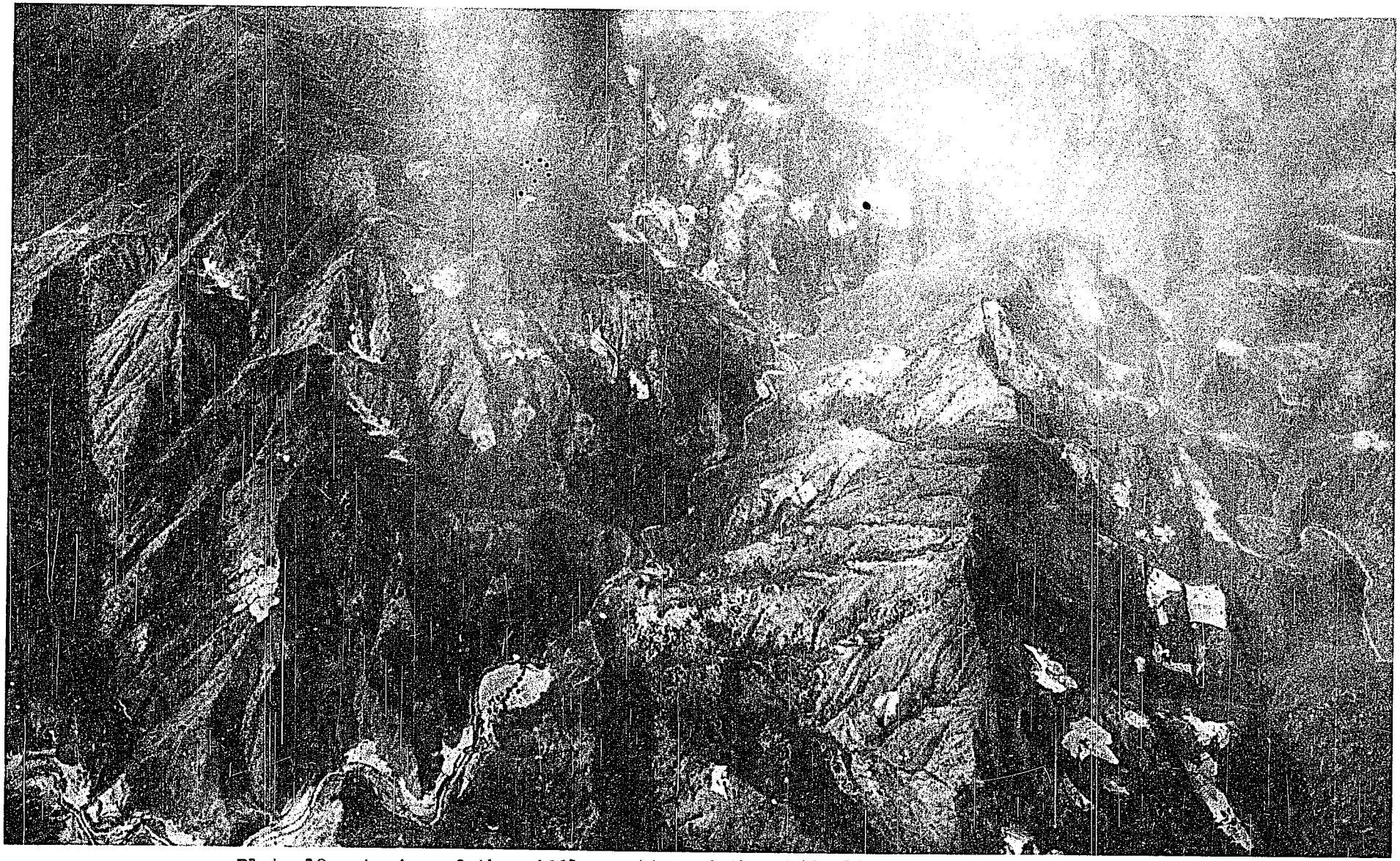


Plate 12. A view of the middle section of the Ch'in-ling Shan near Fu-p'ing, looking toward the T'ai-pai Shan in a northwesterly direction. Cultivation seen on slopes.

available. Apparently the route is in relative dis-use, for the New Atlas of the Republic of China published in 1935 by V.K. Ting does not show the trail northward from Yang as proceeding beyond Fu-p'ing. However, the map of Shensi Province issued by the Wu-ch'ang Ya-hsin Geographical Society in 1937 shows a trail connecting Fu-p'ing with Chou-chih in the Wei Ho valley. The southern part of the region through which this route runs is illustrated in Plate 22, figures 2 and 3. The route is described by the Han-chung Prefectural Gazetteer as running through wild mountains and deep, gloomy valleys, extremely steep and precipitous, not to be compared with the relative ease of the Pao-yeh Tao.[1] Few facts are available concerning this route, and the strategic passes where barriers have been established appear to be restricted chiefly to the vicinity of the Han Chiang valley. The principal ones appear to be Mao-p'ing and T'u-men-kuan, both about 30 miles northeast of the city of Yang.[2] The Land Survey Map of 1933 shows a trail by-passing these points, however.

The most famous of the routes is the Pao-yeh Tao, for long the chief route across the Ch'in-ling Shan. The difficulty of this route is such that it is traditionally described as "tortuous as the guts of a sheep and safe only for birds to traverse".[3]

1 Han-chung Hsi-hsiu Fu-chih, 1815, ch'uan 1, Chan-tao Map.

2 Hsi-hsiu Shan-hsi-sheng T'ung-chih-kao, 1934, ch'uan 56, p. 7.

3 Shih-chieh Ti-li She, Chung-hua Tsui-hsin Hsing-shih-t'u, Shanghai, 1938, p. 19.

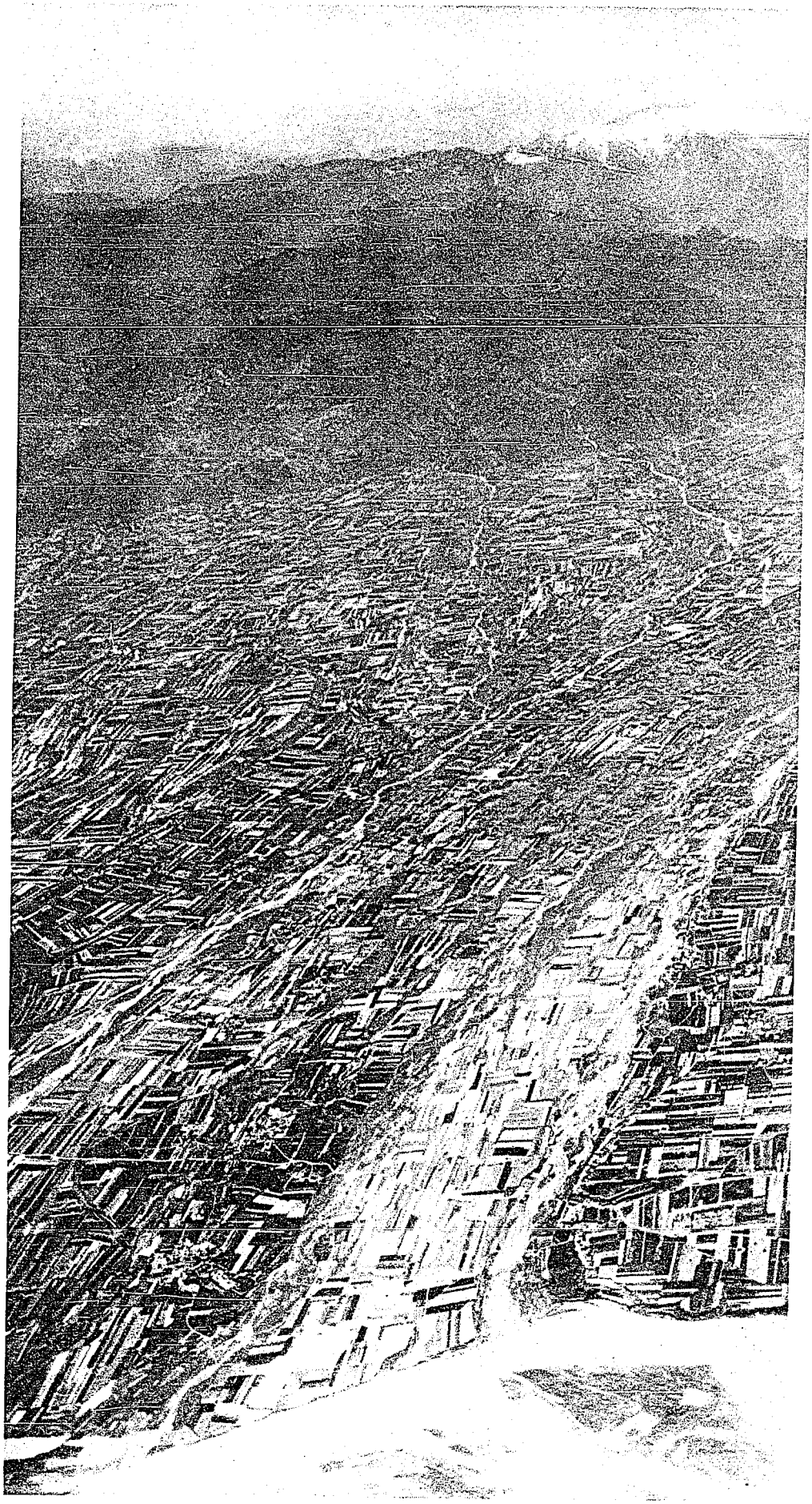


Plate 13. A view looking south up the Yeh Valley from a point above Mei. The Wei Ho in foreground.

In 1873 the Abbé Armand made a trip over this route, the account of which was found useful by the Baron von Richthofen. Traveling from Mei on the south bank of the Wei Ho, the Abbé went southwestward about 10 miles and then about an equal distance southward up the valley of the Yeh-ku Ho to Ying-ko-tsui which stands at an altitude of 2,755 feet. Another 10 miles southwestward brought him to the village of Lin-t'ou-miao at an altitude of 4,264 feet. This amounted to a day's trip. On the second day there was a climb of about an hour to a pass 6,232 feet high where he looked eastward along the long white slopes of the T'ai-pai Shan. From this pass he followed down a stream for about 17 miles to the village of Tsui-t'ou. This is an important village, for another road from the town of Kuo-chen on the Wei Ho about half-way between Mei and Pao-chi runs directly southward to join at this place the road traveled by Armand. Four days of travel further southwestward brought him to the village of Nan-ho, a short distance from the junction of this road with the Lien-yün Tao running south from Liu-pa. From this point the road follows down the Pao Shui valley to Pao-ch'eng.[1]

Some confusion exists in the Chinese sources as to the Yeh Ku or Yeh Valley from which part of the name of the route derives. The Han-chung Prefectural Gazetteer of 1815 states that the Yeh Ku is in Mei District. At the same time it calls the village of Hsiao-ho-k'ou which is in Ch'eng-ku District the entrance to the Yeh Ku,[2] whereas one must go through several valleys before one reaches the Yeh Ku in Mei District in traveling from Hsiao-ho-k'ou. The Liu-pa Sub-District Gazetteer of 1842 states that Chu-ko Liang entered the Yeh Ku at Hsi-chiang-k'ou northeast of Liu-pa, and it goes on to describe

1 Von Richthofen, China, op. cit., p. 628-629.

2 Han-chung hsi-hsiu Fu-chih, op. cit.

the valley as follows: 'The upper part of the Pao Shui is called the Hei-lung Chiang or the Hei Shui. The Hei Shui flows in the Yeh Ku. At Hsi-chiang-k'ou the Yeh Ku branches into two forks. One fork runs southeastward, entering Ch'eng-ku District to reach Han-chung. The other runs due south into Pao-ch'eng District and leads to Szechuan.'[1]

These two sources do not disagree, since they are both evidently talking about lower extentions of the Hei-lung Chiang valley. It is apparent, however, that the real Yeh Ku is north of the Ch'in-ling Shan water divide, since the northern mouth of the Yeh Ku is admitted by all sources to open to the Wei Ho through its tributary, the Yeh-ku Shui (see Plate 13). What have been called parts of the Yeh Ku above are in reality extensions of the Pao Ku, i.e., tributary valleys of the Pao Valley.

The confusion has resulted from the common usage through centuries of calling the whole series of valleys through which the route runs by the name Pao-yeh Ku, making the two appear as one long valley. Thus, the Pao-ch'eng District Gazetteer of 1831 explains of the Pao-yeh Ku: 'The northern mouth of this valley is called Yeh, and the southern mouth is called Pao. The valley is 470 li in length. They are really two valleys: the Pao Ku is part of Pao-ch'eng Hsien, while the Yeh Ku is in present-day Mei District which in Han times was Wu-kung District.'[2]

1 Liu-pa T'ing Chih, 1842, ch'uan 4, p. 14-19.

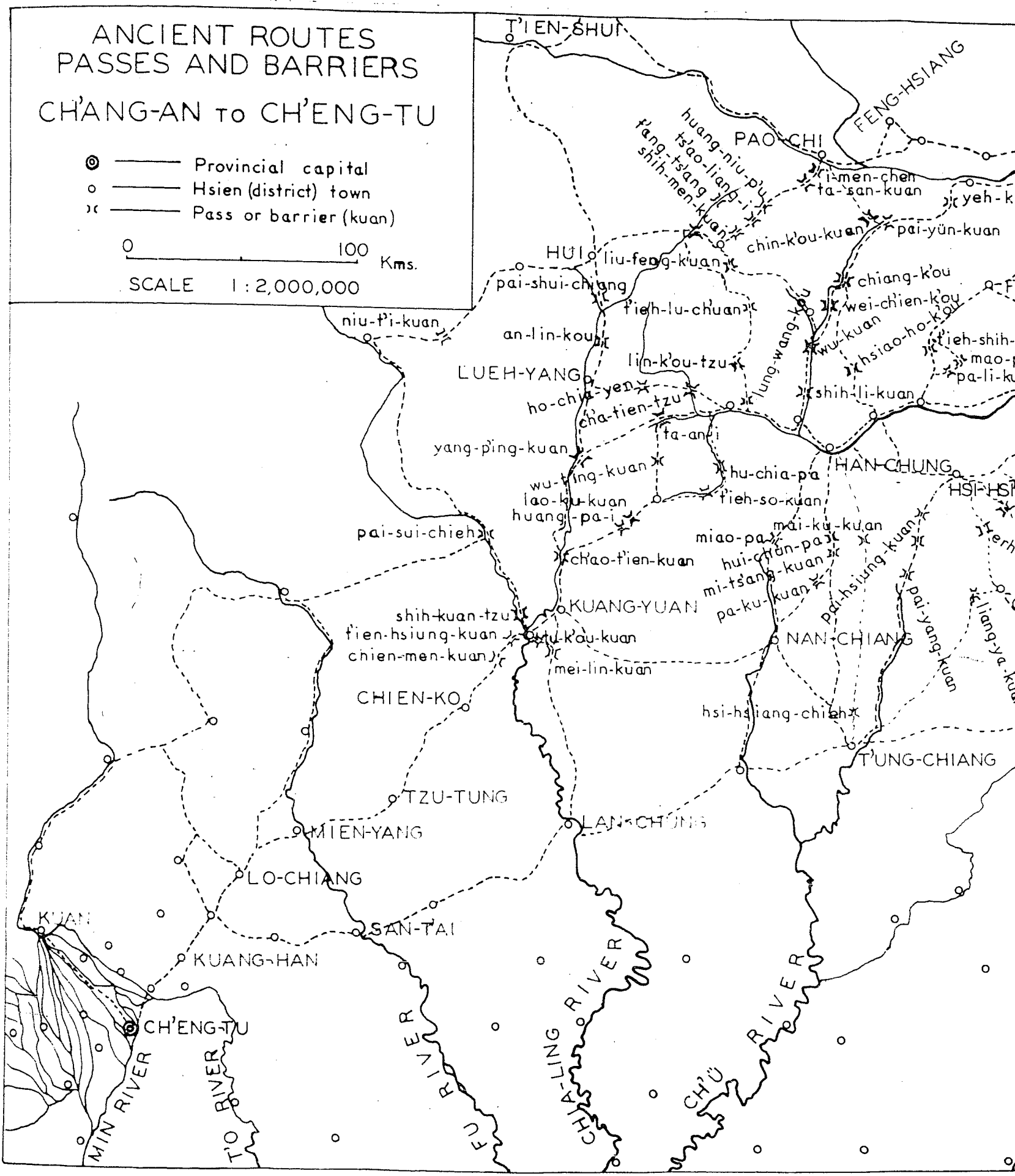
2 Pao-ch'eng Hsien Chih, 1831, ch'uan 8, p. 1.

Some careless references also are made in Chinese works, including works of recent date, to the route traversed by the modern road as the Pao-yeh Tao. This ignorant and careless usage apparently existed prior to the middle of the last century. The Liu-pa Sub-District Gazetteer of 1842 states: 'In the north (the present route) is far from the Yeh Ku. Although it is called the Pao-yeh Tao, it really doesn't come through the Pao-yeh valleys. Not only is it not the route of the Han dynasty trestle road (the Pao-yeh Tao), it also is not the route of the Northern Wei or of the Western Wei trestle roads'. It criticizes the Han-chung Prefectural Gazetteer for presenting a map which makes the ancient Pao-yeh Tao out to be the present Lien-yün road route.[1]

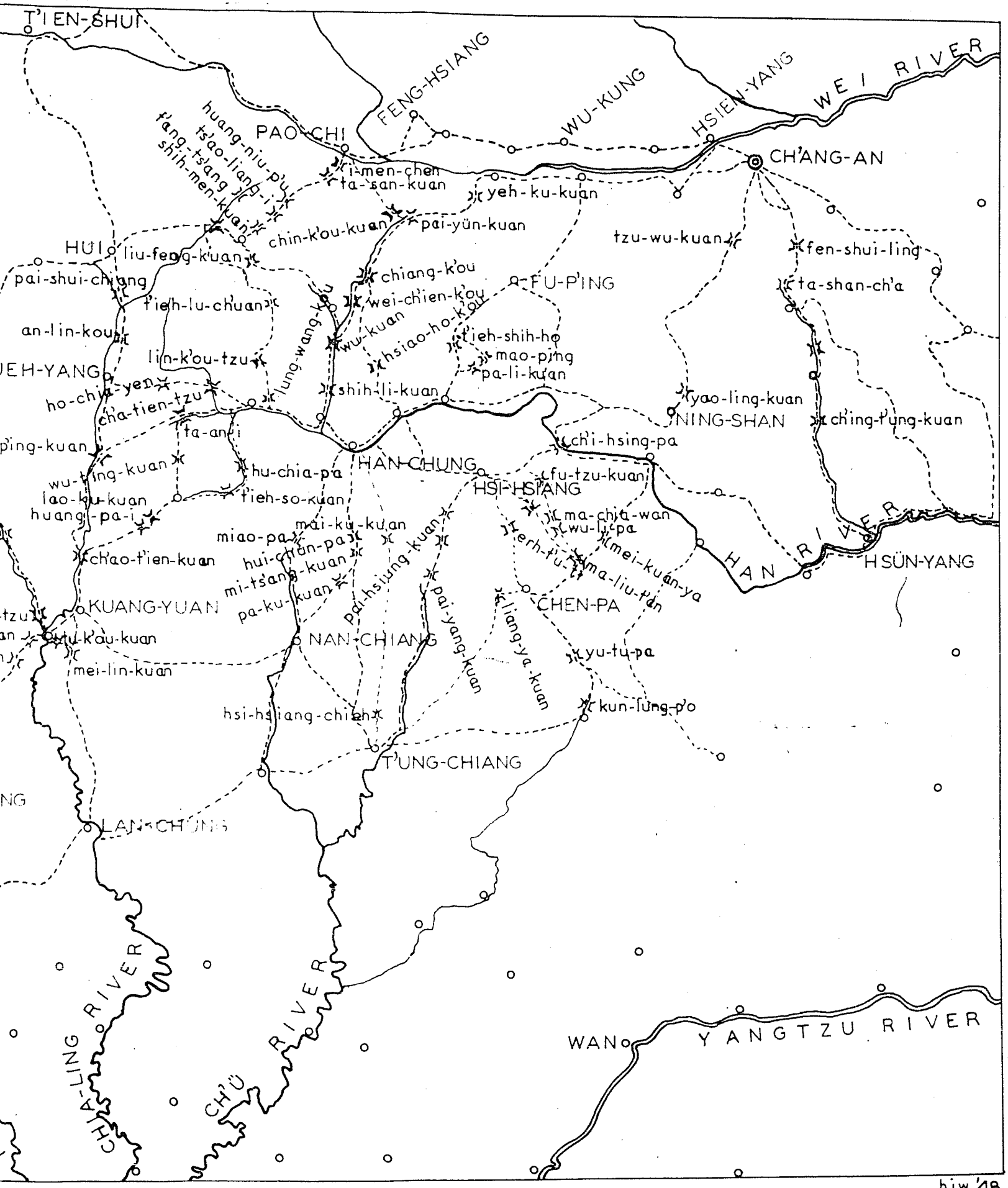
Further clarification is had in the description of the Yeh-ku Shui in the Ch'i-shan District Gazetteer of 1935: 'The Yeh-ku Shui also is called the Yeh Shui, the Wu-kung Shui, the T'ao-Ch'uan, and the Shih-t'ou Ho. Its source is in the Ya-ling Shan. It flows through the northeast part of the T'ao-ch'uan township and flows as the Yeh-ku Shui. Then it goes eastward, joining with the rivers of the San-ts'ai and Pai-yün gorges from the T'ai-pai Shan. Its volume is large here, and there are fish in the stream. It flows past the Yeh-ku-kuan (Yeh Valley Barrier) and bends westward to traverse the foot of the eastern slope of the Wu-chang-yuan, thereafter going northward to join the Wei Ho. During the reign of Wan-li of the Ming (1573-1620), the prefectural magistrate of Feng District by the name of Ch'en Chin came to the mouth of the Yeh Ku. He found the valley mouth was broad and ribboned with irrigation canals, so that the fields were rich and prosperous. He was so impressed that he caused a commemorative tablet to be incised and erected.'[2]

1 Liu-pa T'ing Chih, 1842, ch'uan 4, p. 14-19

2 Ch'i-shan Hsien Chih, 1935, ch'uan 1, p. 25.


ANCIENT ROUTES
PASSES AND BARRIERS
CH'ANG-AN TO CH'ENG-TU
Provincial capital
Hsien (district) town
Pass or barrier (kuan)
0
100
Kms.
SCALE 1 : 2,000,000
T'IEN-SHUI
FENG-HSIANG
PAO-CHI
huang-niu-p'u
t'ang-tsang
shih-men-kuan
tsao-liang-i
i-men-chen
ta-san-kuan
yeh-k
chin-k'ou-kuan
pai-yün-kuan
HUI
liu-feng-kuan
pai-shui-chiang
chiang-k'ou
wei-ch'ien-k'ou
t'ieh-lu-ch'uan
niu-t'i-kuan
an-lin-kou
wu-kuan
lung-wang-k'ou
hsiao-ho-k'ou
t'ieh-shih-
mao-p
pa-li-ku
lin-k'ou-tzu
LUEH-YANG
ho-chia-yen
cha-tien-tzu
shih-li-kuan
ta-an-i
yang-p'ing-kuan
wu-t'ing-kuan
hu-chia-p'a
HAN-CHUNG
HSI-HSI
lao-ku-kuan
t'ieh-so-kuan
huang-pa-i
mai-ku-kuan
pai-sui-chieh
miao-pa
hui-chien-pa
ch'ao-t'ien-kuan
mi-ts'ang-kuan
pa-ku-kuan
Pai-hsiung-kuan
pai-yang-kuan
liang-ya-kua
shih-kuan-tzu
KUANG-YUAN
t'ien-hsiung-kuan
chien-men-kuan
ku-k'ou-kuan
NAN-CHIANG
mei-lin-kuan
CHIEN-KO
hsi-hsiang-chieh
T'UNG-CHIANG
TZU-TUNG
MIEN-YANG
LAN-CH'UNG
LO-CHIANG
KUAN
SAN-T'AI
KUANG-HAN
CH'ENG-TU
MIN RIVER
T'O RIVER
FU RIVER
CHIA-LING RIVER
CH'U RIVER

MAP 4


T'IEN-SHUI
FENG-HSIANG
WU-KUNG
HSIEN-YANG
WEI RIVER
PAO-CHI
huang-niu-p'u
t'ang-ts'ang
ts'ao-liang-i
shih-men-kuan
i-men-chen
ta-san-kuan
CH'ANG-AN
yeh-ku-kuan
chin-k'ou-kuan
pai-yün-kuan
tzu-wu-kuan
fen-shui-ling
HUI
liu-feng-k'uan
pai-shui-chiang
chiang-k'ou
wei-ch'ien-k'ou
FU-P'ING
ta-shan-ch'a
t'ieh-lu-chuan
an-lin-kou
lung-wang-ku
wu-kuan
hsiao-ho-k'ou
t'ieh-shih-ho
mao-p'ing
pa-li-kuan
lin-k'ou-tzu
EH-YANG
ho-chia-yen
cha-tien-tzu
shih-li-kuan
yao-ling-kuan
NING-SHAN
ch'ing-t'ung-kuan
ta-an-i
ch'i-hsing-pa
ping-kuan
wu-t'ing-kuan
hu-chia-p'a
HAN-CHUNG
fu-tzu-kuan
HSI-HSIANG
lao-ku-kuan
t'ieh-so-kuan
huang-pa-i
ma-chia-wan
wu-li-p'a
mei-kuan-ya
HAN RIVER
HSÜN-YANG
miao-pa
mai-ku-kuan
hui-chuan-pa
mi-ts'ang-kuan
pa-ku-kuan
ch'ao-t'ien-kuan
Pai-hsiung-kuan
erh-tu-t'ai
ma-liu-t'an
KUANG-YUAN
CHEN-PA
yu-t'u-kuan
NAN-CHIANG
pai-yang-kuan
liang-ya-kuan
yu-tu-pa
mei-lin-kuan
hsi-hsiang-chieh
kun-lung-p'o
T'UNG-CHIANG
LAN-CH'ÜNG
CHIA-LING RIVER
CH'Ü RIVER
WAN
YANGTZU RIVER

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MAP 4

The Pao Ku section of the Pao-yeh Tao is properly the lower section along the Pao Shui from its mouth at Pao-ch'eng to Wu-kuan where the Lien-yün Tao branches to the northwest, plus the upper portion of this river which above here is called the Hei-lung Chiang or Hei Shui, and which reaches from Wu-kuan northward to San-chiao-ch'eng. The latter is a village with an ancient history whose name indicates that three rivers join here to form the main stream of the Hei Shui. The easternmost branch is the one followed by the route. This in turn branches at Chiang-k'ou village, another name for Hsi-chiang-k'ou or West Chiang-k'ou. Here the east-west valley is left for a north-south valley running northward of Chiang-k'ou to the Ch'in-ling Shan water-divide near Tsui-t'ou mentioned in the Abbé Armand's trip. The stream in this valley is called the T'ai-pai Ho.[1]

In connection with the Pao-yeh Tao, one must also mention the related route termed the Yeh-ku Tao, which refers to the route mentioned in the Liu-pa Sub-District Gazetteer as running from the Yeh Ku in the north past Hsi-chiang-k'ou and southeastward to reach Han-chung via Ch'eng-ku. This route avoided entering the Pao Ku via Pao-ch'eng by going northwestward from Ch'eng-ku and then northward to Hsiao-ho-k'ou and thence by a northerly course to Chiang-k'ou village. It is considered a short-cut route from Ch'eng-ku.

A number of strategic passes or control points are located along the Yeh Ku Tao and the Pao-yeh Tao. In Ch'eng-ku District the village of Hsiao-ho-k'ou, 47 miles north of the District city, is considered a control point, for two routes lead northeastward

[1] Tz'u-hai, Shanghai, 1937, Section Shan, p. 210.

and northwestward respectively from this village. In Pao-ch'eng District, the defile having the name of Lien-yün-chan is considered strategically important. It is about 30 miles north of Pao-ch'eng. In Liu-pa District the village and barrier of Wu-kuan stands 15 miles southeast of Liu-pa. Chiang-k'ou at the entrance of the valley of the T'ai-pai-Ho is another control point, about 30 miles northeast of Liu-pa, while the village of Wei-ch'ien-k'ou, some 23 miles east of Liu-pa, also is important strategically.[1] Near the Ch'in-ling Shan water-divide are the former barrier posts of Pai-yün-kuan, Chin-k'ou-kuan, and, finally, Yeh-ku-kuan which is on the north side of the water-divide.

The Ch'en-ts'ang Tao is another route about which there is some confusion in the writings of different Chinese authors. The name Ch'en-ts'ang is derived from the mountains of that name south of Pao-chi.[2] It also is the name of an ancient town located a short distance eastward of Pao-chi. This route was used in various attempts to take this town by southern forces based in the Han-chung Basin in olden times. The Shensi Province Gazetteer of 1934 describes the Ch'en-ts'ang Tao as 'the thoroughfare along the Hei Ho that crosses the Fen-shui-ling (water-divide) at Ta-shih-yai (also called Ta-shih-t'ou). The two banks of the river are wild wooded areas through which the road runs for some 267 miles.'[3]

1 Hsi-hsiu Shan-hsi-sheng T'ung-chih-kao, op. cit., ch'uan 55, p. 3, and ch'uan 56, p. 3-4.

2 Tz'u-hai, op. cit., Section Shu, p. 135.

3 Hsi-hsiu Shan-hsi-sheng, etc., op. cit, ch'uan 55, p. 4.

The Feng District Gazetteer of 1892 states that: 'The ancient Ch'en-ts'ang Tao starts at San-p'ing, 100 li (33 miles) southwest of the city, and ends at Pai-chang-po (Thousand-feet Slope).' Pai-chang-po is at Lin-k'ou-tzu village. The southern end of the road is at Mien, west of Han-chung. From Mien the road runs a short distance east, then almost due north for 10-15 miles, thereafter swinging northwestward to T'ieh-lu-ch'uan, a cross-roads point where a path from Miao-t'ai-tzu on the Lien-yün Tao joins the Ch'en-ts'ang Tao. The latter proceeds northwestward to reach the presently important town of Shuang-shih-p'u west of Feng. Thereafter, the route proceeds to Feng and thence to Pao-chi.

The confusion is shown in the statement by P'eng Hsueh-p'ei in his Summary of National Reconstruction published in 1944, in which he describes the Lien-yün Tao as the Ch'en-ts'ang Tao.[1] The confusion is further seen in the statement in the Han-chung Prefectural Gazetteer of 1815[2] which describes the route of Han Kao-tsu who in attacking the Ch'in at Ch'en-ts'ang is said to have started from Mien and proceeded via Lueh-yang, Liang-tang, and Feng. The story is repeated in the Feng District Gazetteer of 1892.[3] On the other hand, the Shensi Province Gazetteer of 1934 indicates that the king of the Han traveled via Lin-k'ou-tzu on the Hei Ho route.[4] Thus, the king of the Han is said by one source to have

1 P'eng, Hsueh-p'ei, op. cit., p. 90.

2 Han-chung hsi-hsiu Fu-chih, op. cit.

3 Feng Hsien Chih, 1892, ch'uan 1, p. 15-20.

4 Hsi-hsiu Shan-hsi-sheng, etc., op. cit., ch'uan 56, p. 5.

traveled by one route, while another source describes his travel by a different route. The usual reference states that he traveled by the Ch'en-ts'ang Tao, so that either route might be termed the Ch'en-ts'ang. The difficulty is that the term comes from the name of some mountains south of Pao-chi, and that both routes include that section.

Correctly applied, however, the term Ch'en-ts'ang probably refers historically to the route northward from Mien running up the Hei Ho to Shuang-shih-p'u. The northern section of the old Ch'en-tsang Tao, that between Feng and Pao-chi, is a section of road common to three routes: the Pai-shui-Chiang route from Lueh-yang, the Ch'en-ts'ang Tao from Mien, and the Lien-yün Tao.

The strategic passes and barriers on the upper section of the Ch'en-ts'ang Tao will be described in connection with the Lien-yün Tao. In the southern sections of the Ch'en-ts'ang Tao there are several important control points. Lung-wang-kou, one of these, is 8 miles northeast of the town of Mien. It is an extremely difficult and dangerous section of the mountain road. One must "spur the horse and drive oneself" in order to travel this path. Another important point is Lin-k'ou-tzu, 50 miles north of the District seat. This is the site of the old Pai-chang Barrier. Farther northeastward along this route is T'ieh-lu-ch'uan within Feng District and 65 miles south of Feng. It controls the cross-road leading from the Lien-yün Tao. A fort was constructed here at the beginning of the Ch'ing dynasty (1644).[1]

Passes and control barriers along the route following the

[1] Hsi-hsiu Shan-hsi-sheng, etc, op. cit., ch'uan 55, p. 4.

Pai-shui Chiang and starting at Mien include Ch'a-tien-tzu on the Chü-shui Ho (also called Chü Ho). It is the site of the old Chü-shui Garrison mentioned in the commentary of the Rivers Classic. To its south it controls Ch'i-li-kou, while to the west it links up with Hsia-k'ou-i. It is the important and strategic pass between Mien and Lueh-yang. In A.D. 373 Yang Liang, the Governor of Liang Chou (present Han-chung), sent his son with a force to attack the Ch'in along this route. The defeat and death of his son at the hands of the Ch'in general, Yang An, brought about the abandonment of barrier defenses here by Yang Liang.[1]

West of Hsia-k'ou-i is another important point, Ho-chia-yen, which is about 20 miles east of Lueh-yang and which complements Ch'a-tien-tzu as a guard point along this section of the route. An-lin-kou, 20 miles north of Lueh-yang, is situated at the edge of a stream with the mountains pushing up close to it, so that this occupies a somewhat restricted position. Pai-shui-chiang, an important village which is a transshipment point between river traffic and land transport, is 40 miles north of Lueh-yang. The old road here is precipitous and dangerous. Traces of the old trestle road are to be seen in the cliff-side.[2]

In the area between the Ch'en-ts'ang Tao and the Pai-shui Chiang route are smaller paths which on occasion might be of importance. Chin-ch'ih-yuan is a village in this area 40 miles[3] to the northeast

1 Ibid, ch'uan 56, p. 5

2 Ibid, p. 7

3 The frequent use of rounded figures for distances, such as 20 miles, 40 miles, and the like, indicate not only the lack of and indifference to geographic exactitude in Chinese measurement, but also to the somewhat equal spacing of courier post settlements.

of Lueh-yang. It is in a deep gap which is easily obstructed. Mountaineers entering the wild forested areas travel via this point. Still farther northeast is Chan-pa-lin, 73 miles by trail from Lueh-yang. The place 'lends itself to concealment and defense' and connects by paths with Hui, Liang-tang, Feng, and Liu-pa.[1] Finally, Hsien-jen-kuan, a former barrier post, is 40 miles southwest of Feng at a point where the District boundary meets that of Hui District.[2]

The route that has been the principal and official one during recent centuries is that which runs from Pao-ch'eng in the Han Chiang valley northward via Liu-pa and Feng to Pao-chi in the Wei Ho valley. This has been erroneously called both by the name of the Ch'en-ts'an Tao and the name of the Pao-yeh Tao, because the upper section utilizes a part of the Ch'en-ts'ang Tao, while the lower section runs along the Pao Ku. Its proper designation, however, is the Lien-yün Tao.[3] The term Lien-yün means "linking with the clouds". It also is called the Pei Chan or Northern Trestle Road, as contrasted with the Nan Chan or Southern Trestle Road, which is the Road of the Golden Oxen.[4]

Certainly, this route is the best known and most described, and we have records of travel over this route by such men as Marco Polo, Father Martini, and Ferdinand von Richthofen, as well as those of

1 Ibid.

2 Feng Hsien Chih, 1892, ch'uan 1, p. 23.

3 Ibid, p. 15-20.

4 Ibid.

travelerd over the road in recent years since the construction of a motor road along the ancient route. In fact, the Library of Congress in Washington D.C. has in its collection a rare old scroll map 60 feet long which protrays in water color and in the nature of a strip map the route from Pao-chi to Pao-ch'eng, as well as the route through the Ta-pa Shan. It depicts in detail the district cities, villages, garrisons, temples, courier stations and hostelries, rivers, rapids, cliffs and caves that the traveler encounters on his journey. That this was probably used by some official traveler in an actual trip is indicated by comments written onto the map at intervals for added information. For example, typical comments are: "refreshments obtainable here"; "overnight accommodations here".

Reproductions of two sections of this road map, about two-thirds actual size is shown in Plates 16 and 32. No date has been ascertained for this scroll map, although it can be proven that it was made sometime during the Manchu dynasty. It probably dates prior to 1862, for the name of the barrier Fei-ch'iu-kuan which is used on this road map was changed to Liu-feng-kuan in 1862.[1]

In January of 1872 the German geographer and geologist, Baron von Richthofen, traveled across the Ch'in-ling Shan and Ta-pa Shan via the Lien-yün Tao, going southward from the town of Kuo-chen near Pao-chi. His description remains the most complete and careful account of the route published and is to be found in his monumental study, China.[2]

The Lien-yün Tao follows a mountain valley upward along the left bank of a tumultuous brook, the Ch'ing-chien Ho. (See Plate 14). It is only as it nears the pass near Ch'ien-ch'a-p'ing that the path

1 Hsin-hsiu Feng Hsien Chih, 1892, ch'uan 1, p. 21-23

2 Von Richthofen, China, op. cit., p. 563-576.

Plate 14. A view from above Pao-chi looking toward the Ta-san-kuan. I-men village is seen in left foreground, with the motor road leading past it up the valley of the Ch'ing-chien Ho.

Figure 1. The steep path up to the Fen-shui-ling pass on the Ch'ien-yu Ho route in the eastern Ch'in-ling Shan.

Plate 15

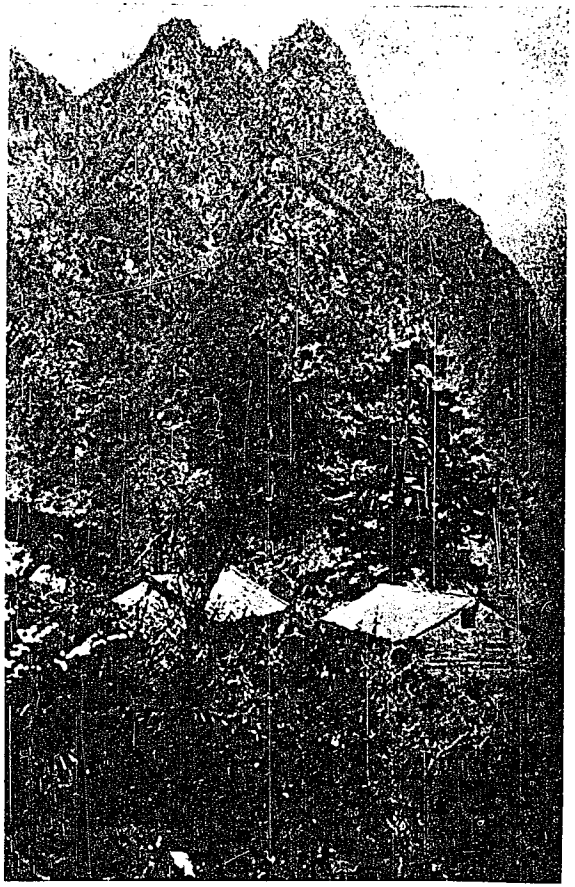


Figure 2. A view of the sharp rise of the northern face of the Ch'in-ling Shan from the hamlet of Hsia-pan-p'o-p'u in Pao-chi District.

(Photos by T.K. Huang)

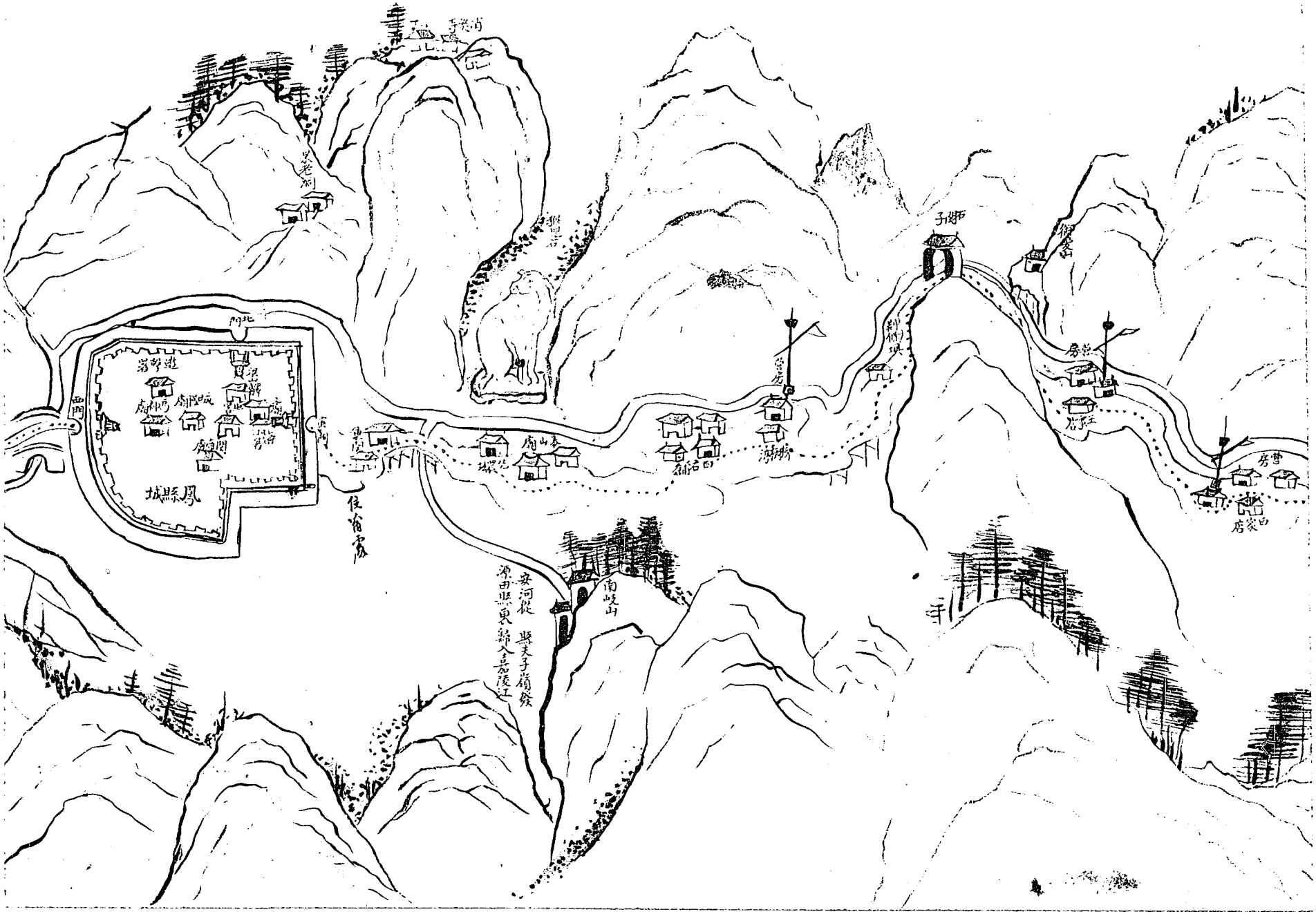


Plate 16. A copy of a section of the Lien-yün Trestle Road map scroll at the Library of Congress. The walled enclosure at left represents the city of Feng.

becomes really steep. Surprisingly, within these few miles of the Wei Ho valley one arrives at the water-divide of the mighty Ch'in-ling Shan at the low altitude of 3,500 feet above I-men-chen and about 6,000 feet above sea-level. One is further astonished upon surmounting the pass to see beyond it not the wild and tremendous mountain-forms with which the mind is impressed in descriptions of the Ch'in-ling Shan. Instead, milder mountain-forms stretch away southward, through which a gently inclined, inhabited valley runs at a small drop in elevation from the pass. The 600 feet drop brings one to the rather large village of Tung-ho-ch'iao, so-called from the Tung-Ho, a stream followed by the road to Feng. The mountain slopes are mantled with a thick coat of loam, and upwards to 1200 feet above the floor of the ravine farmers plant potatoes, corn and buckwheat. Along the old road one sees evidences of the care with which the tracing of a good road was undertaken, as well as proof of the ingenuity which was required in overcoming terrain difficulties. The remains of once strongly constructed bridges also are to be seen. However, for the most part the pavement of stone slabs had either disappeared or was disarranged and upturned to such an extent as to constitute more of a hindrance than a help to travelers and pack-animals.

The flourishing forests described by Marco Polo almost all have disappeared, and what remains appears to be withdrawn to some distance from the vicinity of the route. Nevertheless, the chief traffic along this section of the route in 1872 still remained in the transport of wood and charcoal to the lowlands of the Wei Ho.

Plate 17. A copy of the Trestle-road map in Liu-pa Sub-District from the Liu-pa T'ing Chih of 1842.

Travel in winter through the Ch'in-ling Shan may meet with uncomfortable temperatures. Occasional light snows accompanied by strong northwest winds with freezing temperatures bring much pedestrian and pack-animal traffic to temporary halts.

Along the valley of the Tung Ho the width of the valley bottom narrows to just enough room for scattered villages and strips of narrow alluvium. These strips seldom exceed a third of a mile in width. The fields, however, climb the slopes in unterraced patches, differing from the terraced dry fields of the loess-land and here made possible by the presence of loam surface-soil stretching southward of the water-divide. Occasional deposits of loess with its perpendicular drops still occur, however. For the most part the inhabitants obtained their marginal subsistence from trade rather than from the tilling of the meager soil.

The road throughout runs along the left bank of the Tung Ho in order to avoid bridging large chasms. But to do so involves overcoming some significant obstacles. At many places ridges intrude, rising almost vertically out of the stream and flanked by side-ravines. At such places the road must seek the lowest way over the ridge or, if no feasible low spot is available, it must negotiate around the cliffs. Since for long stretches the road has therefore been hewn out of the tough horneblend rock, one can imagine the enormous amount of labor that went into this task in an age and technology lacking in explosives.

In the last stretch of the road following the Tung Ho in a SSW direction from Ts'ao-liang-i to Feng, the character of the landscape changes to that which is typical of the Ch'in-ling Shan crossing ganerally. For the farther one proceeds down the long south-running valleys, the wilder, narrower and steeper-walled the ravines become.

Paradoxically, the great and lofty mountains of the water-divide are relatively smooth and rounded, whereas the lesser mountains southward with perhaps not more than 7,000 to 8,000 feet elevation above sea-level become more sheer and rugged. In part increasing the steepness, and yet lending uniformity, is the recurrence in this section of loess deposits which fill most of the slopes between the rocky projections. In places, however, such as between Pai-chia-tien and Pai-shih-p'u, the rocks protrude from both sides to form such narrow clefts that there is no room left for loess. Shortly before Feng is reached, the horizontally stratified limestone shows severe decomposition and the erosion of numerous caverns.

In order to negotiate such terrain, the old road has had to rest almost entirely on trestles built on piling rammed at an angle into holes bored into the rocky cliffs. Inasmuch as maintenance has not been kept up especially in such difficult places, the condition of the old road is extremely hazardous.

Feng is a small walled city which has been constructed to command the junction of several important routes, so that it has been the site of a lively local small-trade. At this city one must abandon the valley of the Tung Ho which begins to run through a rugged defile. Instead, one must make a high climb to cross from the water-shed of the Chia-ling Chiang to the water-shed of the Han Chiang. After hardly six miles of climb the road leads over Nan-t'ien-men (the South Gate of Heaven), some 2,000 feet above Feng. This introduces one to a further climb of about 200 feet to reach the Feng-ling (pass) after another mile or so. All around rise peaks to heights of 1,000 feet or more above the pass, that is, from 8,000 to 9,000 feet above sea-level. Not far southward rises a second range, the Wu-tu Shan, parallel to the first and running eastward as far as the eye can reach. This

also must be crossed by the road which utilizes a rugged, steeply dug out ravine called the San-ch'a-kou.

From San-ch'a-i the road runs southwestward through a valley coming in from the northeast until the barrier of Liu-feng-kuan is reached. Here the road makes a bend and runs southeastward up a valley to the cluster of inns called Nan-hsing. The latter place stands between rather steep slopes rising to heights of 1,500 feet above the village. At Lien-yün-ssu, the monastery bearing the name of this road route, one has a fine view backward to the north. Southward one views a chain of peaks stretching for a long distance east and west and carrying the name Tzu-pai-Shan. Instead of having to surmount this chain, however, the road crosses the pass Ch'ai-kuan-ling at the source of the north branch of the Yeh-yang Ho and then sinks into a ravine that breaks into a chasm farther down. Romantically located in this ravine amidst mighty tree growths and rocky extrusions stands the temple of Miao-t'ai-tzu.[1]

Running past Miao-t'ai-tzu is the pretty brook known as the Ch'ing-yang Ho which cuts through the Tzu-pai Shan to reach the Hei-lung Chiang at the village of T'ieh-fo-tien. From the heights of the Tzu-pai Shan, the sea of peaks southward appears of a uniform

[1] Von Richthofen states in a note that he was told that the name of the temple is Liu-hou-miao, while his Chinese map gave that name to a temple farther eastward in the mountain and termed the temple at this location Miao-t'ai-tzu. Actually, the Chinese maps designate the settlement around the temple Miao-t'ai-tzu, While the temple itself is designated Liu-hou-tz'u. It is a temple operated by Taoists and dedicated to Chang Liang of the Han dynasty, a notable advisor of the first Han emperor.

height. They rise in an endlessly rugged mountainland which has been cut up badly by erosion. The nature of the rock is such that deep, narrow trenches have been incised with no wide valley floors, and there is scarcely room enough for the creek. The road winds along the slopes and often must climb over rocky protuberances. Here and there where the slope becomes sufficiently gentle perch small hamlets on the mountain loam, comprising only of a single row of houses along the side of the road. At rare places small fields have been carved with difficulty on the slopes.

Liu-pa is a small garrison fort with a fine surrounding wall but with its few inhabitants confined chiefly to a cluster of houses outside one gate. Plate 18 gives a fine view of the wall as one approaches by the motor road. Liu-pa is situated in the only part of the valley in a ten-mile stretch which widens to permit such a settlement. Great blocks of granite rock fill narrow sections of the valley, lending a romantic aspect to the scenery, but one lacking in the forest covering which often is associated with similar situations in Europe and North America. For an illustration of the windings of the road in Liu-pa District, see Plate 17, a copy of a map from the Liu-pa Sub-District Gazetteer of 1842.

At Wu-kuan several great valleys unite. The Ch'ing-yang Ho is joined by another stream of equal size from the west to open into a respectable river flowing from the northeast having the name T'ai-pai Ho. The situation is noteworthy in many ways. Up to now only small footpaths have led off the main route. Here, however, several pack-trails, like the rivers, unite. Those that lead up the main valley toward the northeast later divide again, so that one road follows

Plate 18. The fortress walls of the "ghost town" of Liu-pa on the Lien-yün route. The motor road is shown leading past the town walls flanked by narrow strips of cultivated fields.

(Photo by Sydney Franklin)

the T'ai-pai Ho to round the western slopes of the T'ai-pai Shan. This is the route of the Pao-yeh Tao. Another road leads over to the Ch'uan-ch'i Ho, follows the same to Fu-p'ing and then leads across one of the Ch'in-ling passes, in this last section following the Tang-lo Tao. To a westerly direction only a footpath leads off, on which a person can reach the small iron works in the upper reaches of the Ch'ü Shui, that is, T'ieh-lu-ch'uan.

The change in vegetation is striking. For the first time there appears evergreen shrubs and trees such as are not found in the northern half of Shensi. On the sunny southern slopes grow laurel and myrtle to altitudes of 3,000 feet above sea-level. While the constrictions of the valley now leave virtually no place for agriculture, the density of the spontaneous vegetation becomes the greater between the huge rocks and above the steep cliffs. Rocky ravines here have sheer walls rising without a break to 2,000 feet and 2,500 feet above the river-bed. Through this wild canyon the River of the Black Dragon holds sway, for the united stream from here on carries the name Hei-lung Chiang.

At Mao-tao-i the old road crosses a chain-bridge. Six taut-stretched 50-feet long iron chains are strung close to each other and fastened at each end to the rocks. On the chains are planks laid at right angles across them, furnishing a somewhat unsteady passageway for pack-animals. Mao-tao-i is a market place with numerous inns and shops.

Although the road now is drawing near to the Han Chiang valley plain and the southern limits of the Ch'in-ling Shan, one finds no moderation in the rugged nature of the topography. On the contrary, the gorge of the Hei-lung Chiang becomes even wilder and more grand. This stretch

Plate 19. The Pao Shui as it emerges from the Ch'in-ling Shan into the Han Chiang plain. Pao-ch'eng appears at mouth of gorge.

Figure 1. At the barrier of Chi-t'ou-kuan just above the town of Pao-ch'eng.
(Photo by T.K. Huang)

Figure 2. The Pao Shui after it emerges and broadens from the gorge at the town of Pao-ch'eng.
(Photo by T.K. Huang)

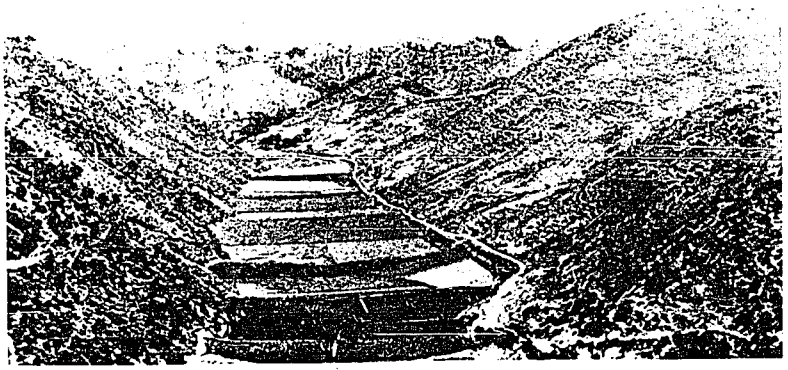


Figure 3. At Sha-ho-liang in Hsi-hsiang District on the route through the Ta-pa Shan to Wan-yuan.
(Photo by Y.T. Chao)

is the most difficult for the laying of a road, and the old road here has been in truth created almost entirely by shoring up a shelf along the rock cliffs. Where the ancient road-work has been best preserved one finds a foot-high parapet-railing erected on the side of the road adjacent to chasms. However, maintenance even in 1872 was so ill-kept up that the road was universally bad, and full of hardship and danger for pack-animals.

The old road continues down the gorge past Ma-p'ing-ssu for two or three miles, but thereafter the river has cut such a narrow canyon with such vertical walls that the road is forced to abandon the canyon and climb steeply for some 900 feet to the Chi-t'ou-kuan (Chicken-head Pass) which is marked by a temple and a barrier gate (See Plate 20, figure 1). From this last height is unfolded the panorama of the flat plain of the Han Chiang into which the Hei-lung Chiang dashes from its mountain portals and then abruptly slows down in a widened river-bed (See Plate 19, and Plate 20, Figure 2). The descent from Chi-t'ou-kuan takes one directly to the town of Pao-ch'eng at the foot of the slope. It is a small walled city whose appearance belies its former importance.

Strategic control points along and adjacent to the Lien-yün Tao are numerous and many are of historical importance. Starting from the north, the first is I-men-chen, about five miles south of Pao-chi and on the plain of the Wei. This is not a pass barrier, however. It isn't until one comes to Erh-li-kuan, also called San-kuan or Ta-san-kuan, that an important barrier point is reached. This is about 13 miles south of Pao-chi, and remnants of the old fortifications still existed in 1922. The Chiu Chih (Ancient History) states that

the top of the mountain at that point had a circumference of two li, hence the name of Erh-li-kuan or Two-li Barrier. The name San-kuan derives from the San Ku River.

The Chung-hsing Ssu-ch'ao Chih says that anciently the Ta-san-kuan was within the district of Liang-ch'uan and south of Pao-chi District on the important route from Shensi to Szechuan. From the barrier up to Ho-shang-yuan, it states, the two sides of the ravine are only a short distance apart. The slope drops very suddenly at the barrier, so that while the barrier can be forced from within the pass, it can withstand assault from without. The Chiu Chih describes the Ta-san-kuan as 'the esophagus between Shensi and Szechuan. Westward of Lan-t'ien [southeast of Ch'ang-an] the focus of communication is here. Still farther west rise the mountains of Kansu from which the Wei Ho winds downward. The pass holds north-south communications by the throat. Without control of it, the north cannot penetrate to Han-chung. Without control of it, the south cannot plan to enter the Wei Ho valley.'[1]

Another strategic point is located at T'ang-ts'ang which is about 23 miles north of Feng. This is a cross-roads point with a road leading from Chin-sha-wan on the Pao-chi to Feng road and running northwestward to Ch'in-chou and crossing the important T'ai-ch'i-li bridge. At T'ang-ts'ang another road from Feng in the south leads through the town to run northeastward.

Huang-niu-pao, also called Huang-niu-p'u, 37 miles northeast of Feng, also has a road running northwestward to Ch'in-chou in Kansu, while it is situated on the Lien-yün Tao (See Plate 21, figure 1).

[1] Pao-chi Hsien Chih, 1922, ch'uan 1, p. 9-10.

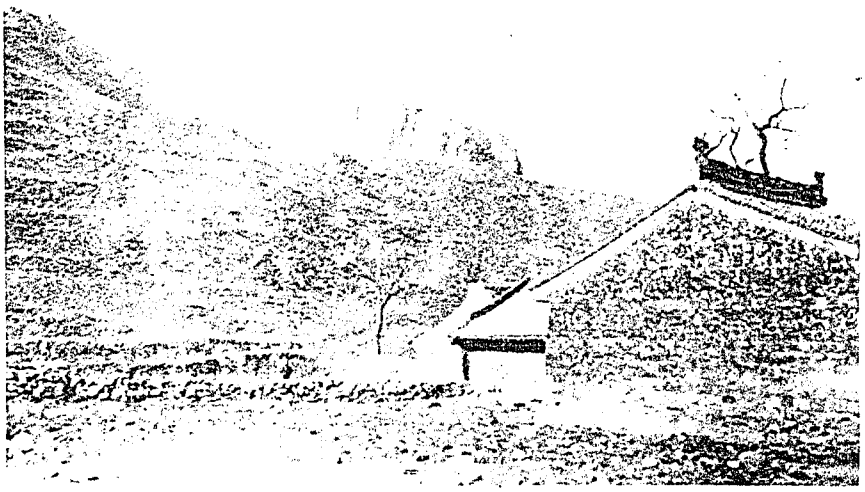


Figure 1. A loess bluff at the village of Huang-niu-pao on the Lien-yün route in the northern Ch'in-ling Shan.

(Photo by T.K. Huang)

Figure 2. The Tung Ho valley two miles south of Ch'ang-ch'iao on the Lien-yün route in Feng District.

(Photo by Y.T. Chao)

The road here is tolerably level. This is considered by Chinese sources to be another strategic cross-roads point. In the past it was an important military post.[1]

At a point eight miles from Feng on the Pao-chi road is the important pass known as Shih-men-kuan. The situation is one where defense (accordingly to old practices) is feasible and easy. In the 1860's a guard post was established here.[2]

Between Shih-men-kuan and Huang-niu-pao is Ts'ao-liang-i, 23 miles northeast of Feng. This is considered important because paths lead both northwestward and southeastward from the Lien-yün Tao, in the former direction again connecting with Ch'in-chou, while in the latter direction a path leads to the Pai-yün Barriers that open into the Yeh Ku. A guard detail has been posted here in the past. The two barriers, the Upper and Lower Pai-yün, also are within Feng District boundaries some 67 miles eastward on the western slopes of the T'ai-pai Shan, and they are considered important keys to the Yeh Ku from the east.[3]

South of Feng at a distance of 20 miles is Fei-ch'iu-kuan which straddles the Lien-yün Tao and is another important cross-roads point. A guard post was stationed here in 1892. The name was changed in 1862 to Liu-feng-kuan by the Ch'ang-an Textile Administrator, Mao Chen-shou.[4]

Ma-ling-kuan to which von Richthofen refers as the point at which

1 Hsin-hsiu Feng Hsien Chih, 1892, ch'uan 1, p. 21-23

2 Ibid.

3 Ibid.

4 Ibid.

the Tung-Ho is joined by a stream from San-ch'a-i, is 15 miles southwest of Feng and is considered an important control point.[1] A view of the Tung Ho valley is had in Plate 21, figure 2.

Some 30 miles to the northeast of the District town is the ravine known as the Chui-t'ou-yü. It is a section of the important route to Lung-chou (Lung Hsien). Here the mountains tower above deep valleys which lend themselves to concealment.[2]

In Pao-ch'eng District the most strategic defile is that of the Lien-yün-chan where in the past the road was entirely supported on trestles. This is about 30 miles north of Pao-ch'eng.[3]

Other important points of a strategic nature are described in the account by von Richthofen and need not be repeated here, although attention might well be drawn to the important situation occupied by Wu-Kuan where the road leaves the Pao Ku to strike northwestward to Liu-pa. That this has been a barrier point in the past is indicated by the name which means Military Barrier.

The Ta-pa Shan routes and control points.

In his notes on Marco Polo's travels, Sir Henry Yule writes: "...The dividing range, Tapa-shan, is less in height than the Tsïng-ling range, but with gorges still more abrupt and deep; and it would be an entire barrier to communication but for the care with

1 Ibid.

2 Hsi-hsiu Shan-hsi-sheng T'ung-chih-kao, 1934, ch'uan,55, p. 3-4.

3 Ibid.

Figure 1. The Ta-pa Shan at Tsu-shih-tien south of Han-chung on the Mi-ts'ang route to Szechuan.

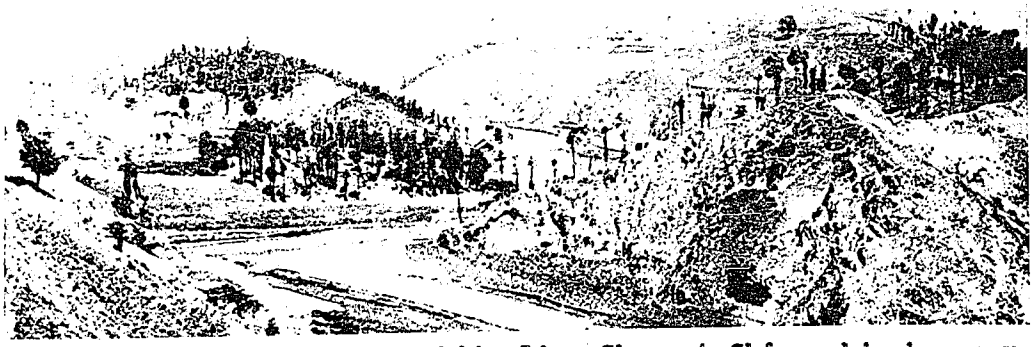


Figure 2. The southern Ch'in-ling Shan at Ch'en-chia-ho near Yang on the Tang-lo route.

Figure 3. On the Tang-lo route near Hua-yang village north of Yang.

(Photos by T.K. Huang)

Figure 1. The valley of the Chen-pa Ho near Chen-pa on the route through the Ta-pa Shan to Wan-yuan.

Figure 2. The Ta-pa Shan near Ma-chia-ho in Chen-pa District.

Figure 3. The Ta-pa Shan north of Chen-pa.

(Photos by Y.T. Chao)

which the road, here also, has been formed."[1]

However, as in the case of the Ch'in-ling Shan, the Ta-pa Shan also is crossed by more than one route of travel, although here, too, a single route takes the bulk of the traffic and is the primary artery of travel. Six routes connect the Han Chiang valley with the Red Basin. If we take the Ch'eng-tu Plain as the goal of the routes coming from the north, however, one of these routes through the Ta-pa Shan may be eliminated from our immediate concern. This one is the route from Han-chung or from Yang on the Han Chiang running south via Hsi-hsiang and Chen-pa across the Ta-pa Shan to Wan-yuan and Hsuan-han (see Plate 23). It is essentially a route leading to Chungking, for the river down-stream from Hsuan-han may be navigated by native boats to Chungking, 133 miles down the stream. At present, one of the few adequate motor roads in Szechuan connects Chungking with Wan-yuan.

Of the remaining five routes, three are historically important as connecting routes between the Han Chiang valley and the Ch'eng-tu Plain. In order from west to east these are the Yin-p'ing Tao, the Chin-niu Tao or Road of the Golden Oxen, and the Mi-ts'ang Tao. The fourth and fifth routes are really tributary routes of the Mi-ts'ang Tao, for all three of these converge south of the Ta-pa Shan on Lan-chung (Pao-ning) on the navigable portion of the Chia-ling Chiang. The Mi-ts'ang and its tributary routes may be considered as routes to Chungking as well as routes to Ch'eng-tu, since the navigable Chia-ling runs down to Chungking, while the road itself cuts across the strike of the rivers in the Red Basin to reach Ch'eng-tu in the west.

[1] Yule, Sir Henry, op. cit., p. 29.

The Mi-ts'ang Tao strikes south from Han-chung and runs via Mi-ts'ang-kuan through Nan-chiang and Pa-chung before turning southwest to reach Lan-chung. One of its tributary routes leaves Yang in the Han Chiang valley and goes south through Hsi-hsiang and then over Ta-pa-kuan (Great Patch Barrier) and Pai-hsiung-kuan (White Hero Barrier) to reach T'ung-chiang, from where it goes west to Pa-chung. Another tributary route runs from Han-chung southwest via Miao-pa to Nan-chiang.

The following are strategic control points to the east of the Mi-ts'ang Tao, as described in the Shensi Province Gazetteer of 1934.[1] They are located in Chen-pa District (see Plate 23). Wang-erh-ya on the Ch'u Ho about 60 miles east of Chen-pa is a control point connecting with the borders of Hsi-hsiang District. Somewhat farther eastward is the Hsiang-tzu-liang, another strategic point.

Mei-kuan-ya[2] is on the middle Ch'u Ho at the Hsi-hsiang District boundary and also about 60 miles east of Chen-pa. It is a part of the village district of Wu-li-pa. In 1862 the Magistrate Wang Chao-t'ung rebuilt the barrier wall and parapets to a height of ten feet and a length of 100 feet so it might be guarded in emergencies. It controls one of the routes to the provincial capital (Ch'ang-an) from Szechuan.

Mu-chu-kuan is on the Ta-shih Ch'uan adjacent to Hsi-hsiang District and about 47 miles east of Chen-pa. It is a strategic barrier.

[1] Hsi-hsiu Shan-hsi-sheng Etc., op. cit., ch'uan 56, p. 8-10.

[2] The China Land Survey Map, 1:300,000 gives the name as Lung-kuan-ya. In the two names the first characters look similar in the abbreviated styles used on some maps but are actually different, while the second characters also are different but are pronounced nearly alike.

Kuan-ya is on the P'ien-ch'i Ho some 66 miles east of the city of Chen-pa and adjacent to Tzu-yang District boundary. It is an excellent control point for travel by this route because of the precipitous nature of the surroundings.

T'u-ti-ling is on the Shuang-pei Ho some 50 miles to the south of Chen-pa. On one side it is bounded by the Lao-jen-chai; on the other by the Ta Ho. In between, the path is restricted and narrow and easily controlled.

Chiu-kung-p'ing is at Yü-tu-pa some 40 miles south of the city. The mountains run in unbroken succession all around. To the east there is a route to Tzu-yang. To the south the path leads to T'ai-p'ing (Wan-yuan) in Szechuan. The road can be defended successfully.

Kun-lung-p'o is at Yen-ch'ang, 47 miles south of the city and borders on T'ai-p'ing in Szechuan. It is on a public road between Shensi and Szechuan. Some seven miles of the road here is precipitous and restricted in nature. During the reign of Hsien-feng (1851-62) the Magistrate Ch'en Chi-ch'ing built a barrier wall here. Villagers from both Szechuan and Shensi hold periodical markets here.

Ch'iu-po-liang is in the Yen-ch'ang region also, but is about 60 miles south of Chen-pa city. The situation here is similar to that at Kun-lung-p'o. In 1863 the commandant at T'ai-p'ing ordered the construction of fortress walls and changed the name to Hsi-hsiang-p'ing.

Chiu-yuan-kuan is at Jen-ts'un, some 53 miles south of the city on the borders of T'ai-p'ing District. The mountains round about are high and the road dangerous.

T'ieh-fo-kuan, some 66 miles west of the city and bordering on T'ung-chiang District is located at Shih-hu-pa. An ancient Buddhist

temple is located here. In 1867 the commandant at T'ung-chiang had an earthern guard house constructed here.

Hsi-hsiang-chieh is at Pai-yang-kuan some 60 miles southwest of the city and also bordering on T'ung-chiang District. On each flank rises sheer cliffs. The path is a short-cut route between Shensi and Szechuan and has never been bandit-infested because of the ease with which it can be guarded.

Liang-ya-kuan is at Li-pa, 50 miles southwest of the city and bordering on T'ai-p'ing in Szechuan. The mountains rise steeply and road blocks may be erected to block passage.

Some 43 miles southwest of the city and also in the Li-pa region is Ching-ch'uan-kuan which borders on T'ung-chiang District. The situation is similar to that of Liang-ya-kuan.

Erh-t'u-ti at Huang-ts'un some 66 miles northwest of the city is at a point where the road is extremely precipitous. Old stone steps cut into the mountain here can be used. There is an old guard-house on the Hsi-hsiang boundary.

Ma-liu-t'an, another strategic point, is on the Ta-ch'u Ho some 47 miles north of the city on the boundary of Hsi-hsiang.

In Hsi-hsiang District a strategic control point on the brink of the Han Chiang is Ch'i-hsing-pa, about 47 miles northeast of Hsi-hsiang city. The water of the Han Chiang here is generally shallow and easy to ford, and this is an important defense point along the Han Chiang.

Some 80 miles southeast of the city is Wu-li-pa which links up Tzu-yang to the east and Chen-pa to the south. To the north one can reach Shih-ch'uan. The mountains are high and the ravines deep,

and it is a place adaptable to ambush and treachery.

In the southwest some 63 miles from the city of Hsi-hsiang lies Lung-ch'ih-ch'ang among the wilds of the Pa Shan. It is at a defile where various paths must converge, and is considered an exceptionally strategic control point in the Nan Shan (southern mountains).

In Han-chung District the village of Hui-chün-pa on the Shensi-Szechuan boundary is an important control point. It is located at a narrow defile surrounded by wild mountains .

Some 47 miles southeast of Han-chung is the village of Hua-shih-liang. A secluded path runs through it to connect Shensi with Szechuan, weaving and winding among countless peaks in a wilderness where ambush and treachery are easy to accomplish.

Miao-pa, 70 miles southwest of Han-chung and in the Mi-ts'ang Shan, lies in a wild forested area. The road leads through precipitous defiles to Szechuan.

In Ch'eng-ku District a strategic control point is the village of Wu-lang-p'ing, 42 miles south of the city of Ch'eng-ku. The small path leading through here to Szechuan penetrates a region of high peaks where ambush is easy to accomplish.

The Road of the Golden Oxen. The Chin-niu Tao which is the primary artery of traffic through the Ta-pa Shan from the Han Chiang deserves a detailed physical description which, fortunately is supplied by several observant travelers, of which Ferdinand von Richthofen and Alexander Wylie have written the best accounts.[1]

[1] Von Richthofen, China, op. cit., p. 590-604.

Wylie, op. cit., p. 169-179.

Han-chung city does not lie on the principal route, but is situated some miles eastward of Pao-ch'eng down the Han Chiang. The road turns westward at Pao-ch'eng and follows the plain which steadily narrows toward Mien. At the market place of Hsin-chieh-tzu the road is joined by a road from Han-chung. From here it leads along the river until it reaches Huang-sha-chen, then goes in a northerly bed towards Mien. Han-chung and vicinity is shown in Plates 24 and 25.

The difference between the level alluvial floor and the wide sloping inclines is very noteworthy. The Han Chiang makes its windings in a sandy bed some 1,000 yards wide, only a small part of which is occupied by the river for the most part of the year. It is bounded by the level fruitful alluvial floor on which rice, wheat, cotton, tobacco, and ginger are grown next to legumes and rape-seed plants. Flanking this on the north side there rises a terrace composed of old fluvial deposits from which a talus and loam slope of little fertility leads upward to a height of 500-600 feet.

The population resides primarily on the alluvial floor. The numerous villages are very populous and a continuous stream of people is to be found on the main road in this section. The village of Ts'e-yuan-tzu, about three miles from Mien, is a typical shoe-string village comprised of a single market street a mile long. Mien itself was a walled enclosure without inhabitants at the time von Richthofen passed through, for it had not recovered from the slaughter of the T'ai-p'ing rebellion. Since the garrison closed and barred the gates nightly, a new town had grown up outside the east gate without the inconvenience of nightly gate-shuttings.

Plate 24. Looking westward at Han-chung. Motor road leads west to Pao-ch'eng. The Han Chiang makes a bend at lower left.

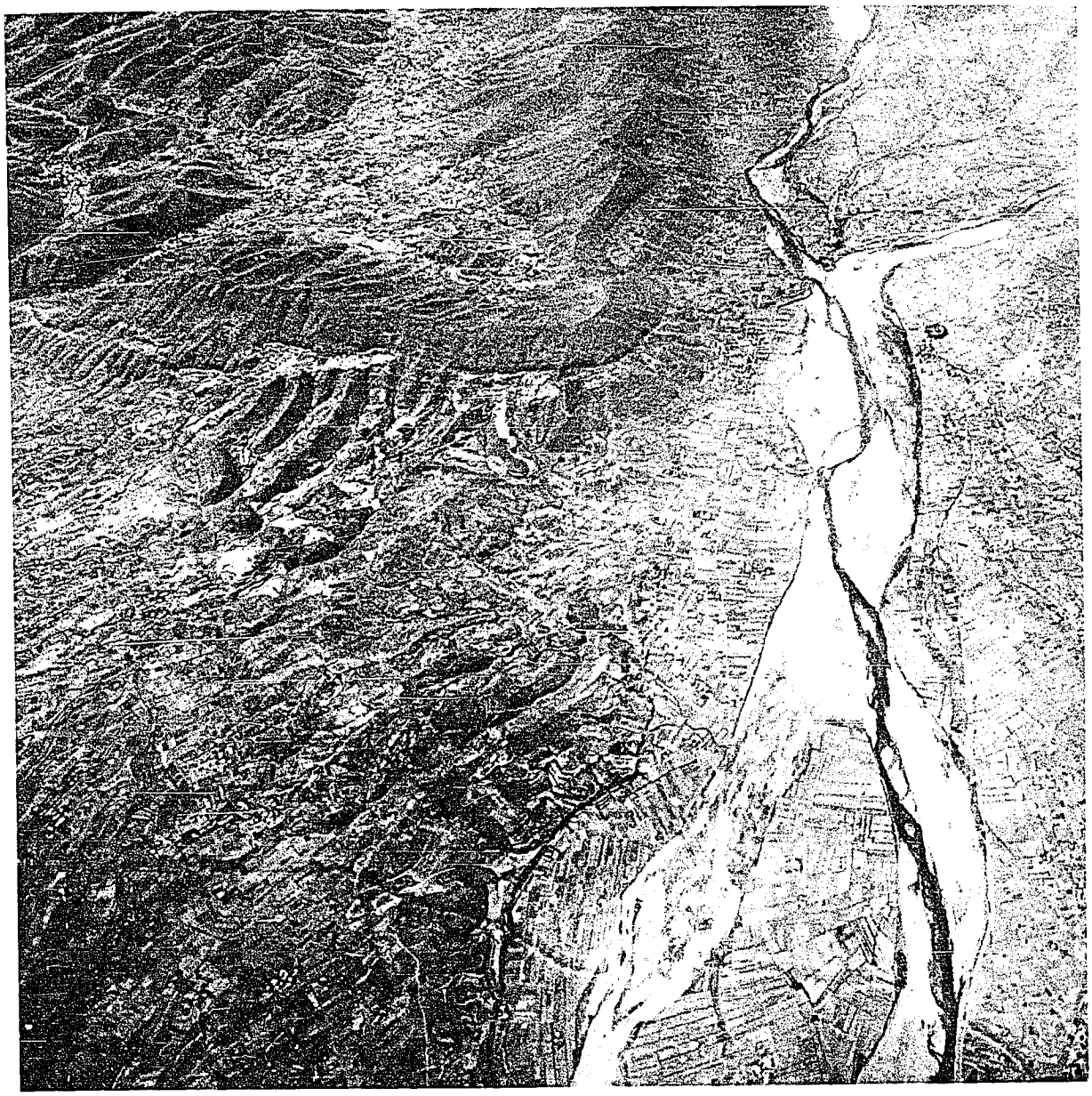


Plate 25. Looking westward up the valley of the Han Chiang from a point over the town of Han-chung. The Pao Shui enters the Han Chiang from the north at upper right. The Ta-pa Shan foothills on left are lower and more rounded than the foothills of the Ch'in-ling Shan to the north of the Han Chiang.

Wylie, who made this trip in the opposite direction from that of von Richthofen two years previously, states that the wall was in very good condition, "but the whole enclosure seemed to be one great field of maize, some five or six huts being the only human habitations. The whole population, including the official establishments is collected in a large suburb on the east side, enclosed by an earth-wall, which is now a ruin."

The valley inlet which narrows at Mien is bounded by high mountains to the north and by low mountains to the south. Von Richthofen describes a blunt-formed peak rising directly from the northern mountain wall to heights of 5,000 feet and more above the valley bottom and known as the Wu-tsuen Shan.[1] Behind this the Yün-wu Shan rises even higher, while still higher peaks are seen in the far distance when a person looks through the rugged and deep-cut gap in which a small stream, the Chin-yang Ho,[2] flows from the mountain wall at the village of Chiu-chou-p'u where it is crossed by the road. In contrast, rather level, rounded forms rise to the south. The mountains of the Ta-pa Shan here only reach a relative height above the valley of 2,000 to 2,500 feet. With Mien comes the end of the alluvial valley inlet.

From Mien one looks into an unswerving furrow in the mountains running 20 degrees south of west. Down this trench runs the Han Chiang, and there is no room for alluvial land. Several tributaries join the Han Chiang above Mien. Nine miles up the river the Han Chiang receives

[1] The Chinese Land Survey Map of 1933 shows a mountain occupying the situation described here but gives it the name Lei-kung-Shan. Neither the name Wu-tsuen Shan nor Yün-wu Shan is found on this map, though there is a Yün-men Shan northeast of Lei-kung Shan.

[2] Probably the Yen Ho, the name used on the Land Survey Map.

the water of the navigable Chü Ho from the north (also called Chü-shui Ho). Two miles farther up the non-navigable Pai-yen Ho[1] debouches from the south. Both of these have greater water volume than the stream which continues to bear the name of Han Chiang. Two miles farther at the town of Hsin-p'u-wan one reaches the head of navigation at all seasons. The road which has followed the cleft bank of the Han Chiang up to this point now continues in its previous direction without attempting to follow the southerly bend made by the river, which it joins again at Hsin-shu-wan, eight miles away. Both road and river remain at the bottom of the furrow until Lieh-chin-pa.

Shortly before this place, at the market town of Ta-an-i, another and larger stream, the Miao-pa Ho, comes in from the north, whereas the now very small Han is the result of the confluence of a number of small mountain brooks. One of these coming directly from the south is followed by the road. Another, the Han-yuan Kou (Source-creek of the Han)is set in the direction of the main trend of the Han Chiang. A pack-road leads along the bottom of the trough leading to Yang-p'ing-kuan, 30 miles away. Von Richthofen describes this road connection as belonging among the most important land transport routes of China. Wares brought up the Chia-ling Chiang by boat reach as high as Yang-p'ing-kuan before taking to land for points in the Han Chiang valley and across the Ch'in-ling Shan. However, because of the rapids that beset the Chia-ling Chiang above Ch'ao-t'ien-kuan, much of the river-boat cargo is transshipped by land from the latter place.

[1] Called the Nan Ho by the Land Survey Map.

Ta-an-i is the most significant of the line of inhabited localities on the route through the upper Han Chiang valley. Flanked by sparsely inhabited mountains on either side, it is a cross-roads point for trade as well as a river-boat terminus during the summer high water period. Cotton and other products of the east and northeast are brought here by boat up the Han Chiang or by pack-animals over the Ch'in-ling for exchange with the mountain products of the west and northwest. Strategically, Ta-an-i also is significant in that it guards two entrances to Szechuan. For this reason there is normally a strong garrison located here.

The Road of the Golden Oxen, now the main route through the mountain belt, strikes south through the Ta-pa Shan at Ta-an-i, but cannot follow the canyons of the stream. Before reaching the last town in Shensi, the frontier garrison post of Ning-chiang, the road must climb and descend a moderately steep and stony mountain ridge and cross the Wu-ting-kuan. Water which runs over the path and freezes in winter creates hazards for man and beast. At the pass of Lao-ku-kuan one reaches the water-divide between the Han Chiang and Chia-ling Chiang. This also is located at the source of the Ch'ien Shui which the road follows for the most part to its debouchér in the Chia-ling Chiang. The small stream breaks through the ridge from Huang-pa-i in a southerly direction and traverses a steep-walled ravine. The road follows the northerly foot of this ridge from Ning-chiang, leading steeply up and down the flat-topped ranges to reach the river at the narrow pass of Ch'i-pan-kuan which marks the end of the canyon. Here the boundary of Szechuan crosses the road diagonally.

From Shen-hsuan-i onwards the direction of the route as well as that of the river turns decidedly toward the southwest, so that both must here cut across the now much lowered range of the Ch'ao-pi Shan. High above the river the road leads until there is a falling off of the ridge to the Chia-ling Chiang at the market-place and former barrier of Ch'ao-t'ien-kuan.

At this point the Chia-ling Chiang is a wide, fast-flowing stream with plenty of water. There is much transshipment of cargo between boat and road here, for the Chia-ling Chiang is a much used artery of transport from here downstream. The barrier pass of Ch'ao-t'ien-kuan stands 1,100 feet above the river on the southwest bank overlooking a steep cliff dropping toward the river but still far below the peak of the mountain. The road has been laid with care, with a parapeted balustrade on the side of the drop, and it is wide enough for two pack-animals to pass with ease in opposite directions. In the steeper places many hundreds of stone steps have been laid. On the other side the descent leads steeply to the basin of Lung-fang-kou where a narrow valley opens from a high and wild mountain region to the east with numerous ravines.

At the village of Sha-ho-ch'ang the river makes a long but narrow wind in a westward loop. This creates a restricted tongue of land which thrusts out from the mountains to the east. The road which cuts across the winding leads to a saddle in the sharp ridge of this tongue. This saddle is called by the name of Fei-hsien-kuan. Shortly thereafter the road reaches the important north-Szechuan town of Kuang-yuan. This town is located in a small alluvial plain a few miles in diameter in which maize is an important crop.

(Photo by
Y.T. Chao)

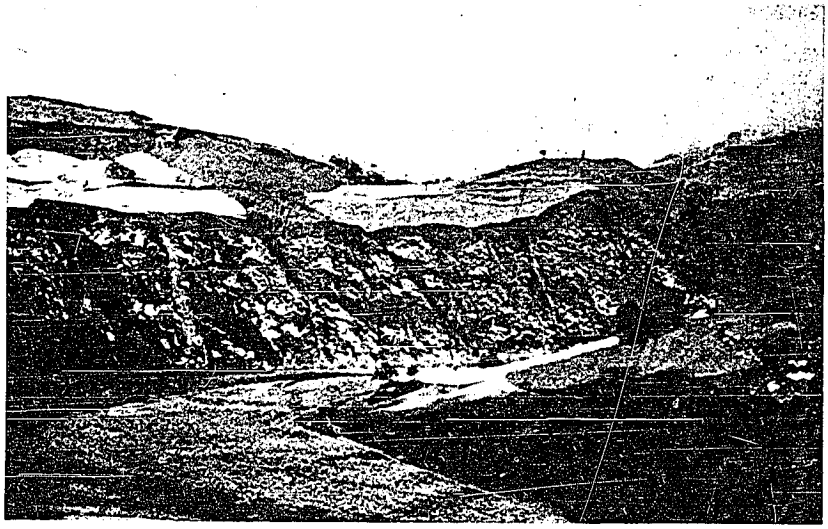


Figure 1. The Chia-ling Chiang valley near the town of Pai-shui-chiang.

(Photo by
T.K. Huang)

Figure 2. The city of Lueh-yang on the Chia-ling Chiang.

(Photo by
Y.T. Chao)

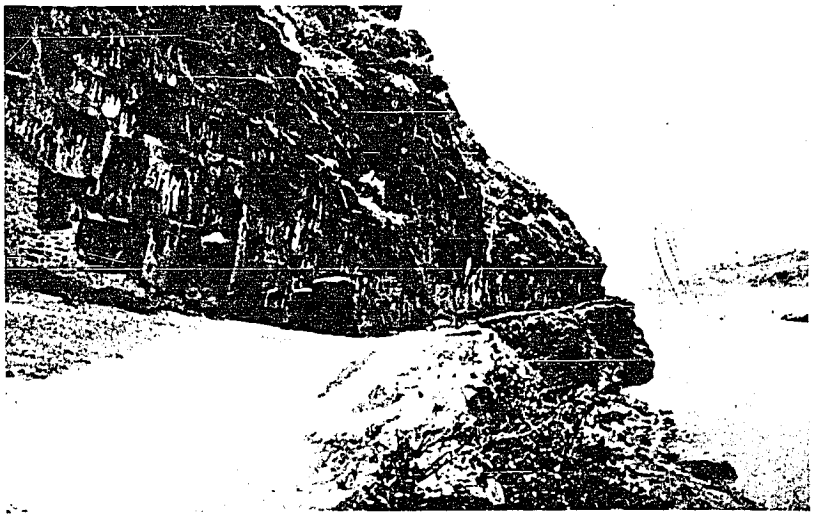


Figure 3. The Thousand Buddha Cliff passed by the Road of the Golden Oxen at the north-Szechuan town of Kuang-yuan.

Fourteen miles or so southwest of Kuang-yuan brings one to Chao-hua where one of the chief tributaries of the Chia-ling Chiang debouches. Cargo boats from down river are numerous at this point and Chao-hua is a busy little town. The traveler along the Chin-niu Tao must ferry across the Chia-ling Chiang to continue his journey. Within a few miles of the city the road makes a steep ascent of the Niu-t'ou Shan from which a fine view is had of Chao-hua. The road follows a section of the Chien-men Shui whose waters join those of the Huang-sha Chiang to flow into the Pi Shui, a tributary of the Chia-ling Chiang. Near the village of Ta-mu-shu several remarkable rugged peaks stand out prominently, one of them with a large temple perched on top.

Ten miles past the village the road runs through a valley surrounded by rugged and barren slopes, in places with rather perpendicular heights. This is a prelude to the breaching of a lofty range by the sombre defile of Chien-men Hsia, an opening in the range less than a hundred yards wide with precipitous cliffs rising on either side. Toward the middle of the pass a towered pavilion straddles the road. It is a relatively recent model of an ancient fort built by Chu-ko Liang in the third century A.D. and is called the Chien-ko (see Plate 27). The ground story is surrounded by battlements surmounted by two more stories. Shortly before the road emerges from the pass, a number of stone tablets of historical interest pertaining to the pass and barrier stand against the east cliff.

The town of Chien-men-kuan, a barrier town of great celebrity in early history, is reached at the foot of the Ta-chien Shan through which the pass leads. After running through a number of small hamlets

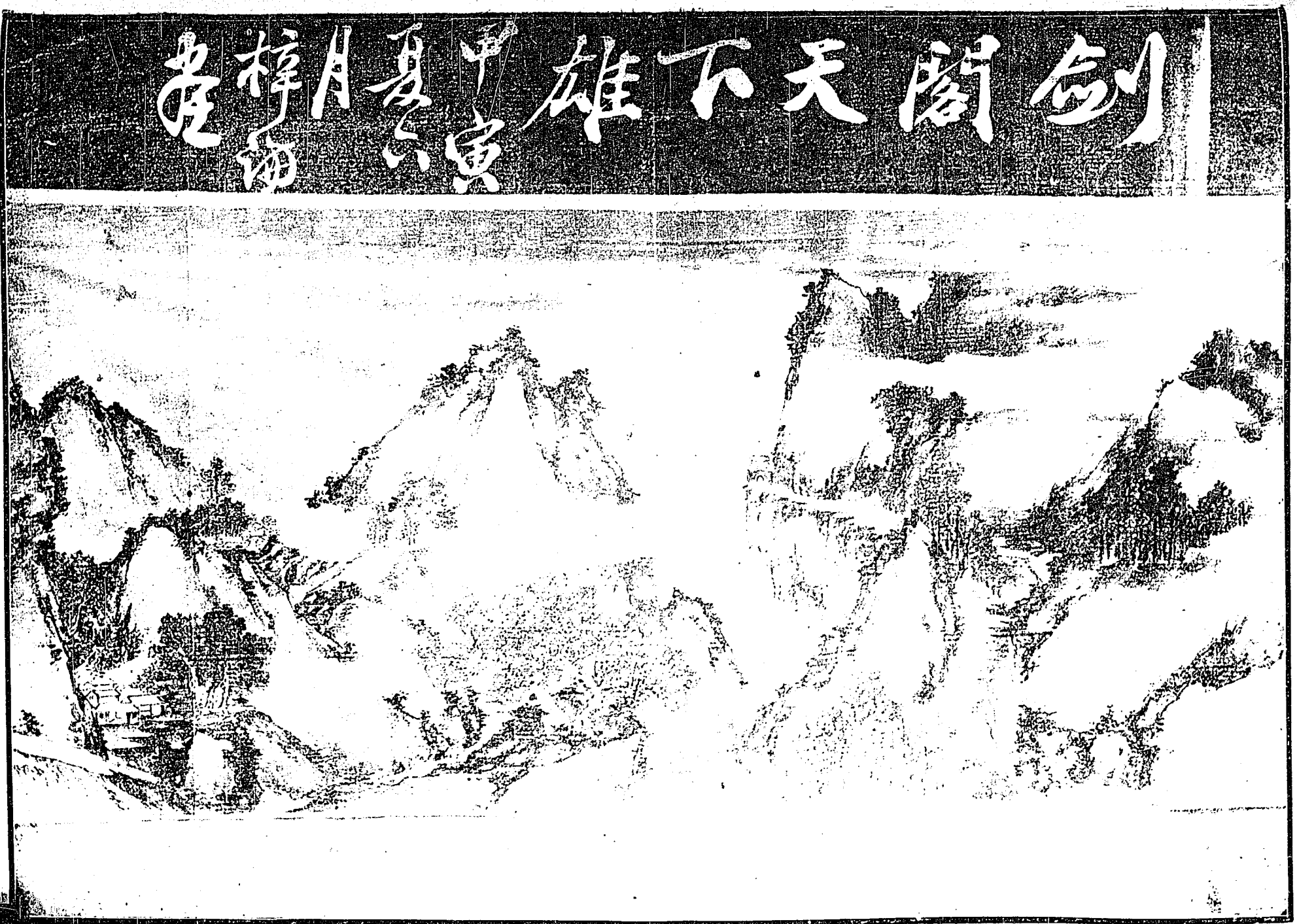


Plate 27. An artist's conception of the cliff-side road through the Chien-ko Barrier.

the road crosses the Chien Shui by a bridge and enters the town of Chien-ko which bears the same name as the pavilion of Chu-ko Liang.

With the town of Chien-ko behind, the traveler from Shensi begins traversing a terrain that rapidly levels off from the rugged Ta-pa Shan to the flat plain of Ch'eng-tu reached shortly past the town of Lo-chiang.

It is the mountainous stretch of the road from Ta-an-i in Shensi to Chien-ko in Szechuan that properly bears the name Chin-niu Tao or Road of the Golden Oxen, the story of which will be told in Chapter IV. As with the main Ch'in-ling Shan crossing to the north, the route through the Ta-pa Shan also is guarded by numerous barriers and strategic control points. The important situation of Ta-an-i has been noted in preceding pages. It lies some 30 miles north of Ning-chiang, and through it funnels a great part of the traffic through the Ta-pa Shan.

About 15 miles north of Ning-chiang is a narrow pass called the Chin-niu Hsia or Golden Oxen Gorge. An extremely restricted defile, it is considered by Chinese writers of local gazetteers to be a highly strategic control point.[1] 'For several hundred jen [a measure of eight feet] it is deep and gloomy and narrow, permitting the passage of only one man and one horse at a time (riders in opposite directions). The two facing cliffs have names, the east side being called Stone Drum, the west side Stone Bell. During the time of Hung-shih of the Ming (1488-1506), the Magistrate of Ning-chiang Chou, Chang Chien, made frequent repairs in chiseling out the road...The road all the way from Ti-shui-p'u to Kuan-ch'uan is a strategic road, about 10 miles in length.

[1] Ning-chiang Chou Chih, 1888, ch'uan 1, p. 35, 40.

In the more restricted sections, the width between the towering cliffs is not more than 10-20 feet. The path winds and turns.[1] Through this defile the ancient highway made its way. About mid-way through this stretch, a barrier fort straddles the road known as the Wu-ting-kuan or Five Commissioners' Barrier.[1]

Two other control points along the main route within Ning-chiang District borders are Lao-ku-kuan, some 13 miles west and south of the administrative seat, and Huang-pa-i, another three miles or more southwestward. Behind the latter village rises a steep peak, while a deep torrent bounds the village from the other side.

Within the bounds of Ning-chiang District but on lesser trails by-passing sections of the Chin-niu Tao are a number of points considered as occupying important situations. These include Yang-p'ing-kuan, which has been mentioned in the above pages. The town lies against the mountain called Chi-kung Shan on the south, while to the north it leans on the brink of the Chia-ling Chiang. The more ancient Yang-p'ing-kuan, which is the same as the place called Pai-ma-ch'eng, was west of Mien. Subsequently, the name and the barrier were transferred to the present site.[2]

Northeastward of Ning-chiang and controling a difficult but shorter path to the Han Chiang Basin a short distance southeast of

[1] Literally translated, the term 'ting' means an adult or a "brave". However, the term 'Wu-ting' refers to five historic personages entrusted with the cutting through of this defile, hence the translation as "Five Commissioners".

[2] Ning-chiang Chou Chih, op. cit.

Mien are two places considered important. T'ieh-so-kuan (Iron-lock Barrier) occupies another of those mountain-side, river-brink positions so often associated with Chinese barrier posts. The path from here leads to Kang-ch'ang and the Fu Shui in Mien District. Another control point along this short-cut or by-pass is Hu-chia-pa, about 33 miles from Ning-chiang. It is a cross-roads point, with a path northward via Lao-tai-pa to the Han Chiang valley, and another path southward via Li-p'ing to Szechuan. An important pass lies near this village which is a well populated mart in spite of the mountainous wilderness surrounding it. The chief reason seems to be that commercial traffic utilizes this short-cut extensively.[1]

Some 58 miles west of Ning-chiang is Yen-ch'a-kuan (Salt and Tea Barrier). The path along which it is located is exceedingly tortuous and situated in rough terrain. It was an important route in the time of the Ch'in dynasty when a garrison was established here, and fighting took place for its possession.

In Kuang-yuan District an important barrier on the main route already described is that of Ch'ao-t'ien-kuan. This is a narrow pass at the highest point of this stretch of the road. It stands overlooking a steep drop to the river but still hemmed in by the mountain-wall. The river here passes through the Ch'ao-t'ien Hsia, a narrow gorge between two walls of rock. On the rock wall lower down than the present road may be seen numerous holes dug into the rock where formerly logs were rammed to form the scaffolding of a shelf-road. From the opposite rocky wall tumble several beautiful waterfalls.[2]

[1] Hsi-hsiu Shan-hsi-sheng T'ung-chih-kao, op. cit., ch'uan 56, p. 6.

[2] Japan, Imperial Japanese Government Railways, op. cit., p. 178.

Kuang-yuan itself occupies an important position not only along the road, but on the Chia-ling Chiang also. From Kuang-yuan the road from Shensi diverges into three routes. One continues to Ch'eng-tu as the Chin-niu Tao and the primary route of travel which we have been following. Another roughly parallels the Chia-ling Chiang down to Lan-chung and southward to Chungking. A third runs eastward to Nan-chiang, the Szechuan terminus of the Mi-ts'ang road route. Kuang-yuan also is the first large population center reached at the southern edge of the mountain belt.

Chao-hua, only about 14 miles from Kuang-yuan down the Chia-ling Chiang, is situated where the Chia-ling is joined by a tributary of considerable size, the Pai-shui Chiang, also known as the Pai-lung Chiang. This river drains a large area of wild mountainous country adjacent to the borders of Szechuan and Kansu (see Plates 7 and 8). Part of the Yin-p'ing Tao followed the central reaches of this tributary in reaching P'ing-wu in Szechuan from Wu-tu in southern Kansu. A road also follows the Pai-lung Chiang from Wu-tu down to Chao-hua.

Within Chao-hua District but on the route between this city and Lan-chung to the south is the Mei-lin-kuan[1] (Plum-tree Barrier), about 20 miles east of Chao-hua. There is a stone slab here commemorating the slaying of a ferocious man-eating tiger. According to the tradition inscribed, during the time of Emperor Cheng-te of the Ming (1506-1522), a huge tiger with missing ears lurked in the forests to prey upon travelers, so that for a time travel was blocked by this

[1] The character for 'lin' means forest, as given in the Chao-hua Hsien Chih, 1864, ch'uan 8, p. 1. This has been transcribed probably erroneously in the Land Survey Map of 1935 as 'ling' for "peak".

danger. A brave military officer from the Lung-t'an Courier Post sought out the tiger and slew it, as well as two tiger cubs in a cave.[1]

Some seven miles north of the town of Chao-hua is the Shih-men-kuan locally called Shih-kuan-tzu. According to the Yuan-ho-chih, the name is derived from the purported fact that Chu-ko Liang cut a gateway through the rock of the mountain. However, the Huan-yu-chi states that the name derives from the fact that the two opposite sides of the pass stand like stone gates.[2]

Nearer the city, less than a mile eastward, is a barrier associated with a river crossing called Tu-k'ou-kuan on one of the routes southward into Szechuan. Once a fort and a barrier gate stood guard here, although these are now gone. About 40 miles to the northwest of the city up the Pai-shui Chiang is the Pai-shui-kuan. A road from Chao-hua follows the river to this barrier and the village of Pai-shui-chieh. From the barrier one road leads northeastward to Yang-p'ing-kuan on the route to Lueh-yang (see Plate 26, figures 1 and 2), while another road runs southwestward to P'ing-wu (Lung-an). The barrier and village occupy a strategic situation with respect to control of communications not only along the roads, but also along the river.

Between Chao-hua and Chien-ko the last two important passes and control points before the Ch'eng-tu Plain are found. The first is five miles west of Chao-hua and is called the T'ien-hsiung-kuan. It is said to be the "key to the Chien-kuan", the second barrier farther south. In 1770 the Chao-hua Garrison Commander, Wu T'ing-hsiang built

[1] Chao-hua Hsien Chih, 1864, ch'uan 8, p. 1.

[2] Ibid, p. 8.

a new fortress tower here, which subsequently was rebuilt in 1795.[1]

If the T'ien-hsiung-kuan is the "key", the Chien-men-kuan or Chien-kuan might be appropriately be called the key-hole in the lock, and if the key-hole is blocked up, the control of the key is not sufficient to open the lock. This barrier, translated as the "Sword-gate Barrier", was of the greatest importance during the Three Kingdoms period, as well as during subsequent dynasties. This narrow defile is about 20 miles northeast of Chien-ko city. The road runs between two vertical mountain cliffs which is "only wide enough to permit a cart to go through". It is the bottle-neck of the road to the Ch'eng-tu Plain from Kuang-yuan. The restricted nature of the defile stretches for a distance of 10,000 feet.[2]

The lower rounded hills and broadened valleys that the old high road now enters southwest of Tzu-t'ung (see Plate 28) permit a more spacious highway. At the same time, the more prosperous agriculture and increasingly denser population favor a grander roadway. For the greater part of the way from Chien-ko to Tzu-t'ung there is a good stone road, and the outline of it may be traced from a distance by a double line of cypress-trees occurring at intervals. These date back to the early part of the 16th century, according to Wylie, and were planted by the governor of Chien-ko. Many of the trees, therefore, have died and disappeared, but in many places they form a fine avenue. A traveler at the turn of the century writes:

At the hamlet of Lu-fang...the by-road by which I had journeyed for some days joined the Ta-lu, the great Imperial road from Pekin

[1] Ibid, p. 2-3

[2] Ssu-ch'uan T'ung-chih, 1815, ch'uan 27, p. 28-29.

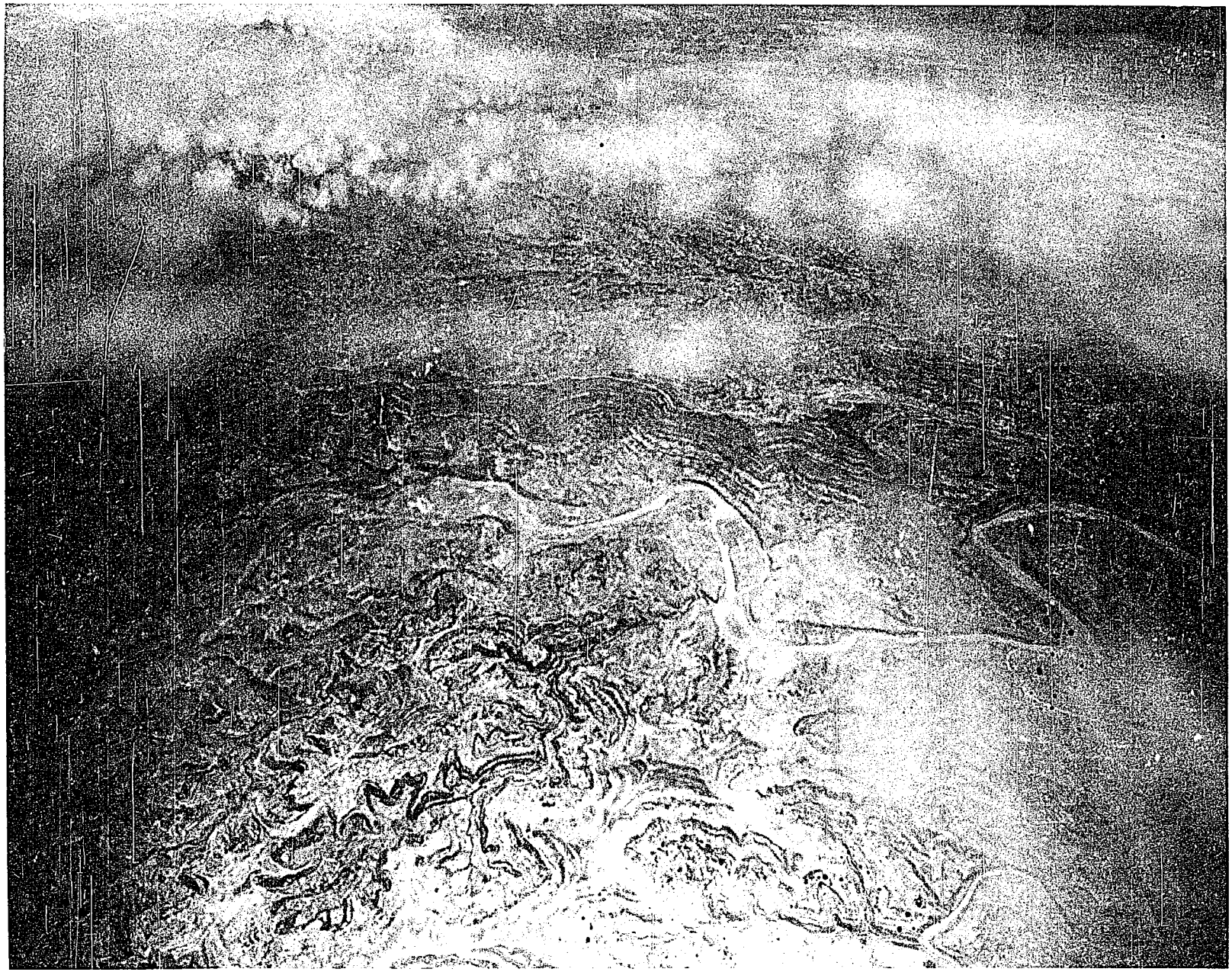


Plate 28. Looking eastward toward Tzu-t'ung from a point above the vicinity of Wei-ch'eng, Szechuan. The motor road follows top edge of bluff on the far side of the river.

to Chengtu. I traveled along this westward to Mien-chow. A thousand years ago it must have been a noble work. It is nominally 16 feet wide, the actual flagged roadway measuring eight feet. The bridges are built solidly of stone. The ascents and descents are made by stone stairs. More than a millenium[1] ago an emperor planted cedars at measured distances on both sides, the beautiful red-stemmed weeping cedar of the province. Many of these have attained great size, several which I measured being from fourteen to sixteen feet in circumference five feet from the ground, and they actually darkened the road."[2]

Chien-ko itself is closely surrounded by an amphitheatre of steep hills, and the road that leads to Tzu-t'ung ascends sharply out of the amphitheatre to reach the village of Chou-ya-tzu a few miles away. At Wu-lien-i the road crosses the Hsi Ho, a tributary of the Chia-ling Chiang. At Yen-wu-p'u, through which the road passes, one finds the production of tree-insect wax on a limited scale. Shang-ting-p'u, still farther on the route, strikes one much at first with its resemblance to a Swiss mountain-village.

Seven miles farther along the road brings one to a famous temple at Sung-hsien-t'ing or 'Difficulty-Despatching Pavilion'. It is so named purportedly because the traveler from the north upon arriving at this spot has left the hardships of the mountain road behind him for the easy plain of Ch'eng-tu.[3] This is the reputed birth-place of

1 Wylie gives their age at about 400 years, which seems more reasonable.

2 Bishop, Mrs. J.F., The Yangtse Valley and Beyond, London, 1899, p. 211-213.

3 Japan, The Imperial Japanese Government Railways, op. cit., p. 176.

Wan Chang-te, a Taoist celebrity who is idolized as the god of literature. The large and handsome temple housing his image stands on Lung-t'ai Shan (Dragon-altar Hill).

Tzu-t'ung is distinguished from afar by a tall white pagoda eleven stories high which stands outside the city wall. Beyond Tzu-t'ung the road crosses the Tzu-t'ung Ho on a stone bridge of considerable length. The road continues along a succession of hills of no great height and sparsely wooded, but cultivated to a large extent with taro, sweet-potato, and occasional patches of rice on terraces. Wei-ch'eng-i, a busy town of moderate size, is surrounded by a stone wall. It is reached after one passes through the small town of Shih-niu-p'u, so-called from the resemblance of a natural rock formation to the figure of an ox, according to Wylie. However, the statue of a half life-size stone ox in this village observed in 1945 may indicate that the name really harks back to the myth of the origin of the name of the Chin-niu-Tao.

Little further of interest is to be seen until one reaches Mien-yang, a town of some importance on the Fu Chiang (see Plate 29), a navigable tributary of the Chia-ling Chiang. A ferry crossing is required here over the swift current. Continuing southwestward, the road follows a tributary of the Fu known as the Cha-ping Ho, a rapid stream. A handsome stone commemorative portal spans the road just before the village of Shih-ch'iao-p'u. Such portals are of frequent occurrence on most Chinese roads of any consequence, although they were not designed to span the width of modern motor roads, so that they are usually by-passed by the new roads.

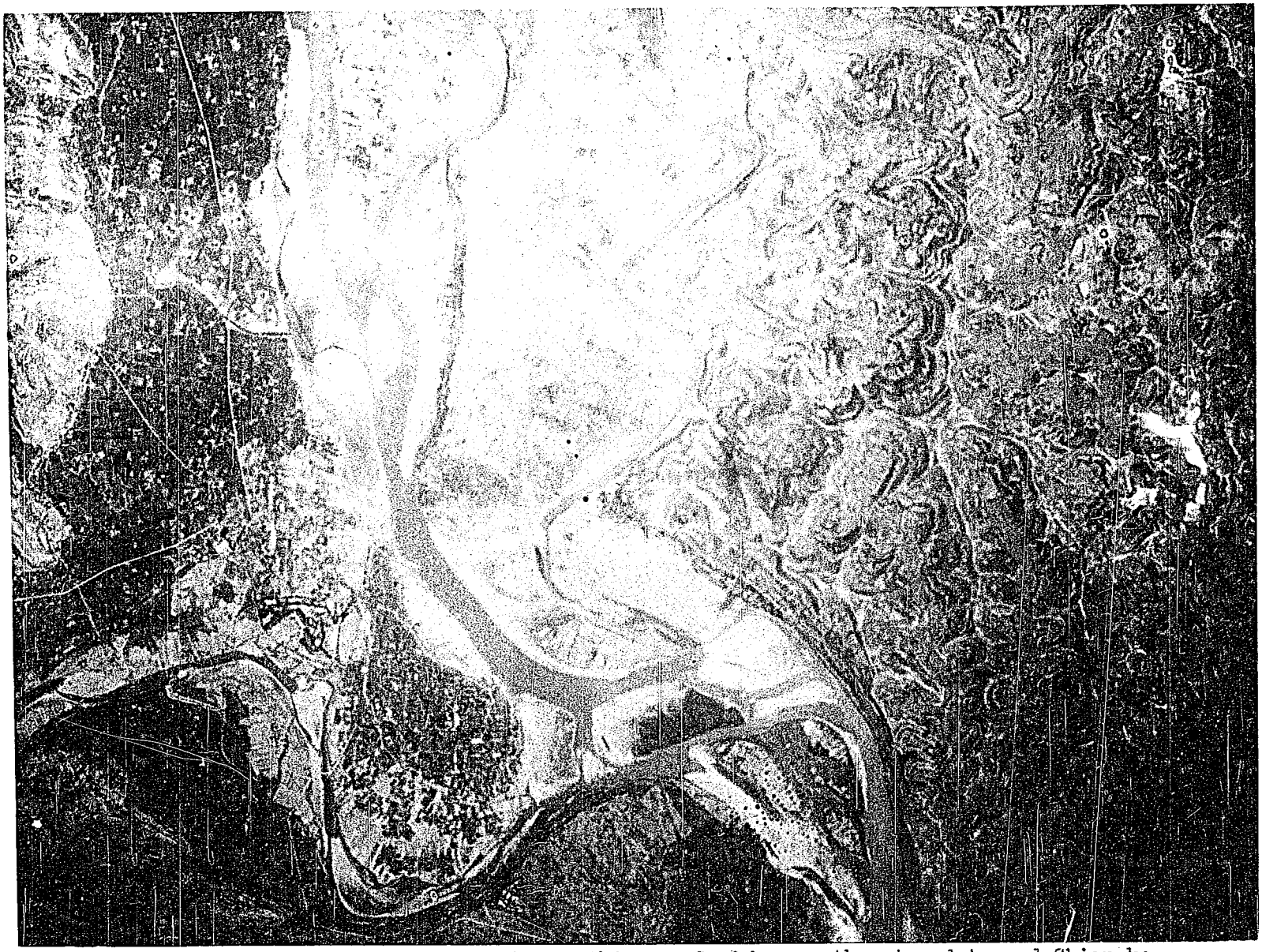


Plate 29. The town of Mien-yang on the Fu Chiang. Looking northeastward toward Chien-ko. The motor road runs to a ferry crossing where the narrow part of the town touches the river at upper left and continues along the valley of the small river in center.

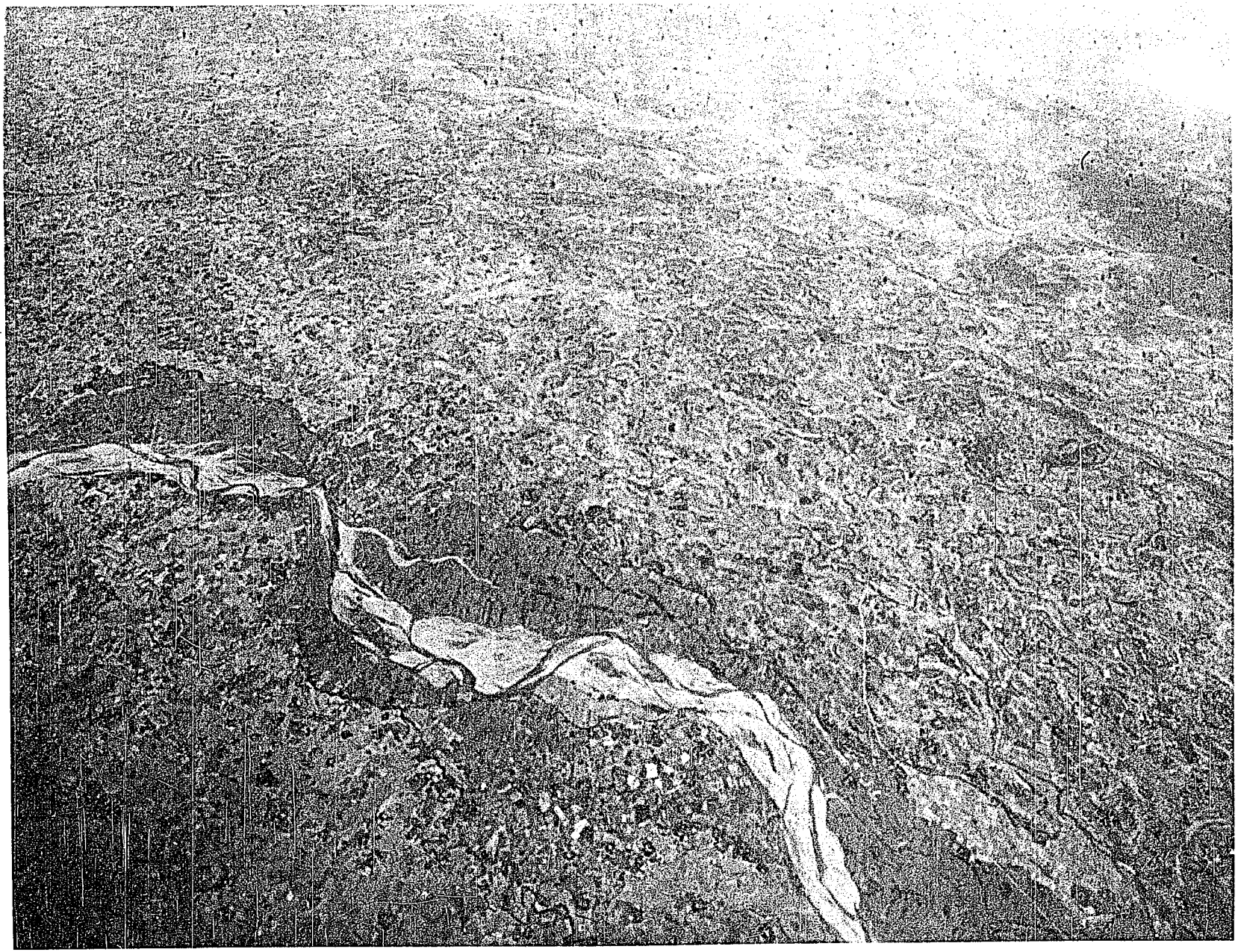


Plate 30. A view of a portion of the Szechuan Red Basin looking southwestward from near Te-yang.

Lo-chiang is the last district town to be reached before one enters the flat plain of Ch'eng-tu. It is flanked by the river of the same name. An active trade marks this entrance point to the plain, and there are numerous houses of entertainment for travelers and tradesmen. The country-side is richly cultivated, principally with crops requiring less water than rice, since low hills and undulating slopes still prevail, and the famous irrigation system of the Plain is not yet available (see Plate 31). Ground-nut, tobacco, and sweetpotato are among the prominent crops.

A mile or two before the low hills level off into the plain the road passes through the Pai-ma-kuan (White-horse Pass)[1], a spot famous in early history. This is a large walled enclosure with gateways through which the road passes and by which the road may be barred. Within the enclosure there is a large temple and tomb of Pang Tung, one of the heroes of the Three Kingdoms period who was killed near this spot. The front hall contains effigies of Pang Tung and his friend Chu-ko Liang.

Upon entering the Ch'eng-tu Plain by the high road, one is immediately impressed with the flourishing condition of agriculture and the generally comfortable appearance of the populace. Much of the land is occupied with rice, and with occasional fields of maize, sorghum and Kao-liang, a grain from which potent liquors are distilled. Bamboo is abundant, though forest trees are rare. Fruits are relatively scarce, but vegetables grow in great profusion and variety. Through this rich land runs the road which now becomes thronged with heavy pedestrian traffic as well as pack-animal traffic. Several large towns

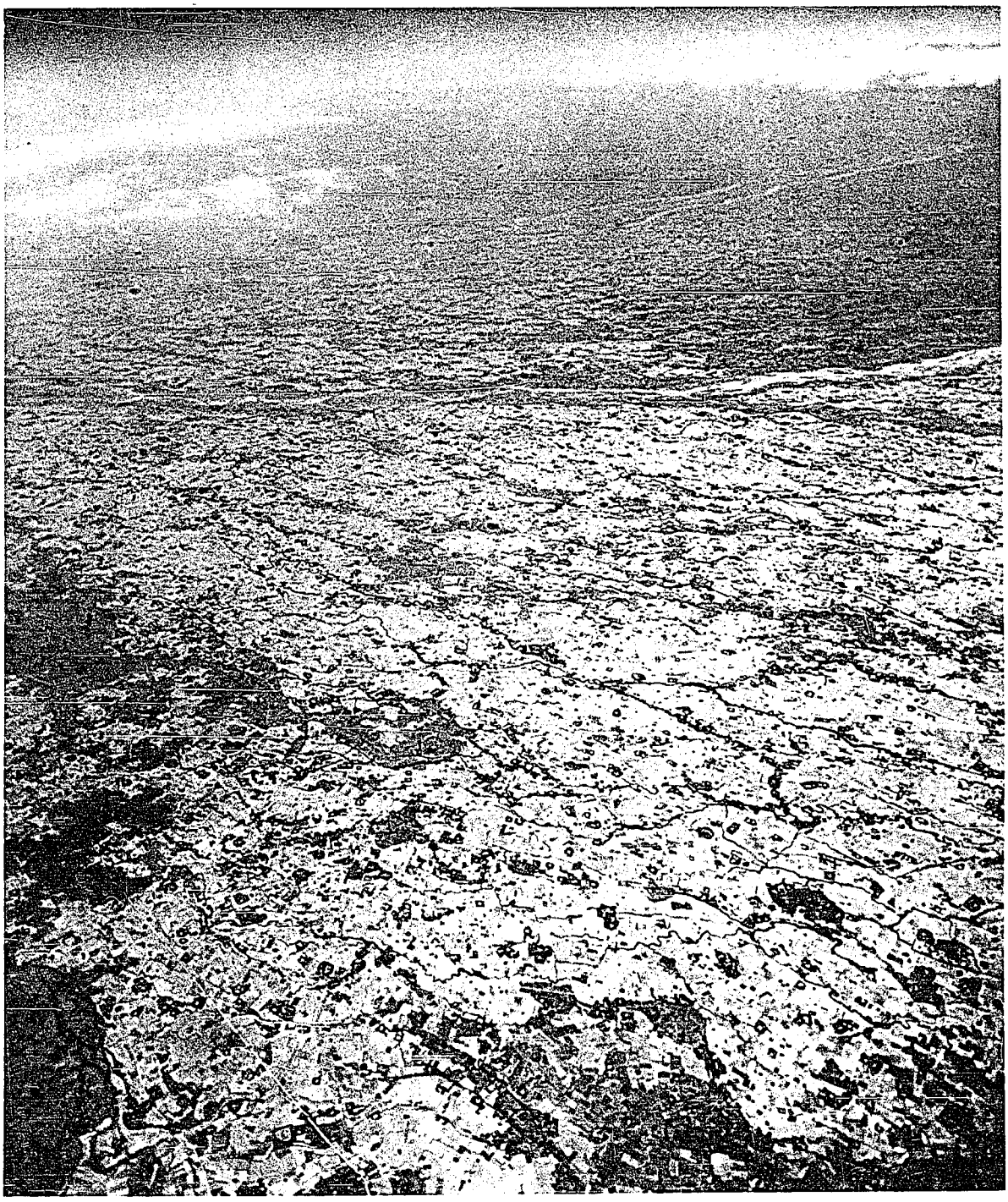


Plate 31. A view of a portion of the Szechuan Red Basin immediately adjacent to the Ch'eng-tu Plain, with the Great Snowy Mountains appearing above the clouds at upper right. The reader is looking southwestward from above the vicinity of Mien-yang, Szechuan.

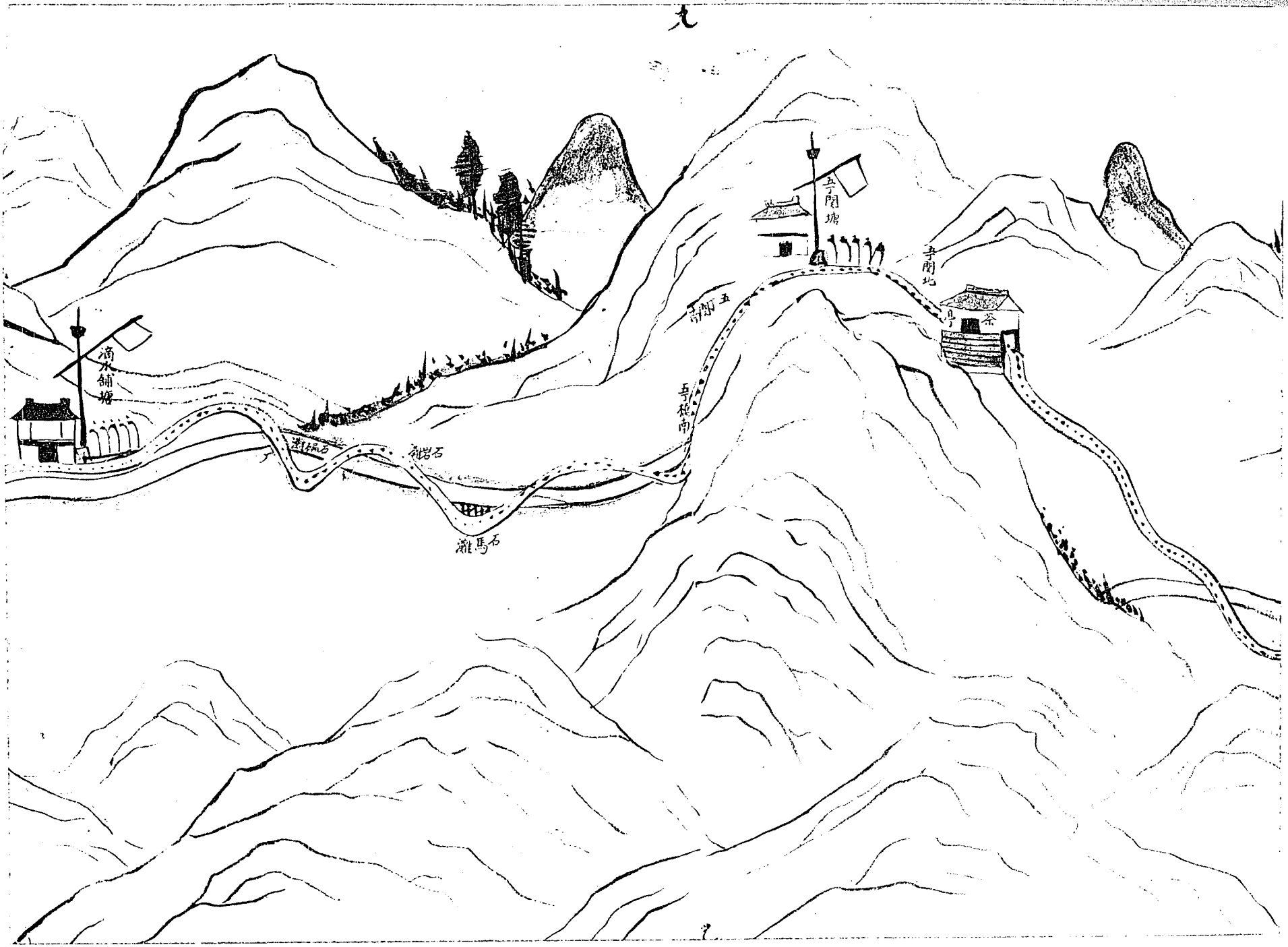


Plate 32. A copy of the Ta-pa Shan Trestle Road Map in the Library of Congress, Washington, D.C. The flagged marker at upper right represents the location of the barrier of Wu-ting-kuan.

are passed in quick succession until the road broadens out to a large highway to reach the important terminus of Ch'eng-tu, capital of Szechuan and the most prosperous and important city of West China.

The past and present significance of the barriers.

The old routes followed the easiest passageways through the mountains. Barriers situated at restricted defiles and passes, therefore, controlled through traffic. Inasmuch as the difficulties of early travel across this mountain mass confined traffic largely to the constructed road, a large portion of which rested on cliff-side trestles, traffic control by means of a few barriers was relatively easy. This was facilitated by the fact that usually only one such road route was maintained in usable condition during any one period.

As alternative routes were explored and developed and their possibilities made known, succeeding dynasties were faced with an increasing number of barriers to guard during periods of dynastic strife and civil wars. The increase in mountain settlements that arose with the development of each new route helped to maintain the accessibility of the route and thus increased the necessity of vigilance at the control points even along the routes that were abandoned by the official courier administration. For the routes through the Ch'in-ling Shan were usable even when official roads over them were not maintained. This is shown by the fact that during the period of the Three Kingdoms (A.D. 222-264) military exigencies caused each of the various routes through the Ch'in-ling Shan to be used at one time or another, and sometimes several routes were used simultaneously. Since two or the principal contestants in this period

occupied the north and south water-sheds of the Ch'in-ling Shan respectively, no through road was being maintained, and all routes were suffering from neglect.

In the case of control over civil traffic and communications during periods of peace and unity of north and south, the barriers were maintained chiefly over the main route of travel to collect transit taxes and to restrict banditry. However, the ineffectiveness of this control during more modern times when mountain settlement has become widespread is indicated by the complaint registered in the Feng District Gazetteer of 1892 that tradesmen avoided the main route through the Ch'in-ling Shan to escape excise taxes. Instead, they made use of small paths connecting the valleys of the Han Chiang and Wei Ho.[1]

Nevertheless, the difficulties and uneconomical nature of the lesser routes still force the bulk of commercial traffic and most private travelers to remain on the primary artery of travel.

Historically, the chief function of barriers in traffic control appears to have been that of preventing passage of contraband. One Chinese author states that: 'Taking an over-all view of the situation, the barriers and ferries in Chinese history were inspection points for prohibited articles carried by travelers rather than excise revenue collection points. It is true, however, that at times they served the latter function. Upon occasion, too, military persons have taken advantage of their positions to refuse to permit inspection and have transported prohibited or taxable commodities free of tax through the

[1] Feng Hsien Chih, 1892, ch'uan 1, p. 15-20.

barriers.[1] Today, barriers which exercise strategic control over communications still are maintained, watched over by military and revenue police.

From a military view-point, the function of the old walled barrier has changed to one of lesser importance. Not only do they offer little obstacle to the blast of modern artillery, but their thin shells are easily demolished by aerial bombing. On the other hand, as vantage-points for road blocks in terrain which makes extremely difficult the bringing in of heavy artillery, and as obstructions to infantry movement, some of the more important barriers still serve a useful military purpose. In a situation such as prevails in the civil war in China today, where small arms, machine-guns and grenades are the principal weapons, the old barrier points are not to be scorned. The same geographical considerations which led to their early establishment continue to ensure their use for strategical control over communications.

[1] T'ao, Hsi-sheng, and Wu, Hsien-hsiang, Nan-pei-ch'ao Ching-chi Shih, Shanghai, 1937, p. 101-102.

CHAPTER IV

THE HISTORICAL DEVELOPMENT AND GEOGRAPHICAL SITUATION OF SHENSI-SZECHUAN COMMUNICATIONS DURING THE DIFFERENT POLITICAL PERIODS

The pre-Ch'in period (prior to B.C. 250)

Trade routes connecting the regions occupied by Shensi and Szechuan Provinces of China were in operation at a very early date. The pioneer opening of the Pao-yeh Tao is attributed by ancient Chinese records to the great Yü of the Hsia period, some 22 centuries before the birth of Christ.[1] Whether this actually occurred at or near this date cannot be substantiated, but by B.C. 1700 a bronze culture was in existence in the area of An-yang, Honan, where pieces of wrought tin also were excavated. Since tin deposits in China exist only in the southern or southwestern section, it appears reasonable to conclude that the Shang at least had some communications or commercial dealings with southern China, probably using cowry shells as mediums of exchange.[2]

The oldest information available indicating a trans-Szechuan trade route to Shensi is given in the Chou Shu. This tells of the arrival at the Chou court at Ch'ang-an in the Wei Ho valley of a party of traders in 11th century B.C. One of the party is reported as coming from a place which has been identified with Ta-yao, northwest of Kunming in Yunnan Province. This party brought to the court of Cheng Wang, the second king of the dynasty, a monkey from a country

1 Tz'u Hai, Shanghai, 1936, Vol. II, Section Shen, p. 211.

2 Lan, Wen-cheng, Chung-kuo T'ung-shih, Kwei-yang, 1942, Vol. I, p. 42.

where it was called "kudang" (i.e., Northeast India).[1]

Among the most active merchants of the time were the traders of Shu (the state centered around Ch'eng-tu in Szechuan). These were non-Chinese people,[2] for this area had not yet come into the sphere of political influence of the still limited Chinese dominions. It must not be inferred, however, that this trade involved the use of these routes during the earlier period by caravans going to and fro or in the steady interchange of products along their courses. It is highly improbable that travel by any individual from one end of a route to the other occurred, except perhaps in short stretches or in extremely rare instances. What is more likely is that goods were passed in barter trade by one group or tribe of people to the next adjacent tribe, with probable price increases in terms of barter as the articles proceeded farther along the route.

One of the curious objects of the interchange was the mastiff dog which was brought from Tibet through the agency of the Shu traders to the Chinese court in the Wei Ho valley. Other items mentioned in

1 de Lacouperie, Terrien, The western origin of the early Chinese civilization, London, 1894, p. 41.

2 Until B.C. 316 Szechuan was inhabited by peoples of the states of Pa and Shu who were considered barbarians by the Han Chinese of the Wei Ho valley. They were located in the regions around Chungking and Ch'eng-tu respectively and knew the art of making bows and arrows. Another tribe called the Liao lived in the area extending from the Ch'in-ling Shan to southern Szechuan. These were of an entirely different ethnological character. They differed also from the Pa and Shu in not knowing how to make bows and arrows as late as the 4th and 5th century A.D. and in not having surnames or clan or personal names. Furthermore, they built their houses in trees, indicating a very primitive society. (See Li, Chi, The formation of the Chinese People, London, 1928, p. 240-249.)

the trade of this early period include the jujube, peach, and apricot brought to and planted in the central parts of China. Objects which soon became regular articles of trade were wild-silk and woolen cloth produced in Shu, many-knotted bamboo staves of Ch'iung (west Szechuan), precious furs of Hu-kuang, and the iron ware of Liang (Han Chiang Basin). While no precise dates can be given as to when these items first entered into the trade, Lacouperie is of the opinion that it cannot be much later than B.C. 650.[1]

By the time of the Contending States (B.C. 770-255), constructed sections of trestle road existed in the mountainous sections of the route between Szechuan and the Wei Ho valley. Commerce and trade had become very extensive between Szechuan and the north. Records of the north indicated a knowledge at this period of the courses of the Han Chiang, the Hsi-han or West Han (now called the Chia-ling Chiang), and the Pa Shui (an eastern tributary of the Chia-ling Chiang now called the Ch'ü Ho). Furthermore, the mountain pass over the first range of the Ch'in-ling Shan just south of present Pao-chi already had assumed enough importance to be a fortified barrier named Ta-an-kuan.[2]

There is no indication whether this barrier marked the mouth of the chief route southward during the period of the Contending States, but in the southern section of the mountain belt, records indicate that the chief route through the Ta-pa Shan was even then the same as the primary route today, and Chien-ko was an important strategic control point along the route.[3] Southward of the Szechuan Basin,

1 de Lacouperie, op. cit., p. 196-198.

2 Li-tai yü-ti-t'u, Wu-ch'ang, 1908 (historical maps), Chang-kuo chiang-ch'eng-t'u.

3 Ou, Yang-ying, Li-tai Chan-cheng Yü-ti t'u, Ya-hsin T[illegible]li She Wuch'ang, 1933, map 6.

well-defined trade-routes by this time joined Ch'eng-tu with Pegu on the Burma coast, with India via Yunnan, and with Tonkin a little later, about the 2nd century B.C., although constructed roads were non-existent until centuries later.

Ch'ang-an in the Wei Valley (see Plate 33), as the center of the highest form of civilization and culture in eastern Asia and as the political power center of the emerging Chinese nation, was naturally the chief magnetic force drawing trade toward itself from far lands. At the same time, this new nation was expanding both eastward and southward, impelled not only by pressure of new invaders from the west and north, but also by the dynamic force inherent within this vigorous culture. The fresh lands and green pastures were to the east and south in the delta lands of the Ho[1] and the basins and delta of the Chiang and its tributaries, made the more inviting by the climatic and resultant crop uncertainties of the loess-lands.

The Ch'in period (B.C. 255-206)

The Ch'in period marked the final demise of the Chou dynasty feudal period and the ascendancy of strong centralized control in the Chinese nation. At the same time, the dynamic vitality of the new revolutionary force burst the bounds of the feudal political agglomeration and spread in a wave of conquest to lap the borders of southeastern Asia. There were two forks to this southward drive. One followed the lowland corridor east of the Ch'in-ling Shan. The other pierced the mountain belt to occupy Szechuan and the southwest. Good roads were essential not only for consolidation of conquests, but also to facilitate the penetration of the mountainous and the then largely wooded parts of China south of the Yangtse Chiang.

[1] Early Chinese historical works referred to the Huang Ho merely as the Ho and to the Yangtse Chiang merely as the Chiang.

Until the time of the Chou Emperor Hsien (B.C. 368-321), the Szechuan state of Shu held suzerainty over the region of the upper Han Chiang Basin or what is now south Shensi. During this period, however, the middle Yangtse Chiang state of Ch'u was looking with covetous eyes at the prosperous Szechuan Basin. Unable to penetrate Szechuan through the Yangtse Chiang Gorges, it conquered the valley of the upper Han Chiang, thereby gaining control over the easier though still difficult routes into Szechuan. However, in the wars of the Six Kingdoms at the end of the Chou dynasty, Huai Wang of the Ch'u proved too weak to withstand the Ch'in armies. His kingdom was invaded and conquered, and the upper Han Chiang Basin was brought into the domain of the Ch'in kingdom. Han-chung was thereupon organized for the first time as a chün (administrative department) by the Ch'in king, Hui Wen Wang in B.C. 335. The walled city of Nan-cheng was built in the 26th year of Duke Li of the Ch'in.[1] Its present situation is shown by the aerial photograph in Plate 24.

Possession of the Han-chung Basin did not, however, thereupon secure control over Szechuan. The Ta-pa Shan presented unusually difficult obstacles. Though undoubtedly traversed by paths and trails, their difficulties were too great for a large invading army dependent upon supplies from the rear. Here in the mountains no food was to be had for requisitioning, for only scattered hunters penetrate the forest wilderness. Furthermore, the passes were not easily forced. Evidently, some artifice was called for.

The prime requisite was a road adequate for the purpose of supporting an invading force. To construct such a road, on the other hand, required

[1] Han-chung Hsi-hsiu Fu-chih, 1815, ch'uan 2, p. 8-27.

consent by both contiguous states if the extreme natural difficulties were not to be compounded by the additional obstacle of hostile attacks. A road was constructed, and both mythology and historical evidence points to such construction by mutual consent of states north and south of the Ta-pa Shan.

Various versions of the myths of the origin of the main road through the Ta-pa Shan have been woven around the name of the road, the Chin-niu Tao or Road of the Golden Oxen.[1] It is related that when the Chou emperors were on the throne, the king of Shu exercised jurisdiction over the region of the Pao-yeh Ku and Han-chung. Coveting the prosperous lands of the Shu, but unable to penetrate through the Ta-pa Shan for lack of an adequate road, the ministers of the king of rising Ch'in (whose domains were adjacent to that of Shu) devised a scheme. They had been informed that the king of Shu had two weaknesses. He was covetous of wealth and he was amorous of disposition. They decided to utilize both avenues of ingratiation. They caused to be sculptured five stone oxen which then were accredited with the power of excreting gold. To lend credence to the tale, lumps of gold were strewn around the statues secretly by night and openly discovered the following morning. The fame of these stone oxen was spread abroad with the subtle intent of reaching the ears of the king of Shu.

[1] Both von Richthofen and Wylie recount versions of the story which they had heard, some of the details having been changed in the telling, so that Wylie, for instance, says that Wu-ting-hsia, or Five Commissioners' Pass, refers to the "five stone oxen which the king of Tsin presented to the king of Shuh", whereas the Wu-ting actually refers to the road engineers and not to the oxen. The account here given is from Liu, Ting-sheng, Ssu-ch'uan Li-shih, Chungking, 1944, p. 5-6.

During the course of a hunting expedition in the Ch'in-ling Shan the king of Shu met by a well-managed chance the king of Ch'in also bent on the pleasures of the chase. Inquiries were made by the king of Shu concerning the famous stone oxen. The king of Ch'in cordially informed the king of Shu that as a special mark of his friendship, he would like to present the king of Shu these self-same gold-excreting oxen together with some fair damsels from the realm of Ch'in. The king of Ch'in was careful to point out, however, that unfortunately no suitable roads were available for transporting these oxen to the capital of Shu. In his greed and lust, the king of Shu immediately announced that he would see to the construction of suitable roads.

In due course, after his return home, the king of Shu delegated five commissioners together with a thousand men to undertake the construction of the Chin-niu Tao through the Ta-pa Shan, and to give proper escort home to the five stone oxen and the maidens concerned. Whether the king of Shu had an opportunity to verify for himself the excretion of gold is not told in the story, but it is related that upon completion of the roads, the king of Ch'in lost no time in sending an army into the Szechuan Basin and subjugating the Shu dominions.

Fantastic though the tale be, the story has been immortalized not only in history but in the names of several places along the main route and in the name of the route itself. Thus, there are the names Golden Oxen Pass, Five Commissioners' Pass, the Golden Oxen District of T'ang dynasty times, the Golden Oxen Courier Post, and the two names for the main route called the Golden Oxen Road or the Stone Oxen Road.

The real history of the invasion of Szechuan by the Ch'in armies is quite different.[1] It does not, however, reveal any details on the

[1] Liu, Ting-sheng, Szu-ch'uan Li-shih, Chungking, 1944, p. 5-6.

origin of the construction of the road itself. In B.C. 316 the Marquis Chih, brother to the king of Shu, became very friendly with the king of Pa (centered on Chungking). However, as the kings of Shu and Pa had been at enmity for generations, the king of Shu became enraged with his younger brother, the Marquis Chih. The younger brother fled to Pa for protection. Fearing the Shu, the king of Pa sent word to the king of Ch'in requesting aid against the Shu.

At this period the Ch'in Prince Hui (later emperor of China) was about to start a campaign to chastise the Ch'u kingdom in the middle-Han Chiang and Yangtse Chiang valleys, and all the Ch'in statesmen were against sending aid to the king of Pa with the exception of Ssu-ma Ts'o and T'ien Chen-huang, the Commander of the Capital Guard, who differed from the others. These two men influenced Prince Hui to send troops to attack Shu so as to conquer and utilize the rich resources of the Shu domain, and to obtain its cloth and metal for Ch'in's military needs. Moreover, support for the scheme was furthered by the argument that once Shu was taken, Ch'in could attack the Ch'u from the west by going down the Yangtse Chiang augmented by the valient soldiers of Pa. With Shu, Pa, and Ch'u under its control, the Ch'in would be able to seize all of China.

The audacious scheme of Ssu-ma Ts'o fitted in well with Prince Hui's ideas. In B.C. 314 an expeditionary force under Minister of State Chang I, Ssu-ma Ts'o and Lord Mo went to the aid of Marquis Chih and attacked Shu via the Road of the Golden Oxen. The king of Shu personally took the field and made his main stand at Chia-meng[1] in the vicinity of the famous Chien-men Barrier south of Chao-hua in Szechuan. Being utterly defeated, he fled to Wu-yang south of Ch'eng-tu,

[1] The Ku-chin Ti-ming Ta-tz'u-tien states that the old site of Chia-meng is 16 miles southeast of Chao-hua.

where he was caught and killed by the troops of the Ch'in.[1]

Chang I, the Minister of State, who originally had opposed the campaign against Shu,[2] did not hesitate now to attack Pa and subordinate it to Ch'in, thereby gaining for the Ch'in all the politically organized territories of Szechuan.

To consolidate these gains, 10,000 families of Han Chinese were transported to Szechuan for settlement, marking the beginning of organized "Chinese" culture among the Szechuan inhabitants. One of the most important cultural techniques thus introduced was the system of irrigation established in the Ch'eng-tu Plain. This was a technique already highly developed by the Han Chinese in the dry lands north of the Ch'in-ling Shan. The Ch'eng-tu Plain is composed of a number of alluvial fans emerging from the mountains of the Tibetan Plateau border. Prior to the introduction of the system of irrigation in the plain, much of the area was either sandy wastes or swampy floodlands. Although even under such conditions the natural fertility of the alluvium in the more favorable locations supported a prosperous indigenous state, the regulation of floods and the supply of dependable water increased the productive capacity tremendously. That this potential was realized by the invading Han Chinese is indicated by the fact that the very first governor appointed by Chao Wang of the Ch'in, by name of Li Ping, is reputed to have designed the elaborite irrigation works which have lasted to this day. His son known as Li the Second, carried out the major part of the project.[3]

1 Chung-hsiu Chao-hua Hsien-chih, 1864, ch'uan 46, p. 1.

2 Bodde, Dirk, China's First Unifier, Leiden, 1938, p. 10.

3 Little, Archibald, op. cit., p. 82. The author gives the date of the conquest of Szechuan as B.C. 215, whereas it actually occurred a century earlier.

A second cultural feature brought into Szechuan from the Wei Ho valley was the art of city planning, for Chang I, the Ch'in Minister of State, is credited with establishing Ch'eng-tu in imitation of the Ch'in capital at Hsien-yang, and on a par with it in size and scale, if not in the magnificence of its palaces. The rectangular form of walled enclosures, a product of the flat plains of North China where planning of city structure did not have to conform to the limitations of irregular terrain, was brought into Szechuan. Probably, the familiar features of the Chinese city were then also brought in: the brick or stone-faced wall backed by a ridge of earth, the four or more gates facing the cardinal directions, the moat encircling the walls with occasional water conduits penetrating the walls to furnish drainage or water supply for the city, and the gate towers and parapets surmounting the walls. All of these features of the northern city became characteristic of the towns and cities along the route to Szechuan, as, indeed, they became characteristic of most cities of South China. In the earlier period, however, when many of these cities were but small centers of settlement, the earthen walls lacked brick or stone facing.

That the importance of good communications in maintaining an empire was recognized by the Ch'in rulers is shown in their program of road construction. The roads of the loess basin described by von Richthofen and others were not comparable to the roads of two milleniums earlier. In fact, the roads of the Chou dynasty were in far better condition than the deep-cut loess tracks now found in the Wei Ho valley and adjacent loess lands. The maintenance of roads was in the hands of a kind of road commissioner who at the same time was

a local administrator of the area through which the road ran. The routes were classified into five grades according to width. The Ching found on small farms was a mere footpath for men or animals. The Chen was wide enough for wheeled traffic, passable for one cart of small size. The Tu were roads passable for one cart of large size or what we might call a one-lane highway. The Tao were two-lane highways passable for two carts abreast, and the Lu were three-lane highways passable for three carts abreast.[1]

Ch'in Shih-huang, the builder of the Great Wall, made vast improvements in the highway system of his newly established empire. A radiating system of roads led from his capital at Hsien-yang to all parts of his empire. His most famous road was the Ch'ih Tao, started in B.C. 221. The route of this road followed the shortest distance between points and had no turns or windings. For this reason it also was called the Straight Road. The road led from Hsien-yang eastward into Yen and Ch'i and southward into Wu and Ch'u to the shores of the ocean and the banks of the Yangtse Chiang and the Lake (probably T'ai-hu, since the reference is to a large lake to the south of Wu).

The Ch'ih Tao is described as having a width of 50 paces, with a tree planted at each side every thirty feet. It was durably built and the surface was pounded firm with iron tampers. The trees were a variety of conifers.[2]

When Fan-sui became Minister of State to the Ch'in Emperor Chao,[3]

1 Cheng, Ming-ju, The influence of communications internal and external upon the economic future of China, London, 1930, p. 55-57.

2 P'eng, Hsueh-p'ei, op. cit., p. 89.

3 Liu, Ting-sheng, op. cit., p. 5.

the road to the southwest tribes (hsi-nan-i) was constructed. This road was five feet wide and large sections were built on trestles. Great trees were cut down for props. On top of this was constructed an even surface of boards, branches and mud. Sections were chiseled out of natural rock, and ravines and gorges bridged over. Although the route of this road is not exactly known, it appears to have traversed the Ch'in-ling Shan to connect with the Chin-niu Tao. Lacouperie talks of "the famous five-feet causeway through the Tsing Ling range",[1] while Liu Ting-sheng connects the five feet wide roads with the trestle road on which Shu and Pa relied for communications with the imperial court at Hsien-yang, implying that this was the Pao-yeh Tao.[2]

On the other hand, the southwest tribes were largely located in areas south of Chungking and southwest of Ch'eng-tu, and subsequent Han dynasty construction on these roads appears to have meant roads continuing southwestward from Ch'eng-tu. Whether the five-feet wide cause-way refers to the Ch'in-ling Shan route or not (and the probability is that it does), the Ch'in were using a shorter route of communication across the Ch'in-ling Shan than that down the Tan Chiang and up the Han Chiang via present-day Hupeh Province. This shorter route undoubtedly was that of the Pao-yeh Tao, for, during the last days of the Ch'in when the founder of the Han dynasty traveled south to Han-chung, he caused the trestles of the Pao-yeh Tao to be burned, thus indicating that the road was in existence during the Ch'in period. Liu makes the assertion that the "Ch'in-Han unification of China was

[1] de Lacouperie, op. cit., p. 52.

[2] Liu, Ting-sheng, op. cit., p. 6.

accomplished through the use of Szechuan resources via the link of the trestle road through the Ch'in-ling connecting Szechuan with Kuan-chung (the central part of the imperial domain)."

In a day when road surfacing was not advanced and the binder was mud, the Ch'in government did the next best thing. It imposed standard dimensions for cart and chariot wheel axles in order that the inevitable wheel ruts would fit all vehicles wherever they traveled.[1] The vehicles during the Ch'in were virtually identical with those of the Han. Although vehicles were used primarily in the North China area, they also were used to a limited extent in the Szechuan Plains. In fact , it was a Szechuan statesman, Chu-ko-Liang, who invented the Chinese wheel-barrow to meet the demands of military transport in his battle against the forces of the Wei court.

Among the vehicles described for the Ch'in and Han periods were the so-called Wen-lang and the Tzu-p'ing.[2] The former was pulled by horses, the latter either by horses or by oxen. Both had screens enclosing the occupied portion where one could sit or recline. The Wen-lang had windows which could be opened or closed to get fresh air or to keep in warmth, from whence came their name: 'Warm-cool carriages'. They had four wheels and were large carriages. The Tzu-p'ing, on the other hand, were freight or baggage wagons, although the front sections also had reclining space.

While travel restrictions existed on all roads of the empire, the reservation for sole official use of the road applied only to the

[1] Granet, Marcel, Chinese civilization, New York, 1930, p. 102.

[2] Pai, Shou-i, Chung-kuo Chiao-t'ung Shih, Shanghai, 1937, p. 103.

express-ways such as the Ch'ih Tao and other trunk routes, most probably including the Ch'in-ling express route. However, as in more modern periods, no doubt many of the official routes were used by private parties upon payment of suitable bribes and "excises" to local guardians of the road.

The transplantation of 10,000 families to Szechuan over the Chin-niu Tao during the Ch'in has been mentioned previously. Such forced migrations were not unusual and often were methods of exile practiced as punishment upon the people transplanted. Thus in B.C. 239 all the inhabitants of a rebel town were transplanted by Ch'in Shih-huang from Shensi to Kansu, while the following year 4,000 families were forced to migrate to Shu as a penalty.[1]

The reverse movement also occurred. Upon completion of the construction of his capital at Hsien-yang, Emperor Ch'in Shih-huang required 120,000 of the richest and most influential families of his far-flung empire to make their residences at the capital.[2] Undoubtedly many families from prosperous Shu and Pa traversed the difficult route through the mountain belt to Hsien-yang in the Wei Ho valley. There was a dual purpose in this. One was to lend brilliance and glamour to his court. The more important reason, however, was the use of these families as hostages for good behavior on the part of their home relatives and following.

Whether the movement of people was to the Szechuan Basin from the Wei Ho or from the Red Basin to the Wei Ho, the net result for Shu and

1 Granet, op. cit., p. 99.

2 Chung-kuo ku-chin ti-ming ta-tzu-tien, op. cit., p. 603.

Pa was the same: the rapid absorption of Han culture in Szechuan and the mixing and assimilation of differing ethnic groups - to the advancement of the unification which was the aim of the Ch'in ruler. And in this movement and cultural assimilation, the new roads across the Ch'in-ling Shan and Ta-pa Shan played a significant role.

In view of the debased position of merchants in the social scale of ancient China and the Emperor Ch'in Shih-huang's alleged interdiction of the merchant profession in B.C. 219[1], it is of interest that Shih-huang himself is said to be the bastard son or a rich merchant. The story is related as follows:[2] A rich merchant, Lü Pu-wei, became famous as a literatus. He supported the claims of Prince I-jen of the Ch'in and succeeded in making him the king known as Chuang Hsiang Wang of the Ch'in. Lü Pu-wei had a beautiful concubine whom he gave as mistress to Chuang Hsiang. The boy born to her is said to have been actually fathered by Lü. This boy became Shih Huang, the "First Emperor". During the early part of the reign of Shih Huang, Lü was the real ruler of Ch'in, but becoming involved in a court intrigue, he committed suicide by drinking poison in B.C. 235.

Whether the story is true or whether it was concocted by historians who hated Shih-huang for his anti-Confucian persecution of the scholars is hard to decide, but it is to be doubted that he himself would have been informed of his bastard origin if such were the case. In any event, Shih-huang not only hated the Confucian scholars; he also appeared prejudiced against the merchants. In fact, he wanted to stop all

1 Granet, op. cit., p. 103

2 Bodde, Derk, op. cit, p. 10. See also Gowen, H., and Hall, J.W., An outline history of China, New York, 1926, p. 84.

foreign trade with his domains in B.C. 237. He was persuaded against such a course by his chief minister, Li Ssu, who came from a land of mercantilists. That is, he was a man of Shu, and he listed all the things which Shih-huang would be lacking if he stopped such trade. These included vermillion and green paint of west Shu, undyed silk, embroidered ornaments, jade from Khotan, pearls from the Fukien and Kwangtung regions, the swords of Tai-gno, the horses of Ch'ien-li, and the beautiful girls from east Honan, as well as gold and silver from south of the Yangtse. In view of such an impressive list, Shih-huang changed his mind, and even promoted Li Ssu for his sage counsel.[1]

That trade was being carried on between the Wei Ho and the Szechuan Basins is shown by a note in the Shih Chi (Historical Chronicles) which states that a Wen Hsiao-mu of the Ch'in lived at Yung-hsi in the Wei Ho valley, selling products of Lung (southwest Shensi) and Shu.[2] In spite of the limitations upon the use of official express roads, the great expansion of road construction during the Ch'in period stimulated trade and travel. Ch'in Shih-huang's abolition of the feudal political structure to build a centralized state organization also aided commercial development, although his personal disposition towards tradesmen was unfriendly and contemptuous.

In this inter-regional trade, the Szechuan Basin was of great importance to the empire. Liu writes that "When Pao and Shu were united under the Ch'in, they became a part of the commercial region 'within the barriers' (Kuan-chung). Economically, all of these areas belonged within the boundaries of Kuan-chung. In this respect there was no

[1] de Lacouperie, op. cit., p. 204.

[2] Liu, Ting-sheng, op. cit., p. 12-14.

difference or change during the Han. The Shih Chi states: 'Within Kuan-chung[1]...in the south are Pa and Shu which are fertile and rich, the land yielding abundantly of ginger, cinnabar, stone, iron, copper bamboo and wooden implements and objects...' The period of the Contending States through the Ch'in and beginning Han period comprised the iron age in China. At this time iron smelting and casting developed on a widespread scale in Szechuan."[2] Iron objects were among the many items of trade which crossed the Ch'in-ling Shan barrier along the chief road of the time.

We see from the above account that the transmontane roads were of prime importance in accomplishing the conquest of Szechuan and in the political and cultural consolidation of this rich region into the first unified Chinese state. To a lesser extent they were also important in the early development of trade and commerce between the warm moist southland and the drier and more continental climatic region north of the Ch'in-ling Shan.

The Han period (B.C. 206 - A.D. 220)

The first route across the Ch'in-ling Shan over which a good road was engineered was the Pao-yeh Tao, the road being built in the time of Hsiao Wu of the Ch'in, about B.C. 300. This road was one of two routes that was used by Liu Pang in the military campaigns preceding the establishment of the Han dynasty. Liu Pang was a village headman

1 The term Kuan-chung literally means "within the barriers". Originally, the barriers referred to were those bounding the Wei Ho valley around Ch'ang-an to the east, north, west and south. However, the connotation later developed to mean the "core area" of the state, as distinguished from the outlying and less protected areas. Thus the Szechuan Basin was considered so intimately tied to the vitals of the Imperial domain that it was included as part of the "core area".

2 Liu, Ting-sheng, op. cit.,

from northwest Kiangsu who had entered military service under the Ch'in. He was made the Duke of P'ei (P'ei being near the present city of Hsiao in northwest Kiangsu). During the civil war at the end of the Ch'in, Liu Pang was proclaimed Prince of Han.[1] He decided to contest for the supreme power with one of the ambitious military leaders by the name of Hsiang Yü, and fled to Pao-chung (Pao-ch'eng) from Ch'ang-an via the Pao-yeh Tao in B.C. 206, following the footsteps of the elder statesman, Chang Liang, in order to seek out the latter's advice and aid.[2]

To cut off pursuit as well as to make Hsiang Yü believe that he had no intention of coming back along the Pao-yeh Tao to attack Ch'ang-an, Liu Pang had his followers burn the trestles on which much of the road was supported in the precipitous mountain gorges.[3]

After building up his power from the seat of his administration at Pao-chung, he and his lieutenants drove northward through the Ch'in-ling Shan again to defeat Hsiang-yü and proclaim himself Emperor Kao Tsu of the Han. In this northward march he did not retrace his route over the burnt out trestles of the Pao-yeh Tao, but took a new route across the Ch'in-ling Shan. He went westward up the Han Chiang to Mien and took the Ch'en-ts'ang Tao to emerge from the San Kuan (Ta-san Barrier) near present-day Pao-chi. The confusion over the route of the Ch'en-ts'ang Tao has been discussed in Chapter III. There is no controversy over the Han conqueror's entrance point into the Wei Ho valley, although one source states that he went via the Chia-ling Chiang valley through Lueh-yang and Liang-tang to Feng,[4] while

1 Tz'u Hai, appendix, historical chronology, p. 9.

2 Han-chung Hsi-hsiu Fu-chih, op. cit., ch'uan 2, p. 8-26.

3 Liu-pa T'ing Chih, op. cit., ch'uan 4, p. 14-19.

4 Han-chung Hsi-hsiu Fu-Chih, op. cit., ch'uan 1, Chan-tao Maps.

another states that he traveled northward directly from Mien to Feng.[1]

Another controversy has existed as to whether the Tzu-wu Tao was also used. The Shih-men Odes of Yang Chün makes the statement that Liu Pang marched through the Tzu-wu Tao to invade the Ch'in and seize the emperor's crown. The Liu-pa Sub-District Gazetteer ventures the opinion that in sending forth his armies, Liu Pang would not have limited the routes of attack to the one followed by himself. On the basis of a statement in the Records of Marquis Huai Yin in the Shih Chi relating "an attack by all the separate commanders", this source opines that while Liu Pang went by the Ch'en Ts'ang Tao, his lieutenant Han Hsing probably traveled by the Tzu-wu Tao with another column.[2]

However, the Feng District Gazetteer asserts that people who argued thus were ignorant that the Tzu-wu was first constructed at the time of Wang Mang in A.D. 5. It goes on to state that at the time of Han Kao Tsu the Tzu-wu Tao was still a wilderness and the so-called Tzu-wu Valleys were vaguely referred to as the "north and south ears" (complementary valleys).[3]

In consolidating his position and in his campaign of conquest, Kao Tsu sent out three expeditions from Han-chung to chastise the state of Ch'u situated east of him. Szechuan was his mainstay in provisioning his armies. His prime minister, Hsiao Ho, despatched to his armies from that province 10,000 boat-loads of rice. It is not

1 Feng Hsien Chih, op. cit., ch'uan 1, p. 15-20.

2 Liu-pa T'ing Chih, op. cit. See also Ou, Yang-ying, Ya-hsin Ti-li She, Li-tai Chan-cheng Yü-ti-t'u, op. cit., map 8. This source generates further confusion, for a note on this map states that Han Hsing took the Mi-ts'ang road through the Ta-pa Shan in campaigning against the Ch'in. If this is so, Han Hsing must have come up north from Pa-chung in Szechuan.

3 Feng Hsien Chih, op. cit.

stated whether these boats went down the Yangtse Chiang, or whether they went up the Chia-ling Chiang and through the Ta-pa Shan.[1]

During the time of Wu Ti (B.C. 140-86), the greatest of the Han rulers and the one responsible for the large-scale expansion of the empire westward, several notable enterprises were undertaken in bettering communications through the Ch'in-ling Shan as well as in southern Szechuan. One of the most remarkable was the attempt to establish an alternate rice transport route to Ch'ang-an from Shan-tung (the eastern part of his empire).[2] The Yellow River presented serious obstacles to water transport, the most difficult being the Ti-chu Shan, a number of rocky islands which divert the waters of the river into three channels a few miles east of present Lu-p'ing in southern Shansi. This obstacle also is known as the San-men Hsia, or Three-Gate Gorge, the southernmost channel being appropriately called the Devil's Gate, the middle channel the Gate of the Gods, and the northern channel the Gate for Humans. Only the Gate for Humans was usable for navigation under difficulties. The others were too dangerous owing to the rapids and rocks.[3]

Just after the opening of the Wei Ho canal from Ch'ang-an to the Huang Ho, someone proposed to Wu Ti the reconstruction of the Pao-yeh Tao together with the improvement of the Pao and Yeh rivers for water transport. Since the headwaters of the Pao-Shui and the Yeh-ku Ho, flowing respectively south and north into the Han Chiang and the Wei Ho, were only about 30 miles apart, such a route, if

[1] Liu, Ting-sheng, op. cit., p. 5-6

[2] Shih, Nien-hai, Chung-kuo ti yün-ho, Chungking, 1944, p. 43.

[3] Chung-kuo ku-chin ti-ming ta-tz'u-tien, op. cit., p. 462.

successful, would obviate the dangers of the Ti-chu Rocks. The grain could be shipped from the vicinity of Nan-yang[1] down to the Han Chiang, thence up to the Pao Shui at Pao-ch'eng, and up that river to its headwaters near the northern ramparts of the Ch'in-ling Shan. From there a short overland trip on a well-constructed road would be required to reach the headwaters of the Yeh-ku Ho. The grain would be loaded again onto boats and shipped down to the Wei Ho and to Ch'ang-an.

While this route was somewhat round-about and longer, the difficulties of the Huang Ho were so great that the Emperor Wu Ti asked his Minister of State Chang T'ang to make an investigation of the possibilities. Chang T'ang was a shrewd minister, and upon making a study of the situation, recommended to Wu Ti that the scheme be attempted. He argued that if such a route were opened, this would not only would facilitate the transport of food from Shan-tung, but would make available the lumber and bamboo (important for making arrows) in the vicinity of the Pao Shui and Yeh-ku Ho. Furthermore, it would considerably shorten the road route to the Szechuan Basin, since the Ch'en-ts'ang Tao then in use was much longer than the Pao-yeh Tao.

Upon hearing this advice, Wu Ti immediately commissioned Chang T'ang's son, Chang Ch'iung, to undertake the project, having the two-fold object in view: one, to improve and regulate the water channels, and, two, to rebuild the road long neglected. Several tens of thousands of men were put to work on the project.[2] The 165 miles of road from the Wei Ho valley to Han-chung were rebuilt, but, unfortunately, it was found that the drop of the rivers was too rapid to create a waterway for

[1] Shih Nien-hai argues the existence of canal and river connection prior to the Han dynasty between Nan-yang and the Huai River.

[2] Pai, Shou-i, op. cit., p. 83-84.

boats. This part of the scheme had to be abandoned, therefore, and grain continued to be transported by the Huang Ho route.

In addition to the Ch'in-ling Shan and Ta-pa Shan roads, construction was continued during the early Han period on the "roads to the Southwest Tribes". These roads were started during the Ch'in and may have included the Ch'in-ling Shan and Ta-pa Shan sections. During the Han, however, the reference is to roads in the southern part of and south of Szechuan. During the first part of the reign of Wu Ti, the minister Ssu-ma Hsiang-ju was responsible for the work of constructing these roads. One of them was the road to Yeh-lang (what is now the area just west of Kweichow Province). Another was the Ling-shan Tao which reached the Chiung (a tribe in the region southeast of Hsi-ch'ang, Szechuan) and the Cha (a tribe southeast of Han-yuan in Szechuan).[1]

Great obstacles were encountered in this road construction. The Book of Standards of the Shih Chi states: "In constructing the roads to the Southwest Tribes, T'ang Meng and Ssu-ma Hsiang-ju employed several tens of thousands of men to cut the road through the mountains. Food had to be provided for a thousand li...The food was collected by a levy of one picul for each chung of rice [a chung amounted to about six piculs and four pecks] and was obtained from the Chiung and the P'o tribes in exchange for money. After several years the roads still had not been completed because of intermitant attacks by wild tribesmen. Troops were sent to exterminate them, but all the levies of Pa and Shu were not enough to get the roads through." These two roads involved great engineering efforts and a tremendous amount of man-power and wealth.[2]

[1] Pai, Shou-i, op. cit., p. 83-84.

[2] P'eng, Hsueh-p'ei, op. cit., p. 89

Apparently, after the Wu Ti period, the Pao-yeh Tao was allowed to fall into disuse and most probably another road across the Ch'in-ling Shan was used for the courier road. While the writer has not discovered which this alternate route was, it must have been no other than the Ch'en-ts'ang Tao of earlier days. While the Ch'en-ts'ang is longer, the passes over which the road goes are lower and easier. No doubt the deterioration of trestles had rendered large sections of the Pao-yeh Tao impassable. In any case, by the time of Wang Mang (A.D. 6) the usurper of the Han throne found it preferable to cut through a wholly new route than to rebuild the Pao-yeh Tao. The Wang Mang Records of the Han Shu state that the Tzu-wu Road then built ran from Tu-ling in the vicinity of Ch'ang-an "straight through the Nan Shan" to Han-chung.[1]

The Pao-yeh Tao was rebuilt once more during the Later Han period. A stone tablet commemorating the event was inscribed at Nan-cheng (Han-chung) during the Sung dynasty and was set up at Shih-men-tung on the old Pao-yeh Tao northeast of Liu-pa.[2] This tablet states that an imperial edict of A.D. 64 commanded the reconstruction. Some 2,690 penal laborers were collected from the prefectures of Kuang-han, Shu and Pa for this purpose, although before it was completed, the labor of 766,800 people were utilized. It is not stated for what period each worked, but probably most of the able-bodied men adjacent to the road route were required to do some work on it. Five large bridges, 623 small trestle bridges and some eighty-five miles of road were constructed. Since this is only a part of the whole road length, much

1 Pai, Shou-i, op. cit., p. 84-85

2 Pao-ch'eng Hsien Chih, 1831, ch'uan 8, p. 2.

of the road must have been still intact. The tablet also states that the road was reconstructed to I-chou (Ch'eng-tu) Prefecture in AD. 67. Thus, it would seem that the work was not restricted merely to the Ch'in-ling Shan section, but applied to the whole road through the mountains to the Ch'eng-tu Plain.

Courier posts and guard stations were built to the number of 64 and the reconstruction involved the use of 369,840 tiles. The cost in terms of food for the laborers amounted to 1,499,400 pecks of millet. From this we see that the road workers got the usual poor food served to conscript workers in China (millet instead of rice). If this were the only food served to all the 766,800 people that worked on the road, it would mean that each got about 1.95 pecks for the period in which he was working, or an average of 15.6 quarts of millet. A half quart of millet daily would probably have sufficed to keep a man alive and working. From this rough estimate, we can guess that each man worked an average of about a month on the road or on the river channels. This means that the whole project involved a total of 23,004,000 man-days, a rather vast expenditure of labor. Inasmuch as two or three years were required to complete the work, however, the number of men working at any given time probably was not in excess of 20,000 to 30,000.

It appears that the Pao-yeh Tao was kept functioning and in good order for the next three-score years, and that the Tzu-wu Tao also was maintained, for the Shun-ti Annals of the Hou Han Shu says that in A.D. 125 the Governor of I-chou received an imperial mandate to connect the Tzu-wu Tao with the Pao-yeh Tao.[1] It is not clear, however, what the nature of the connection was, or where the two were connected. But

[1] Pai, Shou-i, op. cit.

this edict would indicate that at this period both roads through the Ch'in-ling Shan were functioning as official routes of travel and communication.

It is obvious from these large expenditures of labor and commodities that the transmontane roads to Szechuan were of considerable significance to the Han rulers. Of what nature was this significance? During the Ch'in and Han dynasties, the most important centers of communication were Ch'ang-an and Lo-yang, thus indicating that the "key economic area" still was in North China in the Huang Ho lowlands. There were other important centers subordinate to these. This is shown by the establishment by Wang Mang of offices of administration for communications in six cities.[1] The chief officer was located in Ch'ang-an and was called the "East-west City Commandant". In the other cities, city magistrates or mayors called the "five equal commanders" were established. There was one such commander in each of the following: Lo-yang near the Huang Ho, Han-tan in southwest Hopeh Province, Lin-tzu east of Chi-nan in Shantung Province, Wan (Nan-yang) in southwestern Honan, and Ch'eng-tu in Szechuan. There also were appointed a ministry of the treasury and five ministers of trade for these places.

With the exception of Nan-yang, which for all intents and purposes was part of the "key economic area" of the Huang Ho valley, Ch'eng-tu was the only metropolis south of the Huang Ho water-shed. At this time, the sole feasible gateways from Ch'ang-an to Szechuan and its large city of Ch'eng-tu were the Ch'in-ling Shan and Ta-pa Shan routes. The routes did not act as channels for movement of bulk cargo, however, although trade did flow over these routes. They were primarily courier and official travel roads. Special products of the southern climatic region did go

[1] Ibid, p. 73-74.

northward to supply the demands of the court and the gentry. In the economy of Kuan-chung (the core area) which was short of food because of the large population inhabiting the capital, Lin-tzu in the east was of greater importance. Inasmuch as Kuan-chung had to import yearly several million piculs of rice, Lin-tzu was the collection point for a large part of it.

At times, however, hordes of famine refugees tramped over the transmontane routes from Shensi to the land of plenty, Szechuan. Thus, in the civil chaos that marked the end of the Ch'in and the advent of the Han dynasty, a great many people were jobless and had no means of sustenance. Kuan-chung (Shensi) suffered from such a severe famine that half the people perished. Rice was sold at 10,000 cash per picul, a fabulous price, while cannibalism was widely practiced. Under such conditions, Kao Tsu, the first Han emperor, permitted large numbers to flee to Szechuan to obtain food.[1]

As in the migrations of the Ch'in period, this resulted in a net gain for Szechuan culturally, since many of the famine sufferers were city artisans who were out of employment as a result of the civil war. Without doubt, Ch'eng-tu's flourishing and prosperous state during the Han period was in part attributable to the immigrants from north of the Ch'in-ling Shan. Statistics for city population during this early period are rare, but in A.D. 2 a census showed Ch'eng-tu to have a population of 76,256 families. During the later Han this increased to over 82,600 families.[2] If the average size of a Chinese family in the city may be assumed to be five, this would indicate a population

1 Lee, Mabel Ping-hua, The economic history of China, Columbia University, New York, 1921, p. 156.

2 Pai, Shou-i, op. cit., p. 75-76.

for Ch'eng-tu during the Later Han of from 380,000 to 410,000, a most respectable metropolis for the primitive agricultural economy of the time.

Commercial use of the transmontane routes was intertwined with official use inspite of imperial restrictions on commerce,- or perhaps because of such restrictions. That is, the merchants found that such restrictions made it almost impossible to use these convenient roads unless it was done with the collaboration of officials and under some sort of official sanction. Perhaps, also, the lesser officials found it desirable to increase their low income by participation in trade activities. While on the one hand the Court tried to keep men from leaving farm work for the high profits of trade by strict laws and punishments[1] and by discriminatory legislation,[2] the merchants were able to evade or defy the laws and grow rich and influential.

That the merchants were able to evade the restrictions through influence with the officials is revealed in a memorial denouncing them addressed to the throne at the time of Wen Ti (B.C. 179-157):

"...The big merchants accumulate the crops and double the interest rates, while the small merchant buys here, retailing there, using his wonderful skill in profit making..., traveling in cities and markets daily. On account of the urgent demand, the selling prices are multiplied. Therefore, such men do not have to cultivate the fields and the women need not raise silk worms or spin. But their clothes are always beautiful and artistic; and their food is always rice...; thus they need not suffer the hardships of the farmer, but they receive

1 Lee, Mabel Ping-hua, op. cit.

2 Dubs, Homer H., The history of the Former Han dynasty, (translation), Baltimore, 1938, p. 120-121.

returns a hundred and thousand fold because, being wealthy, they are able to make friends with the dukes and princes - their influence being higher that that of officers; and they use their wealth as a means to overcome the people. So they travel thousands of li, conspicuous by their numbers and equipage, riding in conveyances, riding horseback, wearing footwear and clothes of silk. Therefore, this is the way the merchants eat up ...the farmers. The farmers become wanderers."[1]

Where there is sufficient demand on the part of the consumers, trade will persist, whether legal or illegal, and the state, too, was forced to recognize the situation and make the most of it. The importance of the commercial traffic in the empire may be seen by the fact that in B.C. 119 wheeled vehicles and boats were taxed "in accordance with their capacities".[2] However, the monopolistic trend of the trade was so serious that the state found itself forced to institute a public transport system associated with an office of control so as to ensure circulation of essential commodities and maintain a stable price structure. Carts and other means of transport were made by the state employees. The assistants of the Minister for the Treasury were sent out into the various prefectures to set up control offices. These were related to the special salt and iron sales supervisors.

The result of this system was that "transport increased until it reached (for grain) six million bushels a year...and (for textiles) five million pieces of silk".[3] Equality of price was achieved without

1 Lee, Mabel Ping-hua, op. cit.

2 Granet, Marcel, op. cit., p. 116.

3 Ibid, p. 114.

increased taxation, no doubt owing to the revenues of the state sales. In the production of salt and iron, Szechuan was very significant. In the city of Lin-chiung in Shu Prefecture there were special iron and salt administration offices. Salt administration offices also were located at Nan-an in Chien-wei Prefecture, and Ch'ü-jen in Pa Prefecture. Iron and iron products such as swords, salt, cloth and other products of Szechuan were brought northward across the mountains by both state agencies and private brokers.[1]

So far as state operated methods of communication and transport are concerned, there were three forms during the Han. These were the Yu (Post or mails), the I (courier), and the Ch'uan (Express). The sole function of the Yu was to transmit letters and memorials, including memorials of impeachment. The day or arrival and the name of the mail-carrier were recorded. Post stations were only five li (1.6 miles) apart by statute, so that a postman had to go only half that distance in any direction to meet the next postman. Post offices also supplied lodging for the postmen.[2]

The I or Courier system also was a means of transmitting news, and letters and despatches were carried. In fact, they were under the same administration as the Yu, although they differed in the method of transmission. While the postal service had postmen who undertook complete responsibility for delivery or forwarding of mail, the courier system furnished only the equipment and facilities to the sender of the courier who had to be supplied by the originator of the despatch. Because

1 Liu, Ting-sheng, op. cit., p 12-14.

2 Pai, Shou-i, op. cit., p. 94-100.

of this personalized system, the courier system carried messages to places not reached by the postal system and could be used for more varied purposes. The horse was the usual agency used, although occasional use was made of chariots and wagons. Courier stations and agents were established ten miles apart along the roads. That private couriers also utilized the roads is recorded in several historical notices. An instance of such practice is given in the Ku Shih Records of the Han Shu where a certain Wang Wen-shu ordered the placing of fifty private courier horses on the route from Honan to the capital at Ch'ang-an. These private courier uses were for specific occasions and not long-term establishments.[1]

The Ch'uan or Express system of the Han used wagons or carts and offered passenger transport to government officials and their families. Although it ran under the same regulations, its use differed from that of the courier system. The Express Stations, called Chih, which were established at fixed intervals where courier stations also were located, gave change of horses and equipment to provide for speed. The Kao Ti Records of the Han Shu distinguishes four classes of Express services: (1) Chih-ch'uan or Special Express, with more than four-horse transport, (2) Ch'ih-ch'uan or Urgent Express with a four-horse wagon, (3) Ch'eng-ch'uan or Ordinary Express, with three-horse transport, and (4) Yao-ch'uan or Bare Express, with one or two horse transport. Of these four classes, the Ch'eng-ch'uan was most commonly used. The law required persons demanding the use of these facilities to produce special wooden tablets bearing the seal of the Great Officer of State. Special endorsements were required indicating the type of express to be used.[2]

1 Ibid.

2 Ibid.

Hostels for travelers were established along the roads where there were courier and express stations, averaging one every ten li (3.3 miles) by statute. In the whole road system of the Anterior Han period, there were 29,635 inns operated by the state. These inns differed from similar ones of the Ch'in dynasty in that common folk as well as officials were allowed to seek accommodations in them. Thus, the Tung Kuan Han Chronicle relates that a certain Chao Hsiao-fu was going to Ch'ang-an and wished to stop at an inn. The inn-keeper was reluctant about admitting him, saying that some officials were expected, and, having swept and sprinkled the floors (to settle dust), he didn't want to have the floors dirtied. Only after much persuasion did he consent to Chao stopping there.[1] Although it is not indicated in the records, no doubt a little "tea money" slipped in at an appropriate moment in the course of persuasion proved effective.

Even women traveled the roads, for we are told of one named Su Ngo who, together with her maid, was murdered by a rapacious inn-keeper for her riches. It is related that the stolen articles were buried under the tower of the inn.[2]

From this account we know that the structure of the inn also included towers. These served as look-out and defense towers. In addition to his duties with respect to lodging official travelers, the inn-keeper occupied a rather important position as a kind of local justice of the peace in out-of-the-way places as well as a traffic inspector. As such he was accorded considerable power. Customarily, he had attached to him five soldiers with cross-bows, halberds, swords, armor, and drums. He also kept the two-feet long list of statutes

1 Ibid.

2 Ibid.

for trying and punishing bandits and lawbreakers, one of his duties being the suppression of banditry.

Furthermore, the inn served as a civil court to which the common people could bring disputes to settle. An inn-keeper could question travelers and demand their Imperial Seals for inspection. Thus, during the time of the Han usurper Wang Mang, the President of the Board of Works stopped for the night at Feng-ch'ang inn. The record states that "the innkeeper was very domineering. He was informed of the official title of his guest. However, the innkeeper demanded: 'Do you have an Imperial Seal to show?' The President thereupon flogged him with his horse-whip. The innkeeper thereupon beheaded the President of the Board of Works. The innkeeper was then driven out of the district. However, his relatives appealed the case in a memorial to the throne. The Emperor declared: 'The innkeeper was doing his duty. He should not be expelled'."[1]

That such arbitrary power on the part of innkeepers allowed them to take advantage of their position in taking bribes and exacting payments from travelers, particularly those of the merchant class, is very apparent, and many innkeepers grew rich on their position.

Although the development of privately operated inns became much more widespread after the time of the Han period, such inns also grew up paralleling the functions of the official inns. The Tung Kuan Han Chronicles relates that a Taoist monk who called himself Wang Po-ch'i often carted salt with his servant northward to T'ai-yuan for sale, probably from Chiao in Shansi, where an important salt marsh supplies salt for Shensi and Shansi.[2] He was always very considerate and cleaned

[1] Ibid.

[2] Yule, op. cit., p. 21.

up the horse-manure at each inn where he stopped. For this reason the innkeepers everywhere welcomed him and refused to demand payment for lodging him. He also was allowed to conduct business transactions at the inns, something which would not be allowed at an official inn.[1]

From the above accounts we know definitely that private travelers and traders utilized the official roads of the empire, and there is no reason to doubt the use of the transmontane roads of the Ch'in-ling Shan and Ta-pa Shan for private trade and commerce throughout the Han period. Certain special roads, it is true, were reserved only for Imperial use, or at least were restricted to pedestrian use for others than the members of the Imperial House. The chief example of such roads is the Ch'ih Tao, constructed by the Ch'in emperor. During the Han period it became even more restricted as an Imperial road, and horses and horse-drawn vehicles were not allowed on it, probably to prevent the creation of ruts, so that a smooth road would be available for comfortable travel by the emperor.

Several instances are related of important personages being ordered off the highway when found traveling thereon with horse or wagon. Thus the Chiang Ch'ung Records of the Han Shu relates that "Ch'ung went out and met the princess of the Kuan-t'ao magistrate. Ch'ung accosted her, demanding an explanation for her use of the road. The princess replied: 'I have a mandate of the Emperor's mother.' Ch'ung replied: 'Only the princess may proceed. Neither horses nor wagons may go on this road.' After intensive examination, the carts and horses were not confiscated."[2]

1 Pai, Shou-i, op. cit.

2 Ibid, p. 82-83.

In summary, during the Han a great development took place not only in road construction across the Ch'in-ling Shan and Ta-pa Shan and in other parts of the empire, but also in the use of the road by both state and private persons. Northeastward, the road from Ch'ang-an extended to Peking. Southwestward, the road from Ch'eng-tu reached Yunnan and the borders of present Sikang. Eastward and southward, roads from Ch'ang-an reached the sea, the Yangtse Chiang and Canton in the far south, while northwestward the Silk Road ran across Central Asia to reach the Pamirs. In communications, the Yangtse Chiang valley and South China east and south of Szechuan were relatively undeveloped, for this area was only beginning to become important in the economy of the Han. The land of Shu, however, was of vital importance economically and politically to the expanding empire, and the transmontane routes were the chief channels of communication. Across the Ch'in-ling Shan several routes were used at different times, but one was predominant. "The trestle roads stretched for a thousand li, but the Pao-yeh Ku was their hub."[1]

The period of schisms (A.D. 220-581)

The end of the Han saw a period of constant turmoil and civil war. In the following three and a half centuries, China was divided into several sections each with its separate overlord. Only for relatively short periods under the Chin dynasty was China loosely united under one rule. During much of this period the Ch'in-ling Shan routes were the scene of campaigns and battles or remained relatively inactive in a kind of no-man's land between rival kingdoms. In periods of comparative peace official travel across the Ch'in-ling Shan was largely confined to courtesy missions and embassies between the adjacent kingdoms. Trade was mostly

[1] Feng Hsien Chih, op. cit., ch'uan 1, p. 15-20.

of the illegal variety known as smuggling.

Both Ch'ang-an and Lo-yang were razed by fire at the end of the Han, and they never regained the old glory of the Han period. In contrast to their former central positions as the foci of communications from all parts of the empire, both cities were rather dead for the most part of the period of schisms. In fact, Ch'eng-tu was the only one of the "Five Metropolises" of the Han period which retained its focal position in trade and communications. Protected by its mountain borders, the Szechuan Basin was far from the scene of onslaught during most of the period. Only after A.D. 290-306 during which a rebellion in Szechuan occurred did the position of Ch'eng-tu deteriorate. At this time, those that fled Pa and Shu to Yunnan and Hupeh regions numbered not less than 100,000 households or some 600,000 to 700,000 people, for many of the city households had numerous retainers. Ch'eng-tu, too, declined from its former greatness.[1]

The first part of the period of schisms was occupied by military events of the Three Kingdoms. These kingdoms were Shu, with its capital at Han-chung or Ch'eng-tu, Wei, with its capital at Lo-yang, and Wu, with its capital at Nanking. This is the romantic period immortalized in one of the most popular of China's novels, The Story of the Three Kingdoms. The boundary between Shu and Wei corresponded roughly to the northern range of the Ch'in-ling Shan, while the boundary of Shu on the east was roughly that of Szechuan, Kweichow, and southeastern Shensi today.

In his strategy of attack on the Wei Kingdom, Generalissimo Chu-ko Liang of the Shu was fond of ruses. In the early spring of A.D. 228 he sent a force under General Yang Sheng which marched over the Yeh-ku Tao into Mei District. Ts'ao Chen of the Wei Kingdom despatched a great force

[1] Pai, Shou-i, op. cit., p. 76-80.

to meet him. In order to convince the enemy that he meant to press his campaign along this route, Chu-ko Liang sent his two generals Chao Yün and Teng Chih with some troops to occupy the Yeh Ku. In the meantime, he led another force up the tributary of the Chia-ling Chiang, the Pai-lung Chiang, to Wu-tu from whence he turned northeastward to emerge from the Ta-san-kuan and besiege Ch'en-ts'ang near the present site of Pao-chi. However, he found himself facing great supply difficulties, and, unable to force the enemy to engage him in a decisive battle, he retired again to the Han-chung Basin.[1]

Chu-ko Liang apparently was more cognizant of weather conditions in the mountain belt than his northern opponent, for he wisely did his campaigning during the winter dry season. In the late summer or early fall of A.D. 230 the Wei king, Ts'ao Ts'ao, planned an attack by three routes on the strategic upper Han Chiang valley. One column led by Ssu-ma I pushed up the Han Chiang from Hsi-ch'eng (present An-k'ang). A second led by General Chang Lu started over the Tzu-wu Tao. A third under General Ts'ao Chen drove south via the Yeh Ku. Chu-ko Liang merely sat in Ch'ih-fan in Ch'eng-ku District waiting for the attack. However, the heavy rains of autumn south of the Ch'in-ling Shan divide washed out and blocked roads, forcing the northern forces to withdraw and abandon the attack.

In the following year Chu-ko Liang again drove into the Wei Ho valley via the route used in A.D. 228, but again shortage of supplies forced him to retire. Two years later in the winter of A.D. 233 he set his entire

[1] Mei Hsien Chih, 1909, ch'uan 1, p. 11-13. His exact route to Ch'en-ts'ang is debatable. He is supposed to have emerged in the Wei Ho valley at a point east of the Ch'i Mountains in southeast Kansu. Some authors state that he went via present San-fen on the Wei Ho west of Pao-chi and thence to Lung northwest of Pao-chi. See Feng Hsien Chih, op. cit., ch'uan 1, p. 20.

army to transporting supplies northward from Yang to the Yeh Ku and making this valley a great supply base. In February of the following year he sallied forth with a stream of horse transport and assembled his troops on the south bank of the Wei Ho. The Wei General Ssu-ma Hsuan led all his troops to oppose him. The two armies encamped opposite each other. For days Chu-ko Liang came out several times to challenge Prince Hsuan to battle. However, the latter remained behind his fortifications and refused to come forth. Prince Hsuan finally retired.[1] Chu-ko Liang thereafter captured Wu-kung with little effort.[2]

Death overtook Chu-ko Liang while he was in the Wei Ho valley where he had established military agricultural colonies to bolster his supply base,[3] and with his death his discouraged army retired southward through the Ch'in-ling Shan under General Wei Yen. To cover his retreat this general set fire to the trestles, so that the road was again rendered useless.

By A.D. 263 the Wei had mustered sufficient strength to invade the Szechuan Basin. General Teng Ai of the Wei led an army through the Ch'in-ling Shan by three routes, converging on Han-chung. These routes were those of the Tzu-wu Tao, the Pao-yeh Tao, and the Tang-lo Tao. From Han-chung he followed the Yin-p'ing Tao to Lueh-yang, then known as Wu-hsing Chün.[4]

1 Mei Hsien Chih, op. cit.

2 Liu-pa T'ing Chih, ch'uan 4, p. 14-19.

3 Chi, Ch'ao-ting, op. cit., p. 102.

4 Chung-kuo ku-chin ti-ming ta-tz'u-tien, op. cit., p. 840.

The prefect of Tzu-t'ung, Chang Ch'i, retreated from Lueh-yang to defend Pai-shui-p'ing (probably Pai-shui-chieh on the Pai-shui Chiang). Subsequently, he gave the Wei a stinging defeat at Chia-meng near present Chao-hua. General Chiang Wei of Shu made a valiant stand against the Wei general, Chung Hui, at the famous Chien-ko Barrier which had been fortified previously by Chu-ko Liang. But all this was of no avail. The Shu Han dynasty ended with the capture of Ch'eng-tu by Teng Ai, who avoided the Chien-ko Barrier by marching via P'ing-wu and Chiang-yu. The last of the Wei set himself up as the head of a new dynasty in A.D. 265 known as the Chin dynasty.[1]

While the roads over the Ch'in-ling Shan were chiefly of military significance during the Three Kingdoms period, civil and private use of routes across the Ta-pa Shan flourished, since both the north and the south drainage slopes of the Ta-pa Shan were under unified political control. The official courier route through the Ta-pa Shan during both the rule of the Shu Kingdom and the Chin Empire ran from Ta-an-i in the upper reaches of the Han Chiang to Yang-p'ing-kuan. From there the road apparently crossed the trend of the rivers southwestward to reach the village and barrier of Pai-shui-chieh. Then it ran down the Pai-shui Chiang to Chao-hua to the Road of the Golden Oxen, continuing thence southwestward through the Chien-ko Barrier.

Between the Pai-shui Barrier and Ch'eng-tu, inns and shelters to the number of over 400 were constructed during the Three Kingdoms period.[2] These facilitated private and commercial travel as well as official travel. We have noted previously that the Chinese wheelbarrow was invented south of the Ch'in-ling Shan and was introduced from Shu to

1 Feng Hsien Chih, op. cit., ch'uan 1, p. 15-20.

2 Chung-hsiu Chao-hua Hsien-chih, op. cit., ch'uan 28, p. 6-8.

North China. The inventor was none other than Chu-ko Liang, according to the San-kuo Chih. It was called mu-niu-liu-ma (wooden-ox-walking-horse).

In A.D. 298 there occurred a great famine north of the Ch'inling Shan in Shensi, and refugees by the ten-thousands flocked over the roads into Szechuan seeking food.[1] Efforts were made by the ruler of Ch'eng-tu to stop this influx, but the commissioner sent out with the orders was bribed to permit the refugees to enter Chien-ko Barrier freely and to scatter about the province. Two years later the Imperial Court sent out orders to repatriate the refugees, much against their will. The famine had occurred in the semi-arid regions of west Shensi and east Kansu, T'ien-shui being one of the worst areas affected.[2]

The Chin period (A.D. 265-420) did not represent a period of sustained unified rule over China, and there were numerous short-lived states set up by successful rebels and adventurers. In the communications aspect, the chief significance of this period was the shift of the "key economic area" of China from the Huang Ho Plain to the lower Yangtse Chiang Plain. The prosperity of the south began with the fall of Lo-yang in A.D. 316 when numbers of learned people and eminent families emigrated southward across the Yangtse Chiang.[3] The decline of Ch'ang-an and Lo-yang as foci of communications was accompanied by the rise of Yeh (12 miles west of present Lin-chang in northern Honan) and Chien-yeh (just south of present Nanking). The former was the capital of the Wei, and the latter the capital of the Wu during the Three Kingdoms period. The rise of Chien-yeh presaged the future

[1] Liu, Ting-sheng, op. cit., p. 30-31.

[2] Chien-ko Hsien Hsi-chih, Ch'eng-tu, 1927, ch'uan 3, p. 2-3.

[3] Chang, Chi-yün, Climate and Man in China, AAAG, Vol. 36, March 1946, No. 1, p. 45-46.

time to come when the Yangtse Chiang was to be dominant in the communications net.[1]

During this period the Ch'in-ling Shan routes were of small importance either in strategic use or in trade and communications. The Wei did engage in some road restoration and even constructed a road over a new route across the northern range of the Ch'in-ling Shan to connect with the Pao-yeh Tao in A.D. 507. This was known as the Hui-ch'e Tao from the name of the Hui-ch'e Garrison in the northern part of Liu-pa District. It also is known as the Shih-men-Ko-tao or Stone-Gate Trestle Road. It appears to have run southeastward from the vicinity of Pao-chi to Chin-k'ou Barrier. Civil strife in the summer of A.D. 554 resulted in the burning of the trestles along this and the rest of the Pao-yeh Tao, and five months later an official named Ts'ui Yu was deputized to restore communications to Han-chung along this route.[2]

However, the postal and courier establishments of the Chin showed a great decrease over that in the period of the Han, and their efficiency was very low. On the other hand, private travel must have received some stimulation, for public inns and hostels flourished. The services which they offered to travelers were much superior to the stern accommodations of the state-operated hostels. There is even a record of a favorable memorial to the throne on the promotion of inns for trade and commerce.[3]

During the Era of Division between North and South (A.D. 420-581)

[1] Pai, Shou-i, op. cit., p. 81.

[2] Liu-pa T'ing Chih, op. cit., ch'uan 4, p. 14-19.

[3] Pai, Shou-i, op. cit., p. 89-94.

political schism obstructed the normal communications routes. No normal trade existed between the two divisions of China. Smuggling by merchant traders, and official courtesy missions were the chief communications activities. As could be expected, the restrictions on north-south movement were greatest in the areas of greatest military importance during this period - in the Huai Ho and Ssu Ho route regions. The main trade routes going north and south at this time numbered five. The easternmost were the Huai Ho and Ssu Ho routes leading from Yeh (northern Honan) to P'eng-ch'eng (present T'ung-shan in NW Kiangsu) and from Shan-yang (present Huai-an in north Kiangsu) to Kuang-ling (NE of present Chiang-tu in Kiangsu).

Farther west were the Hung Shui and Ju Shui routes running through Shou-ch'un (present Shou in central Anhwei). Still farther west was the route along the Han Chiang connecting Han-chung and Nan-yang with Ching (present Chiang-ling, Hupeh) in the south. Farthest west of all were the transmontane routes across the Ch'in-ling Shan and Ta-pa Shan. Of these routes, the Han Chiang route and the western transmontane routes were the freest from restriction during the Era of Division between North and South, because they were farthest from the active military scene.[1]

The Sui, T'ang, and Sung period (A.D. 581-1278)

After over 350 years of political division and loose unity, China once more came under firm unified rule, one which has continued with relatively short intervals of civil strife until the present.

[1] T'ao, Hsi-sheng, etc., op. cit., p. 84-87.

The first three dynasties following unity lasted almost 700 years and were ruled over by native Han emperors. Although the Sui laid the foundation for the progress that followed, the T'ang brought Chinese cultural advance to a high peak. Ch'ang-an was rebuilt and made the capital of the Sui (A.D. 581-618), and because it was the administrative seat, it again regained largely the importance it had held during the Han period as a focus of communications. Merchants from afar congregated here during the T'ang, including Mongols, Kashgarians, Afghans and Persians from the far west. Some were very rich and, in their role as money-lenders comparable in economic position in that day with the foreign banks in modern China in the view of one Chinese author, Chang Hsing-lang. Even when the capital was moved by the Sung to Pien at present-day K'ai-feng, Ch'ang-an retained such importance that mileage to places in the empire continued to be reckoned from Ch'ang-an. This was due in large part to its position commanding the gateways to Szechuan and Kansu.[1]

The importance of the route to Szechuan is seen by the fact that of the six main trunk roads of the T'ang dynasty, the road to Ch'eng-tu was one.[2] One Chinese author states that, broadly speaking, there were only four main courier routes, of which one was the road from Ch'ang-an to Ch'eng-tu.[3] There was no change as to the chief trunk routes of communication during the Sung, and the road to Szechuan

[1] Pai, Shou-i, op. cit., p. 137.

[2] Ibid, p. 115.

[3] T'ao, Hsi-sheng, op. cit., p. 79-82.

Plate 33. The imposing walls of the city of Ch'ang-an with its huge drum towers over the city gates encloses a population of some 200,000, a much smaller number than once thronged this historic seat of Chinese culture. Its roads today also are in a decadent state, although many motorable roads now converge on this city. One of the chief difficulties is the lack of rock for road surfacing in this region of wind-blown and water-washed loess.

(Photograph by Sydney Franklin)

continued to be one of the primary routes. Southward of Ch'eng-tu two trunk extensions led via present Hsi-ch'ang to Yao-chou (present Yao-an east of Ta-li in Yunnan) and to Jung-chou (present I-pin, Szechuan) respectively.[1]

Virtually all the routes across the Ch'in-ling Shan were used as official courier roads at one time or another during the T'ang period. T'ao Hsi-sheng states in his book on T'ang dynasty economics that for the first half of the T'ang period, the trunk route to Szechuan went west from Ch'ang-an to Feng-hsiang in the Wei Ho valley and then struck southward to Ch'eng-tu. While he does not indicate the route after it enters the Ch'in-ling Shan, it must have started at the Ta-san-kuan and followed either the Ch'en-ts'ang Tao or the route via the Chia-ling Chiang by way of Hui. Thereafter, he indicates equally vaguely, the route changed to go southward to Han-chung from Mei.[2] Most probably this was a change back to the Peo-yeh Tao.

The most romantic event of the period relating to the road to Szechuan occurred in A.D. 756 when the T'ang Emperor Hsuan Tsung was forced by rebellion to flee to Ch'eng-tu, there to hold temporary court for two years.[3] His favorite concubine, Yang Kuei-fei, the famous beauty of Chinese history, was blamed by his troops for the rotten state of the empire, and in fact the rebel leader was a young Tartar lover of the "Chinese Cleopatra".[4] On the flight across the

1 Pai, Shou-i, op. cit.,

2 T'ao, Hsi-sheng, and Chü, Ch'ing-yuan, T'ang-tai ching-chi Shih, Shanghai, 1936.

3 Liu, Ting-sheng, op. cit., p. 33

4 Gowen, H.H., etc., op. cit., p. 122.

Ch'in-ling Shan via the Pao-yeh Tao, the T'ang Emperor's troops demanded as the price for their continued loyalty the death of his favorite at once. Weeping bitter tears, the Emperor ordered her strangled with a silken cord. During the following two years of turmoil before the rebellion was put down, Ch'eng-tu was named Nan-ching, or Southern Capital. The population of the city had risen to 160,950 families or about double what it had been during the Han.[1]

Later use of the Yeh Ku route from Mei was made by the T'ang general, Hun Cheng, who traveled northward out of the Yeh-ku Barrier in A.D. 784, and by Kao Ch'ung-wen, who came northward over the same route in A.D. 806.[2] In A.D. 850 five courier stations were established on the Yeh Ku route, one each at P'ing-chou, Lien-yün, Sung-ling, Ling-chi, and Feng-ch'uan. A new stretch of road called the Ch'uan-ku Lu was developed from Ling-ch'uan to Pai-yün with ten courier stations. To each of these stations was attached an inn for private travelers, which was required to keep food and supplies available.[3]

Repairs were made to some 2,800 trestles of the Yeh-ku Tao in A.D. 929. In the same year the road across the Ta-pa Shan to Ch'eng-tu was reconstructed. It was said to be shorter by 25 courier stages than the route across the Ta-pa Shan existing in A.D. 1776.[4] How this could be is not clear, since the courier stages were ten miles apart, for this indicates a shorter route by 250 miles over a route which at present covers only 265 miles. This is patently absurd.

[1] Liu, Ting-sheng, op. cit.

[2] Liu-pa T'ing Chih, op. cit., p. 14-19.

[3] T'ang Hui Yao, 1774, ch'uan 86, section on roads.

[4] Wu Tai Hui Yao, 1776, ch'uan 25.

In addition to the Yeh-ku Tao, the Tzu-wu and Tang-lo Tao also were used. The Liu-pa Sub-District Gazetteer states that the Tzu-wu Tao was a T'ang dynasty courier route.[1] That this road must have been in excellent condition when well maintained is indicated by the report that during the time of Emperor T'ien Pao (A.D. 742-756) the Licentiate of Fu-chou by name of Li Chih-ch'ang entered the Tzu-wu mouth and traveled to Ch'ang-an in less than three days via the Hsi-hsiang courier facilities.[2] The Tzu-wu Tao has a length of about 220 miles, and to travel this difficult mountain road in less than three days is a remarkable feat.

Twice during the T'ang dynasty, the transmontane roads to Szechuan were sought by emperors in flight. In the second occurrence, Te Tsung in crossing the Ch'in-ling Shan in A.D. 784 sought the safety of the most difficult of the routes used, the Tang-lo Tao, apparently to elude enemy troops. However, this route probably was not well maintained, for we read that the scholar Lu Chih lost his way in the Tang valley.[3]

With the coming of the Sung dynasty (A.D. 907-1278) still another new route through the Ch'in-ling Shan was developed. This is the Lien-yün Tao which has been used since then to this day and which now is followed by a motor highway, the first through the Ch'in-ling Shan. The new section of the route is that from Feng southeastward over the Feng-ling pass to Liu-pa and thence down to the Pao Shui route.

1 Liu-pa T'ing Chih, op. cit.

2 Feng Hsien Chih, op. cit.

3 Han-chung hsi-hsiu Fu-chih, op. cit., ch'uan 1, Chan-tao map.

It is not known at what date the new road was constructed, but since the Sung this has been the official and primary route of communications across the Ch'in-ling Shan.[1] This is the route followed by the Sung armies sent to subdue Szechuan.[2] This is the route followed by the Mongols in driving out the Sung, although the route via Hui and Lueh-yang also were used.[3] Attempts by the Nüchen Tartars in A.D. 1134 to penetrate to Szechuan were blocked by the Sung general, Wu Chieh, at Ta-san Barrier, while he despatched his younger brother to guard the Hsien-jen Barrier, 40 miles southwest of Feng.[4]

Communications development of greatest importance to China during the Sui and T'ang were the completion of the Grand Canal as a connected series of waterways between the Huang Ho and the lower Yangtse Chiang, and of other canals in the eastern lowlands. This not only reflected the shift of the "key economic area" from the Huang to the Yangtse Chiang delta, but further strengthened the position of the lower Yangtse Chiang as the leading center of communications for China. Pien (K'ai-feng) at the cross-roads of the Grand Canal with the Huang Ho , and Yang-chou (Chiang-tu) at the meeting of the Yangtse Chiang and the Grand Canal were very important cities in the communications net. The city of Hung (Nan-ch'ang, Kiangsi) also occupied an important situation on the great road to Kuang-chou (Canton).[5]

1 Feng Hsien Chih, op. cit.

2 Ou, Yang-ying, op. cit., Map No. 31.

3 Liu-pa T'ing Chih, op. cit.

4 Feng Hsien Chih, op. cit., ch'uan 1, p. 21-23.

5 Pai, Shou-i, op. cit., p. 136.

Trade followed the waterways where available, and the canals were of great importance in furthering such trade. Where water routes were not available, the courier routes were used. Privately operated inns flourished during the T'ang. Commercial travel on the roads not only was permitted but encouraged. The peasantry, on the other hand, had to be discouraged by restrictive legislation from entering trade as a profession so as not to reduce the production of agriculture. Thus, during the reign of Emperor T'ai Tsung (A.D. 627-649) an edict was issued forbidding people engaged in farming from becoming merchants. Those part-time merchants who worked on farms also were exempted from household taxation. At the same time, taxation of trade as a source of revenue was profitable to the state, and during the reign of Te Tsung it was suggested to the emperor that funds be provided for a system of public granaries for stabilizing prices by levying taxes on the movement of merchandise.[1]

The transmontane roads across the Ch'in-ling Shan and Ta-pa Shan to Szechuan were mentioned among the more important trade routes of the time. The T'ung Tien (encyclopedia) ch'uan 7, states:

"From Pien (K'ai-feng) in the east to Ch'i-chou (Feng-hsiang) in the west, the road was lined with shops catering to travelers. Drink and food delicacies were abundant... South to Ching (Chiang-ling) and Hsiang (Hsiang-yang), north to T'ai-yuan and Fan-yang, west to the cities and administrative centers of Szechuan, all the roads had shops catering to commercial travelers. Though the trip involved a thousand li, one need not carry an inch of sword for protection."[2]

1 Lee, Mabel Ping-hua, op. cit., p. 232, 253.

2 Pai, Shou-i, op. cit., p. 148-149.

Thus, we see that in the mountain routes, facilities and protection were of such a sort as to give trade maximum encouragement. The prosperity of commerce is attested to by the prosperity of the hostels adjacent to the courier stations. Many of these inns were operated by the courier station masters, some of whom amassed great wealth. One such person named Ho Ming-yuan had charge of three courier stations. Next to each he established an inn for commercial travelers. His wealth became such that it was counted in the ten thousands, while his family owned 500 silk-weaving machines. Not only were the proprietors of inns especially attentive to the merchant travelers, they were singularly inattentive to the scholar-officials, to the annoyance of the latter. In traveling to Ch'ang-an, one scholar official by the name of Ma Chou put up at a privately operated inn. He found the proprietor taking good care of the merchant guests, but paying him no head.[1]

The familiar role of Szechuan as host to famine or political refugees from north of the Ch'in-ling Shan was repeated during the reign of Che Tsung of the Sung dynasty (A.D. 1086-1100). In this period a severe famine occurred in Shensi and Shansi, resulting in civil disturbances. This caused many well-to-do families from Shansi to leave their properties and flee to Szechuan.[2] No doubt such a flight was facilitated by financial connections between the bankers of Shansi and their connections in Szechuan, both of these provinces being noted for the wide brokerage connections of the rich merchants.

1 T'ao, Hsi-sheng, op. cit., p. 79-82.

2 Lee, Mabel Ping-hua, op. cit., p. 293.

It must not be assumed, however, that a close check was not kept on travel, for strict watches were kept at barriers, passes, and strategic ferries or fords. Persons passing through any of these were required to present public documents. People were not permitted to pass at will, to go around and by-pass the guard stations, to pass under an assumed name, to slip through by joining a retinue or a body of troops, or to carry prohibited articles. On the administrative side, officials were not permitted to give indiscriminate passage nor to detain persons or obstruct passage without good cause. Violation of these restrictions brought drastic punishments.[1] However, as we have noted in a previous instance, bribery of barrier guardians can gain access even where edicts prohibit passage, and the measure of such activity depended upon the profits of the trade. Normally, aside from taxation, trade was relatively unobstructed along the roads.

In contrast to the Han dynasty postal inns, the T'ang courier hostels were only for the use of the higher gentry and nobility, and the T'ang courier service was established purely to facilitate administrative and military affairs. Since the T'ang communications methods are representative of the Sui and Sung periods as well, it will suffice to briefly examine that of the T'ang for all three periods.

The number of courier road stations reached 1,917, river courier stations numbered 260, and combined road-and-river stations came to 86, giving a grand total of 1,639 stations. Each road station had horses varying in number from 8 to 75, depending upon the status of the stations of which there were six classes. There also were despatch horses which were slower than the courier horses, and there were courier donkeys

[1] Pai, Shou-i, op. cit., p. 149-151.

for those who were not in such a hurry. The courier stations were ten miles apart. In contrast to the post and courier systems of the Han period, the T'ang system also included hostel accommodations among its services, and it also had the designation "kuan-i" (hostel and courier).[1]

The courier system of the whole country was centralized under the direction of the Second Class Secretary attached to the Senior Secretary of the Board of War. Within each Tao (region) it was governed and managed by the revenue service under four circuit officials and one judge. Within the Chou (department) it was controlled by the military officer in charge of the Chou, while the Hsien magistrates concurrently administered the system within their respective districts. Each courier station had a station master with from three to ten or more couriers, depending upon the status of the post.[2]

Under the T'ang statutes, all those deputized to use the courier horses and courier hostels were called "courier envoys". The laws regulating them were extremely severe to ensure efficiency. The following applied to them:[3]

"(1) When a courier envoy is despatched, he should be given a half of a matching tally-stick. After receiving this certificate he must take to the saddle within a fixed time. Those who ride off without waiting for the certificate will be punished with one year's penal servitude. Those who delay beyond the fixed time will be flogged with a heavy bamboo 80 strokes for the first day and twice that for the

1 Pai, Shou-i, op. cit., p. 145-148.

2 Ibid.

3 Ibid.

second day. If it is in time of military exigency and he delays, the punishment is three times that amount, or he may be executed by strangling.

"(2) The courier envoy may not without cause submit his document to a substitute person to carry. Violations are punished with one year's penal servitude.

"(3) A courier envoy receiving a document but delivering to the wrong person rather than the addressee will be punished according to his delay, but two degrees less severely. If the person writing the address made the mistake, he must substitute in receiving the punishment.

"(4) If the courier envoy adds an extra horse to the number allotted, he will get one year's penal servitude, and an added year for each added horse.

"(5) A courier envoy who races his horse unnecessarily on the road will get a hundred strokes for one li of such travel and for five li the punishment will be doubled. If he passes a station without changing horses, he shall be given 80 strokes.

"(6) Those riding courier horses may carry only their clothing and weapons (aside from despatches). By clothing is meant the clothing worn and by weapons are meant bows, swords, and the like. Aside from these, those violating shall get 60 strokes for each catty of weight carried, and double if over ten catties weight, with a maximum of one year's imprisonment.

"(7) In the case of transgressors of the above rules, if the courier envoy rides a mule and is entitled to ride a horse, his punishment may be two degrees less severe.

"(8) Courier envoys may sleep in the courier stations. Those not couriers and those who enter contrary to regulations will get 40 strokes with the light bamboo."

With the development of the Grand Canal furnishing cheap and easy through transportation between North and South China, the importance of the Yangtse Chiang valley in communications far surpassed that of the transmontane routes of the west. This does not mean, however, that the road to Szechuan from the Wei Ho valley had become any less important in its own region. It was merely overshadowed by the new importance of the lower Yangtse Chiang routes in a region of expanding economic development. With the southward flight of the Sung dynasty and the occupation of the north by the Mongol hordes, the use of the Grand Canal diminished to about half,[1] while the traffic across the Ch'in-ling Shan came to a virtual standstill. The division between north and south for a little over a century again ran along the northern range of the Ch'in-ling Shan, extending eastward upon a line with the Huai Ho.[2]

The Yuan (Mongol) period (A.D. 1260-1368)

The periods of the Yuan, Ming, and Ch'ing have many similarities in communications methods. However, the Yuan differs from the last two dynasties of China in that the Mongols paid a great deal of attention to roads and communications, while the Ming and Ch'ing allowed them to deteriorate greatly. On the other hand, there is much more information on the details of road repair during the Ming and the Ch'ing than in the other period, so that the Ming and Ch'ing periods have the appearance of much ado about communications. In the latter part of this chapter,

[1] Pai, Shou-i, op. cit., p. 110

[2] Herrmann, A., Atlas of China, Cambridge, 1935, p. 46-49.

therefore, the Yuan will be discussed separately, while the Ming and Ch'ing will be examined together.

Toward the end of the Southern Sung period, Tului, the son of Ghenghiz Khan, found that the Lien-yün Tao had deteriorated so greatly through almost a century of disuse that he had to construct a virtually new road over it in order to attack the Sung who were in occupation of the Han-chung Basin and Szechuan as well as the lower Yangtse Chiang region. That this route was the one chosen for rebuilding rather than any of the others through the Ch'in-ling Shan probably was because it is the least difficult of the routes. Also, since the Sung held their line of defense near the northernmost range of the Ch'in-ling Shan, the southern part of the Lien-yün Tao undoubtedly was usable, if not in very good condition. In any case, the route that had been the main road of travel since the Sung again became a channel of communication. Okkodai's son, Kutan, also marched down this road to attack the Sung in 1235, and Mangku Khan on his last campaign in conquest of the Sung followed the same route.[1]

With the restoration of China under a unified rule, not only did the Grand Canal become a great waterway of communications in the east, but the importance of the transmontane routes of the west in trade and courier communications revived also. As ever, the Ch'in-ling Shan interposes obstacles that make any road through them difficult, and Marco Polo, traveling to the Han-chung Basin in the service of Kublai Khan, described the Lien-yün Tao as "a road right wearisome to travel".[2]

[1] Yule, Sir Henry, op. cit., p. 26

[2] Ibid, p. 19.

The nature of the route between Ch'ang-an and Ch'eng-tu in Polo's time might best be described in his own words. Inasmuch as the whole account is exceedingly short, it is quoted here in full as given by Sir Henry Yule:[1]

"On leaving the Palace of Mangalai [at Ch'ang-an] you travel westward for three days, finding a succession of cities and boroughs and beautiful plains, inhabited by people who live by trade and industry, and have great plenty of silk. At the end of those three days you reach the great mountains and valleys which belong to the province of Cuncun [Ch'in-ling Shan region]. There are towns and villages in the land, and the people live by tilling the earth, and by hunting in the great woods; for the region abounds in forests wherein are many wild beasts, such as lions, bears, lynxes, bucks, and roes, and sundry other kinds, so that many are taken by the people of the country who make a great profit thereof. So this way you travel over mountains and valleys, finding a succession of towns and villages, and many great hostelries for the entertainment of travelers, interspersed among extensive forests.

"After you have traveled those 20 days through the mountains of Cuncun that I have mentioned, then you come to a province called Acbalec Manzi [Han-chung Basin], which is all level country, with plenty of towns and villages, and belongs to the Great Kaan. The people are Idolators, and live by trade and industry. I may tell you that in this province there grows such a great quantity of ginger, that it is carried all over the region of Cathay, and it affords a maintenance to all the people of the province, who get great gain

[1] Yule, op. cit., p. 24-27.

thereby. They have also wheat and rice, and other kinds of corn in great plenty and cheapness; in fact the country abounds in all useful products. The capital city is called Acbalec Manzi (which signifies "the White City of the Manzi Frontier").

"This plain extends for two days journey, throughout which it is as fine as I have told you, with towns and villages as numerous. After those two days you again come to great mountains and valleys and extensive forests [the Ta-pa Shan region], and you continue to travel westward through this kind of country for 20 days, finding however numerous towns and villages. The people are Idolators, and live by agriculture, by cattle-keeping, and by the chase, for there is much game. And among other kinds, there are the animals that produce the musk, in great numbers.

"When you have traveled those 20 days westward through the mountains, as I have told you, then you arrive at a plain belonging to a province called Sindafu, which still is on the confines of Manzi, and the capital city of which is also called Sindafu (Ch'eng-tu Fu)."

In this account by Polo one finds evidence of flourishing trade activities along the Lien-yün Tao and Chin-niu Tao through the mountain belt. Even amid the extensive forests are "great hostelries for the entertainment of travelers." Among the items of trade, ginger seems to have been prominent, while furs and hides, musk, and foodstuffs were probably also exported.

Evidently, as Yule points out, the distances as counted in days of travel are exaggerated in the mountain belt, and may have been the result of errors in recording Polo's story.

During the Mongol period there was a set time every year when

roads and bridges needing repair were mended. The administration of roads and bridges was under the control of the Office for Cities and Waterways of the Board of Works.[1] There were twelve major courier roads in the communications system of the Yuan. All radiated from the capital at Peking. In many cases, however, several routes followed a common course for considerable distances from Peking before branching off into separate routes. Among these twelve was the Peking to Lhasa route which led through T'ai-yuan to Ch'ang-an to follow the road to Ch'eng-tu, thereafter going into the Tibetan highlands via Ta-chien-lu (K'ang-ting).[2]

The courier and post system of the Yuan was exceedingly well-developed. According to Marco Polo, the number of stations serving this system reached 10,000, for the service of which 200,000 horses were maintained. The courier and post organization was under the control of the Che-chia-ssu, a special department of the Board of War. Sixteen bureaus located in various provincial capitals each had a director who reparted to the Provincial Judge. As with preceding dynastic periods, the service provided not only transmission facilities for despatches and messages, but also transport for officials about their duties.[3]

The Yuan courier system was called Chan-ch'ih, from the Mongol "janji", meaning "mounted courier". The post system as separate from the courier services was called the Chi-ti-p'u, or "Express Despatch". In Shensi Province the Yuan maintained 80 road stations and one river station. The former had 7,629 horses, while the latter

1 Pai, Shou-i, op. cit., p. 177-178.

2 T'ang, Liang-li, Reconstruction in China, Shanghai, 1935, p. 219.

3 Ibid, p. 265.

was equipped with six boats. By contrast, and reflecting the different situation with respect to river transport, there were a total of 132 stations in Szechuan, of which only 48 were road stations, while 84 were river stations. While the former were equipped with 986 horses and 150 oxen, the latter had 654 boats and 76 oxen. Also, the number of horses per road station in Shensi far exceeded that of stations in Szechuan, averaging over 95 horses per station as compared with 20 per station in Szechuan. Stations in south Shensi in the Ch'in-ling Shan belt probably averaged considerably less than the Wei Ho valley in the number of horses, for undoubtedly the larger number of horses per station in the plains of Shensi was attributable to the need for cart transport, whereas the bulk freight in Szechuan and along the Han Chiang was carried by boats.[1]

Of significance in reflecting the dominant position of the lower Yangtse Chiang in official communications and transport is the fact that in proportion of number of horses, carts, boats, and coolies to province area, Chiang-che Province (the area of the Yangtse Chiang delta) was the most abundantly supplied, exceeding even that of Chung-shu Province in which the capital of Peking was located.[2]

For the operation of the "Express Despatch", each station had five runners who were robust and athletic. Each wore a belt around his waist from which hung bells, and each carried a spear. Apparel included a raincoat. The document was carried by hand. At night the couriers carried torches. The use and authority of the bells were significant, for if the road were narrow, horses and carts and coolies alike all had to withdraw

1 Pai, Shou-i, op. cit., p. 183-184.

2 Ibid.

to the side of the road to let the courier pass. As soon as the sound of the bells reached the next station, the next relay runner hurried out to wait at the door to receive the document and carry it farther along. Two registry books were kept at the station. In one was written the name of the document and the destination. In the other was recorded the time of arrival and the name of the bearer. The carrier upon reaching the next station received a receipt for the despatch stamped with the time of arrival. The missive itself was kept in a pouch sealed by the despatching office and carried a registry number. Military despatches were wrapped with particular care in oiled water-proof pongee bound between board covers, and the carriers had to be specially careful that it did not get torn, bent or soiled on pain of punishment.[1]

Stations were 3, 5, or 8 miles apart, depending on the population density. Thus, in the transmontane routes in the west, most stations were from 8 to 10 miles apart. In such sparsely populated areas as Kansu, however, there were only six stations for the entire province. On the other hand, the Yangtse Chiang delta province of Chiang-che contained 262 stations. During the last year of Kublai in A.D. 1294 a head express office was established at Peking. In A.D. 1323 a chief express agent was established for every ten stations along a route.[2]

From the above account we see that the Mongol rulers of China, who had achieved their conquest in large measure because of their great mobility, continued to place great emphasis on quick movement and rapid communications. Across the mountain route of the Ch'in-ling Shan and Ta-pa Shan as well as in the plains of the north and east

[1] Pai, Shou-i, op. cit.

[2] Ibid.

they kept the network of roads in good repair, to the benefit not only of efficient administration from a military standpoint, but also to the promotion of internal trade.

The period of the Ming and Ch'ing (A.D. 1368-1911)

With the accession of the Ming dynasty, there came a gradual decline in the interest of the imperial court in road communications. The Manchu rulers for the most part showed equally little interest, and the courier roads fell into increasing decay.[1] Sporadically during each dynasty efforts were made to repair roads, and even some new roads were opened by enlarging and straightening perviously existing paths. By the end of the Manchu period the roads had ceased to deserve their name and had deteriorated to mere cart tracks in the northern plains, while across the Ch'in-ling Shan and Ta-pa Shan they had become hardly more than footpaths, in many places difficult even for mules to make their way. Such construction or repair as was done was as a result of the initiative of energetic local authorities, military governors, or associations of business and farm interests. Often, a philanthropist, knowing the value of good roads or bridges in furthering the prosperity and livelihood of the people, would donate a sum to special construction projects.

The reasons for the decline of imperial interest in road communications during the Ming period is hard to ascertain, although some guesses may be hazarded. One possible reason is that the Ming, unlike the Yuan, were Han Chinese and not alien conquerers that had to be ever on the alert over revolt in isolated sections of the country.

[1] T'ang, Liang-li, op. cit. p. 220.

Good communications were not as vital as that required in maintaining a highly centralized rule, especially such a military rule as comprised that of the Mongols. Then, too, the Ming rulers restored the scholar bureacracy in place of military government. The elite scholar class had a class loyalty which generally superceded the loyalty to sectional interests and this tended to discourage rebellion from the imperial rule. To bolster this tendency, furthermore, there was devised the policy of appointing officials only to posts outside of their native district or province. At the same time, a feeling may have developed that since the chief benefits of good roads appeared to be going to merchants or local farm groups, the burden and responsibility of road repair should be on their shoulders.

Von Richthofen makes the assertion that most of the repairs on the Ch'in-ling Shan road were made during the Ming dynasty.[1] What the criteria are on which this statement is based is not mentioned, but most likely he refers only to a comparison between the last two dynastic periods. There is always a possibility, too, that although much is recorded of efforts to repair roads during the Ming period, the repairs themselves may not have been of a lasting nature. In any case, the disturbances that accompany the last years of a dynasty, before the new dynasty is established, usually leave a legacy of broken-down roads for the succeeding dynasty to reconstruct. This is true of the beginning of both the Ming and the Ch'ing periods. An examination of the records show, however, that repairs on the trans-montane roads were undertaken throughout the period of the Ming.

One of the first recorded uses of the Ch'in-ling Shan route by the Ming occurred in 1370, two years after the accession of the first

[1] Yule, op. cit., p. 26.

Ming emperor. Szechuan at this time was under a war-lord named Wang Yu-jen. In this year he made an unsuccessful attempt to take Han-chung (then known as Hsing-yuan). The Ming garrison commander, Chin Hsing-wang, called for reinforcements. General Hsü Ta, who was in Ch'ang-an at the time, led an army through the Ch'in-ling Shan via Pao-chi and the Ta-san Barrier.[1] When the Ming emperor (which one is not stated) made a "visit" to Szechuan, he followed this same route via the Ta-san Barrier.[2]

In A.D. 1440 orders were issued to each Fu (prefecture), Chou (department), and Hsien (district) to make an inspection of all roads and bridges and to do necessary repairs.[3] Perhaps at this time and in any case sometime at the beginning period of the dynasty the trestle-road on the Lien-yün Tao was rebuilt from the Chi-t'ou-kuan near Pao-ch'eng up to the Ch'ing-shui trestle, a stretch of about 43 miles in which distance 2,275 trestles were replaced. Of the 70 miles or so north of the Ch'ing-shui trestle one finds no reference.[4]

In A.D. 1466 Yü Tzu-chün, the Governor of Shensi, opened the Nan-shan road to Han-chung to facilitate travel.[5] The Nan Shan is another name for the Ch'in-ling Shan south of Ch'ang-an. This road appears to be another than the Lien-yün Tao, but it is not stated which of any alternate routes was used for it. Quite possibly it was

1 Pao-chi Hsien Chih, op. cit., p. 9.

2 Feng Hsien Chih, op. cit., p. 18-20.

3 Ming Hui Yao, ch'uan 75 on roads.

4 Liu-pa T'ing Chih, op. cit.

5 Ming Hui Yao, op. cit.

the Pao-yeh Tao, for the Feng District Gazetteer states that during the Ming dynasty one entered the Pao Ku north of Pao-ch'eng at Wu-kuan, followed up the valley of the Tzu-chin Ho and passed through Chin-k'ou-kuan.[1]

During the time of Emperor Hsiung-chih (1488-1506) repairs were made to restore several hundred trestles on the Lien-yün Tao starting from Chi-t'ou-kuan. Lesser repairs were made in 1528 when, for instance, a mile section of trestle steps up a steep slope near La-yü Kou was replaced by stone steps. Again in 1544 the district magistrate Chang Keng-ch'ü of Han-chung had a particularly steep and dangerous slope at the Lin-lung Ho paved over with stone slabs, while 678 trestles were replaced. Five years later the deputy-magistrate Wu K'uei-chüan caused to be chiseled 20 tunnels through cliffs in a stretch of seven miles south of Wu-yü (Po-ch'i). He also saw to the replacement of 491 trestles.[2] That the trestles referred to relatively short structures can be seen from the fact that in a third of a mile there were as many as 120 sections of trestles. A single trestle structure, therefore, averaged about 15 feet long.

In the Ta-pa Shan, the courier route during most of the Ming period varied from that of the earlier period. From Ch'eng-tu it followed the present road up to Han-chou (Kuang-han) and from there struck northeastward to Pao-ning (Lan-chung), running thence northward to Li-chou (Kuang-yuan) along a route east of the Chia-ling Chiang. It is not revealed at what time this route was first developed, however.

The Chao-hua District Gazetteer describes it as over 100 miles longer than the present route and that the section southwest of Lan-chung is less level than that between Tzu-t'ung and Mien-yang. The one advantage

[1] Feng Hsien Chih, op. cit.

[2] Han-chung Hsi-hsiu Fu-chih, op. cit., ch'uan 1, p. 25-26.

that it had, the Gazetteer states, was that it ran over relatively more level surface between Po-lin-i (Po-lin-kou) and Ch'ang-kang south of Kuang-yuan.[1] What the local gazetteer fails to note, however, is that by taking to boat transportation and floating down to Lan-chung, the difficult journey overland by foot is shortened considerably more than the hundred miles by which the whole route is lengthened. Thus, the distance of road travel from Lan-chung to Ch'eng-tu is much shorter than the road distance from Kuang-yuan via the Chien-men Barrier to Ch'eng-tu.

The reconstruction of the road through the Ta-pa Shan that was used as the courier route during the Ch'ing dynasty and until the route was spanned by a motor road in 1942 was started in 1625 during the reign of T'ien-ch'i of the Ming. It was not completed, however, until 1628, three years later. The Ming never used it for a courier route, while the Ch'ing or Manchu dynasty did not adopt it for their courier use until 1689.[2] But the road came too late for the Ming to make use of it. It was completed at a time when the dynasty was on its last legs, rebellion widespread, and the Manchu invasion imminent. Furthermore, the Portuguese, Dutch, and British were harassing the Chinese in the southeast seaboard area, and the attention of the Ming administration was directed northward, eastward and southward. The west was left to contend with its age-long isolation and a terrible calamity.

Nevertheless, such was the improvement in the Ta-pa route that its completion was commemorated by two stone tablets, one of which says of it in eulogy: "Level and straight like a Chou dynasty road is the K'ung Tao".[3]

1 Chung-hsiu Chao-hua Hsien-chih, op. cit., ch'uan 28, p. 6-8.

2 Ibid.

3 Ibid.

The end of the Ming dynasty found not only the Manchu hordes causing havoc in China, but the added violence of adventurers and desperadoes who formed armies and tried to carve out domains of their own on the ruins of the Ming Empire. They were even more ferocious than the Manchu in their rampage among their own people. The path of one of these warlords had the most serious effect both in depopulating Szechuan and in causing the decline in importance of north-south communications in the Ch'in-ling Shan and Ta-pa Shan region. This most notorious of maniacal slayers was Chang Hsien-chung. The ultimatums which he delivered to all inhabited places in his path of conquest defined his butchery with mathematical exactness. Cities that resisted his entry one day had three-tenths of the population slaughtered; those that resisted two days had seven-tenths of the people killed; further resistance beyond the two days meant complete annihilation of all inhabitants when the city was overcome. His policy in plunder was guided by military strategy: horses were to have number one priority; bows and arrows next; while money, jewelry and silks came last on the list.[1]

Before he was finally eliminated by the all-conquering Manchu invaders, the population of Szechuan was almost wholly exterminated.[2] Even after the Manchus had been the masters of a unified China for 66 years, the population was still so small that a census taken in 1710 gave a return of only 144,154 persons in an area that now boasts of 52,000,000 and more inhabitants. In Ch'eng-tu alone over 600,000

[1] Ch'ien Mu, Kuo Shih Ta-wan, 1943, Vol. II, p. 578.

[2] Little, Archibald, op. cit., p. 73-74.

inhabitants were put to the sword.[1] A memento left behind by this butcher dated 1628 still stands in Ch'eng-tu, the famous "tablet of the seven kills", on which he had inscribed a three-line verse:[2]

"Heaven created all things to nourish the human race,
But man responds with not a single grace.
Kill, kill, kill, kill, kill, kill, kill."

With Szechuan's population thus reduced virtually to that of a medium-sized city and the economy of the vast area almost at a complete standstill, it is small wonder that for long little interest should be shown in communications with this region and that the roads through the Ch'in-ling Shan and Ta-pa Shan should be left to decay. When re-population of Szechuan by immigration was undertaken under the Manchu rulers, most of this movement came from the crowded lands of eastern China[3] via the channel of the YangtseChiang. Whole communities migrated into Szechuan from various other parts of China, so that the province contains numerous localities where other provincial dialects and customs have been preserved with much of their original purity.

It is probably this revival of Szechuan's population with its consequent re-growth of inter-provincial trade that impressed the writer of the Liu-pa Sub-District Gazetteer in 1842 with the "great development" that had taken place in the Szechuan-Shensi courier road. He asserts that during the Ch'ing period the Lien-yün Tao through the

1 Ronaldshay, Lawrence John, A wandering student in the Far East, London, 1908, p. 113-114.

2 Yang, S.C., The revolution in Szechuan, 1911-12, Journal of the West China Border Research Society, Vol. IV, 1933-34, p. 88.

3 Little, Archibald, op. cit.

Ch'in-ling Shan was repeatedly repaired, that money was often issued for annual repair expenses, and furthermore, that preventive repair also was undertaken as soon as any signs of deterioration occurred.[1]

The first major reconstruction of the courier route to Szechuan from Shensi during the Ch'ing dynasty was made in 1664 when the Marquis Mai Chiao directed a suscription drive to raise funds for the project.[2] The work that was done under his direction was done so well that it drew admiration from the Marquis who extolled the "delightful levelness of the trestle-roads".[3] These repairs lasted until 1689 when the Magistrate Kuo followed the Marquis Mai's example and directed a second reconstruction. A third reconstruction was undertaken in 1765 when money was requested from the Treasury for extensive repairs. Some work must have been done on the courier route in 1725, however, for the Han-chung Prefectural Gazetteer speaks of a 40-year accumulation of forest growth along the trestle-road which was cleared together with the debris, rocks, and silt which had washed down the mountains to obstruct the road.

Thereafter, in 1811 the Duke Tung memorialized the throne for funds for repair work. District Magistrate Hou P'u and Viceroy Liu Kuo-chu were deputized to supervise the work, and several months were required for them to complete the examination of the reconstruction.[4] Subsequently, Governor O (of Han-chung?) devised a scheme for raising funds to provide for the annual repair of the Ch'in-ling Shan trestle road. The two prefectures

1 Liu-pa T'ing Chih, op. cit.

2 Feng Hsien Chih, op. cit.

3 Liu-pa T'ing Chih, op. cit.

4 Han-chung hsi-hsiu fu-chih, op. cit., ch'uan 1, Chan-tao maps.

of Han-chung and Feng consulted jointly on the floating of a loan. Annual repairs were to be undertaken by the Chou (department) and Hsien(district) by turns.[1]

The pattern for road construction in the mountain zone was defined in regulations issued in 1739 during the reign of Ch'ien Lung, and instructions on how to cut through hard rock reveal the technique of the period:[2]

"All roads adjoining rivers and cliffs and skirting deep drops are to have cut-stone balustrades on the side adjacent to the drop. If a road is narrow and confined so that a balustrade is not feasible, a wooden frame along the outside edge shall be built to prevent accidents. If a road is so restricted as to be dangerous, the rock shall be cut to widen the road on the inside, and a wall shall be added to the outside. Where cliffs have difficult spots, they shall be built up with stone and mortar. If because of height and depth this may not be done, wooden trestle supports shall be added. If the natural rock surface is too sloping and slippery, the rock shall be chiseled and made level. If the natural rock juts out into the road, it shall be pared off.

"Some types of rock such as Tzu-mu (son-and-mother), Lung-ku (dragon-bone), Niu-hsin (ox-heart) and Yu-kuang (oil-gloss) are too hard to be cut by hammer and chisel. These may be removed by heating and then pouring over with vinegar-water to flake them off. Each heating and pouring with vinegar-water flakes off a piece about an inch thick, a foot wide, and about ten feet long. To take off such a layer requires

[1] Feng Hsien Chih, op. cit.

[2] Chung-hsiu Chao-hua Hsien-chih, op. cit., ch'uan 28, p. 6-8.

30 catties (40 pounds) of fuel wood and five catties of vinegar, together with the work of one stone cutter.

"The stone balustrade should be one foot eight inches high, with a width of one foot five inches at the bottom and one foot width at the top. For each ten feet of wall, 60 catties (80 pounds) of lime, a peck of glutonous rice, six catties of alum, eight catties of t'ung-oil, and the labor of two masons are required."

The courier system of both the Ming and the Ch'ing were under the control of the Vehicles Department of the Board of War. The regulations governing the operation of the system corresponded generally to those of the Yuan period. The Ming system had four categories of service, the Hui-t'ung-kuan, or what might be called "despatch offices"; the Shui-ma-i or horse and water courier stations; the Chi-ti-p'u or express despatch offices; and the Ti-yün-so or transport stations. The Shui-ma-i corresponded to the Chang-ch'ih of the Yuan period. The Hui-t'ung-kuan were the head offices of the Shui-ma-i located in the capital cities, one at Peking and one at Nanking. There were a commissioner and two vice-commissioners of posts, one of the latter being in charge at Nanking. The Shui-ma-i that were road as contrasted to water stations were from 20-25 miles apart, and at the key stations there were horses numbering 80, 60, or 30 head in order of importance of stations. In the lesser stations there were 24, 14, or 5 horses, in order of importance of stations. The water stations had 20, 15, 10, 7, or 5 boats, depending upon the importance of the stations. Each boat had ten boatmen. Horses were divided into three classes, denoted by small wooden signs hanging from their necks. There seems to have been no distinctions of this sort among boats.[1]

[1] Pai, Shou-i, op. cit., p. 184-186.

The Ti-yün-so or transport stations had carts of differing capacities. Large carts carried ten piculs of rice. Each such cart had three carters and three oxen. The smaller carts had one carter and one ox. The boats were decorated with red paint. On each boat was a tablet on which was written the number of the boat, the capacity, the name of the boatmen, and the boat's equipment. Each transport boat had 10-13 men.[1]

The Chi-ti-p'u were established about three miles apart. Each station had a station master, four to ten guards who were generally local youths. A sundial was set up at each station, and the day and night was divided into 100 intervals. One despatch courier was sent out every three intervals. A pouch was expected to travel 100 miles in 24 hours. However, if a special document arrived, there was to be no delay, and it must be forwarded immediately, day or night. The courier rang a bell and shouted to clear the way. Registration, wrappings, and other regulations were similar to that during the Yuan dynasty.[2]

The communications system of the Ch'ing period differed little from that of the Ming dynasty. Three senior secretaries were in charge under the Vehicles Department. These included an imperial prince, a Manchu official, and a Chinese official. Four second secretaries included an imperial prince, two Manchu and one Mongol officials. Two assistant secretaries included a Manchu and a Chinese. In addition to controlling the courier post system, it also controlled and decreed the regulation of the horse administration of the empire so as to ensure military requirements.[3]

1 Ibid.
2 Ibid.
3 Ibid.

The Ch'ing dynasty courier posts were variously called i, chan, t'ang, t'ai, so, or p'u, depending upon local usage. In Shensi there were 129 such stations, while Szechuan had only 65.[1] Stations such as Ma-tao-i and Ch'ing-ch'iao-i, north of Pao-ch'eng on the Lien-yün Tao had 52 horses each, and for every two horses there was a groom.[2] The standards of speed of despatches were (1) ordinary, 80 miles per day, (2) urgent, 133, 166, and 200 miles per day, as indicated by the despatching office.[3] It is evident from such requirements that good roads were essential in the transmontane routes.

Commercial and private use of courier roads apparently suffered little restriction from the Yuan dynasty period onward. We note that travelers had to give right of way on the roads to government couriers, but the very fact of such a regulation indicates much public use of roads. The courier post facilities during most of these periods were not available to the general public. In fact, a postal service for the general public did not make its appearance in China until sometime during the 15th century when private enterprise brought about the development of the Min Chü. Apparently, all of these had their headquarters at Ning-po, Chekiang Province, being developed by the banking interests there in connection with business remittances. For a consideration their couriers also carried messages and mail for the general public. Eventually these "letter hongs" became very powerful organizations with widespread connections throughout the empire, and they utilized every available means of transportation for quick or slow

1 Ibid.

2 Pao-ch'eng Hsien Chih, op. cit., ch'uan 7, p. 6-7.

3 Pai, Shou-i, op. cit.

transport as desired. Their rates were moderate, and they collected half of the "postage" from the addressees. Although not under official control, they proved extremely reliable and efficient. Unfortunately, they only developed the most profitable routes, so that out of the way places were not reached.[1]

Toward the end of the Manchu dynasty disorders of a serious nature again caused deterioration in the road to Szechuan across the Ch'in-ling Shan and Ta-pa Shan. The great T'ai-p'ing rebellion ravaged Szechuan up to the northern ranges of the Ch'in-ling Shan but did not penetrate into the Wei Ho valley. As though to ensure an equal amount of damage to the economy of Shensi, the Mohammedan T'ung-an rebellion lasting from 1868-1873 left Shensi in desolation and decimated its population, but failed to penetrate southward through the Ch'in-ling Shan wall. The former rebellion lasted 15 years and cost the lives of over 20 million people, devastating 16 provinces and destroying 600 cities.[2] The latter rebellion left not enough men to till the fields of Shensi.[3] It is in the light of these events that we must regard the state of decay in the road to Szechuan as described by von Richthofen, Wylie and others, and as it has remained until recent times.

It is not so much the difficulty of the routes across the mountains that has prevented them from achieving first-rate importance since the end of Manchu rule, but the continued intermitent civil disorders. Szechuan was the hotbed from whence sprang the revolution which ended in the establishment of a republic in China. Szechuan was in the path

[1] T'ang, Liang-li, op. cit., p. 265-266.

[2] Gowen, H.H., etc., op. cit., p. 259.

[3] Nichols, Francis, Through hidden Shensi, New York, 1902, p. 113-115.

of the long and bloody march of the Communist armies during 1935. On the other hand, an invasion by Japan brought out the strategic importance of Szechuan and made the Szechuan-Shensi highway across the Ta-pa Shan and Ch'in-ling Shan one of the only two motor highways leading to the outside world from Free China for several years.

From the records of the past, we see that militarily and politically, the transmontane routes of the Ch'in-ling Shan and Ta-pa Shan have always been of great importance. Economically, their importance has fluctuated with changes in internal political unity and stability. During long periods of peace, trade and commerce of sizable proportion flowed over them. There can be no doubt that when unity and stability in China again are achieved, modern methods of communications will make these western north-south routes even more important than during the most flourishing periods of the past.

The multiplicity of routes through the mountain belt now known and used raises some interesting points. First, it is apparent that the prohibitive difficulty of crossing the Ch'in-ling Shan and Ta-pa Shan during the earlier historical period was not because of the lack of constructed roads, the elevation of the passes, or even the ruggedness of the terrain. The uncleared forests did offer major obstacles to the promiscuous use of possible routes in the early centuries of Chinese expansion. However, even more important was the lack of human settlement at close intervals along the possible routes, so that the travelers were not able to find food or lodgings.

With the deforestation of much of the mountain area, particularly in the accessible valleys through which the routes run, these obstacles have been removed in large measure. Savage animals which formerly

harassed travelers also are gone for the most part. Settlements of isolated farmhouses and small agricultural village units have penetrated into many parts of the Ch'in-ling Shan and Ta-pa Shan, so that present-day travelers can usually find a bit of food and a modicum of shelter at reasonable intervals. Thus one finds the Feng District Gazetteer of 1892 declaring:

"The ancient trestles are no longer essential and are becoming dispensed with. One may travel by various and numerous routes now. Hoping to evade excise taxes that are collected along the better road of the courier route, commercial travelers and traders go from Pao-chi into Szechuan via Hui and Liang-tang, and go from Yang direct to Mei and Ch'i-shan, most of them using small paths."[1]

While these small paths follow the same routes used by the official courier systems at one time or another in by-gone dynastic periods, no important road improvement and maintenance have occurred on many of these paths for centuries with the adoption of the Lien-yün Tao and Chin-niu Tao as the primary road across the mountain belt.

While the use of the routes may therefore be attributable to the extension of settlement, at the same time, settlement has followed the routes used. Although the population in the mountain belt is sparse compared with the lower lands of the Wei Ho, Han Chiang, and Szechuan Basins, numerous small isolated farms and tiny villages are to be found in the mountain wilderness. They are connected by footpaths to the various routes leading to the large river basins. These routes, therefore, furnish them their sole means of communication with the world outside of the Ch'in-ling Shan and Ta-pa Shan or with each other.

[1] Feng Hsien Chih, op. cit., ch'uan 1, p. 15-20.

The inadequacy of these paths is self-evident. The isolation of these settlements is so great that when reports were made of a famine in the Ta-pa Shan in the spring of 1945, it was impossible to get verification in the capital of the province in which they are located. Little economic of cultural improvement for the inhabitants of the mountain belt will be possible before modern roads penetrate the various parts of it. The motor road completed in 1942 is an important start in this direction and brings to a close an era in Shensi-Szechuan communications which has lasted over two thousand years. At the same time it heralds a new period in which not only modern communications will change the internal isolation of the mountain belt, but which sees a new directional focus in Chinese economic and political development, a reversal of the traditional relationship of the two adjacent provinces.

Szechuan is no longer the pioneer province to which ancient Shensi extends the hand of culture. Westward from Shensi stretches the new frontier, and an economically and culturally advanced Szechuan looks toward the exploitation of this frontier area with the eyes of a China made aware of largely unprospected fields of mineral wealth. Politically, too, the menace of a new Russia cloaking an old imperialism has drawn Chinese eyes to the northwest. As China was exposed to easy invasion by Japan from the east and northeast, so China also is easy to invade from the Dzungarian corridor of the northwest. The protected haven that Szechuan offered to a besieged government is remembered, and uneasy Chinese eyes viewing the cloud on the northwest horizon may well recognize the importance of the route to Shensi from a secure supply base.

<u>The modern period (from 1911 onward)</u>

The basis for most modern highway and railway communications in China was provided by the age-old roads and routes developed centuries

ago. While some slight deviations and changes often must be made to conform with modern engineering requirements, the basic routes are little changed. As in many other countries, railroad development preceded motor road construction and use in China. However, both Shensi and Szechuan were left out of early rail and motor road construction. Szechuan has yet to obtain railroad connections with other provinces, while internally only a few miles of extremely narrow gauge mining railroads exist.[1]

It was not until 1934 that the Lung-hai Railroad, following the south bank of the Huang Ho, entered Shensi from the east to connect Ch'ang-an with a sea-port at Lien-yün Harbor near Hai-chou. (It is probably only a coincidence that the name of the harbor is the same as that of the principal road through the Ch'in-ling Shan). During 1936 the line was pushed westward to Pao-chi with plans for later extension to Lan-chou in Kansu and eventually into and across Sinkiang to the Russian Turk-Sib Railroad.

Three alternate routes between Ch'ang-an and Pao-chi were considered and studied before a decision was made to follow the presently used route. One followed the south bank of the Wei Ho from Ch'ang-an via O, Chou-chih, Mei, and Kao-tien to Pao-chi. It was found, however, that the route must cross an extremely large number of tributaries of the Wei Ho coming out of the Ch'in-ling Shan. The bridges required would be very numerous. The same geographical obstacles that caused the primary east-west road in Shensi to run north of the Wei Ho for over two thousand years again operated to fix the rail route on the north bank of the river.

[1] Wu, Tan-ko, San-shih-san nien Ssu-ch'uan chih chiao-t'ung, Ssu-ch'uan ching-chi chi-k'ang, Vol. II, No. 2, April 1, 1945, p. 66.

The second possibility was the ancient road route to the west via Hsien-yang, Hsing-p'ing, Wu-kung, Fu-feng, Ch'i-shan, and Feng-hsiang to Pao-chi. This route, too, involved crossing rather numerous gullies, which get deeper in the loess as one proceeds farther westward. In the vicinity of Feng-hsiang the P'ing Shui gulley reaches a depth of some 640 feet, and the grade is very sharp on both banks. The best route for the railroad was found to be that following close to the north bank of the Wei Ho. This route has relatively shallow gulleys, and only three large bridges are required. One bridge crossing the Wei Ho northwest of Ch'ang-an to connect with Hsien-yang measures about 1,968 feet long. Another crossing the P'ing Shui measures 984 feet long. The third, crossing the Chin-ling Shui measures 492 feet long. From an engineering standpoint, therefore, this route is the most practical.[1]

The route, however, by-passes all the District cities along the old road route except Hsien-yang and Hsing-p'ing until its destination at Pao-chi. However, this is compensated from the economic viewpoint by the greater nearness of the railroad to the District cities along the south bank of the Wei Ho, so that most of the cities in the Wei Ho valley north and south of the river are within 15-20 miles of the railroad. Accordingly, this route is the one which has been chosen.

In Szechuan a railroad connection between Ch'eng-tu and Hankow in Hupeh below the Yangtse Chiang gorges was planned prior to 1910. Since the Szechuan gentry and landlords were opposed to the infiltration of foreign economic domination in the province, the Imperial Government at Peking had agreed to allow the subscription to the bond issue for the section within Szechuan entirely by local interests.

[1] China, Ministry of Communications and Ministry of Railways, Chiao-t'ung-shih lu-cheng p'ien, Shanghai, 1935, Vol. 14, p. 602.

Thus, 30 million dollars were raised in Szechuan for the railroad. However, through corruption and mismanagement, much of the money disappeared, while efforts to obtain an audit of the funds were frustrated. Meantime, the construction amounted to no more than a railroad station at I-ch'ang and a few miles of line immediately adjacent.[1]

In 1910 Sheng Hsuan-huai, the new Minister of Communications at Peking, on the advice of the Grand Censor that trunk railroads should be nationalized, attempted to get a Japanese loan of ten million dollars to further finance the railroad. Promises to repay the Szechuan bondholders failed to materialize. This, plus the threat of foreign control over the provincial rail communications gave the great impetus to the general discontent with the Manchu that brought about the open rebellion leading to the overthrow of the dynasty.[2] It is only in recent years that efforts have been made to continue construction of this line between Chungking and Ch'eng-tu. Up to date, only a portion of the roadbed has been completed, amounting to about 45 per cent of the total.[3]

In both attempts to connect Shensi and Szechuan by rail with other provinces, the routes have been east-west routes, designed primarily to tap the resources of the far west for exports as well as to provide a channel for bringing in manufactures. North-south railroad connections across the Ch'in-ling Shan and Ta-pa Shan belt were not left out of consideration, however. In Sun Yat-sen's long-term communications plan for China, two routes across the mountains

[1] Yang, S.C., The revolution in Szechuan, op. cit., p. 64.

[2] Ibid.

[3] Wang, Ch'eng-ching, Ssu-ch'uan nei-pu chih t'ieh-lu chien-she wen-t'i, Ssu-ch'uan ching-chi chi-k'ang, Vol. II, No. 2, April 1, 1945, p. 8.

are included. One strikes across the Ch'in-ling Shan southward of Ch'ang-an, continuing south across the Ta-pa Shan via Wan-yuan, Sui-ting, and Ch'ü to Chungking. Another follows an old caravan route in the far west from Lan-chou in Kansu southward via Lin-t'ao in Kansu, and Wu-tu in Szechuan to Nan-ch'ung and Chungking.[1]

Perhaps Sun Yat-sen was more idealistic than practical in his planning, for by 1937 the Chinese Government had reduced his ambitious plans to one route across the mountains. Also, the revised plans directed the railroad to follow the old road route of the Lien-yün Tao and Chin-niu Tao. Consideration of the geographic factors have again confirmed the route chosen by the Ch'in armies in the 3rd century B.C. for crossing the Ta-pa. The Lien-yün Tao, determined as the most practical since the Sung after all other feasible routes had received their historical tests, also came out as the best choice. According to the new plans, therefore, the transmontane rails would leave the Lung-hai Railroad at Pao-chi, run south to Ch'eng-tu, to be connected there to the Chungking railroad as well as to a railroad south to Kunming in Yunnan Province.[2]

The first real work on motor highways in China on a large scale was done as a result of the efforts of the American Red Cross Society in 1920-21, although regulations for building national highways by the Government were proclaimed in 1919. As part of its famine relief program, the Red Cross Society spent $2,445,000 in building 850 miles of roads in Hopeh, Honan, Shansi, and Shantung Provinces.

[1] Lin, Hou-tao, Shih-yeh chi-hua chiao-t'ung p'ien, Chungking, 1941, p. 131.

[2] Ou, Yang-ying, Tsen-ting pen-kuo fen-sheng ching-t'u, Hsin-hua, Hunan, 1939, p. 2.

In 1931 China finally had a central government after many years of civil war. At this time the National People's Convention passed a six-year plan looking to the construction of 200,000 miles of new highways. Prior to this, a National Highways Planning Commission in 1929 attended by delegates from 19 provinces had agreed on definite plans which were submitted to the government. Thus, even prior to the People's Convention, the Government had promulgated the Highways Laws in September of 1930.[1]

These laws divided roads into two categories: "China Proper" roads, and "frontier defense" highways. Subsequently, under the classification of "China Proper" roads, twelve major lines were defined for construction. One of these was what was called the Shensi-Kwangsi Highway. It was to run from Ch'ang-an across the Ch'in-ling Shan to Han-chung and from there apparently across the Ta-pa Shan to Kuang-yuan, down the Chia-ling Chiang to Lan-chung and then westward to T'ung-ch'uan (San-t'ai) and Ch'eng-tu. Continuing southeastward from Ch'eng-tu, it was to run through Lu-chou, Kuei-yang, and I-shan to Liu-chou in Kwangsi.[2]

The estimate for costs of the highway between Ch'ang-an and Han-chung was $2,860,000, and construction was to be well underway by the middle of 1935.[3] Reflecting some aspects of early dynastic restrictions on the use of public roads, the regulations set by the National Government provided terms and conditions on which private transport companies might make use of the road:

"Private transport companies are allowed the use of these roads on payment of rent. Charges are to be fixed by the Ministry, and

1 T'ang, Liang-li, Reconstruction in China, Shanghai, 1935, p. 219-223.

2 Ibid.

3 Ibid, p. 233.

equipment subject to inspection by Government officials. Part of the profits are also to go to the Ministry.[1]

Much of the same age-old methods of accomplishing the construction and providing for the necessary financing also was to be practiced:

"The construction of roads in the interior provinces is to be financed by a surtax on farmland, supplemented if necessary by a Customs and Salt surtax plus appropriations from the basic Customs and Salt funds. On the security of these surtaxes, plus the profits from the highways, public loans, bonds and debentures may be issued.

"All able-bodied male residents between the ages of 18 and 50 of the districts through which these national highways pass, and of adjacent hsien districts, are liable to be pressed into labour gangs for road construction. They will be provided with food, and, if necessary, shelter, but must provide their own tools."

It turned out that the highway across the Ch'in-ling Shan did not actually get completed until seven years after the starting date and was slower in building than the Szechuan section of the highway across the mountain belt. The latter was completed from Ch'eng-tu up to Kuang-yuan by 1935, following the route of the Chin-niu Tao.[2] The highway from Ch'ang-an followed the old Lien-yün Tao, for, unlike the railroad through the Wei Ho valley, the highway could run up and down the gully-slopes without encountering great engineering difficulties. By 1935 it had run as far as Feng, southwest of Pao-chi. The short Han-chung Basin sections of the road also had been completed.[3]

[1] Ibid, p. 219-223.

[2] Chung-hua Shu-chü, Chung-kuo ti-li hsin-chih, Shanghai, 1935, p. 258.

[3] T'ang, Liang-li, op. cit., appendix, Railway, highway and aviation map of China.

However, it was only under the pressure of the war with Japan and the necessity of getting supplies to Chungking from abroad via the Turk-Sib Railroad and Sinkiang that a highway was finally pushed across the Ch'in-ling Shan and Ta-pa Shan in 1941. The ancient courier route dating from the Sung dynasty finally had a new face. Mechanical monsters made on the opposite surface of the earth now chugged along trailing clouds of smoke from a varied assortment of fuel, ranging from gasoline to Charcoal, alcohol and t'ung-oil, where in ancient times until a few years past pack-trains and human carriers were the sole forms of transport in the mountain sections.

At every point along the route the new iron vehicles meet the symbols of the past. In the village of Shih-niu-pao south of Tzu-t'ung a half-life-sized stone ox reminds one of the mythical origin of the route.[1] At Tzu-t'ung two stone tablets, one dating from the Han dynasty and one from the T'ang dynasty remind one that the introduction of Han civilization and culture came from the north. Seven miles north of Tzu-t'ung a temple dedicated to Kuan-yin and Wen-ch'ang testifies to the influence of North China architecture in the Szechuan Basin. T'ang dynasty Buddhist carvings and statues on a cliff five miles north of Kuang-yuan tell us this was the route along which Buddhism entered Szechuan to found one of the five most important monastery centers at the 11,000 feet high Mount Omei southwest of Ch'eng-tu. Finally, at Miao-t'ai-tzu in the Ch'in-ling Shan one finds the beautiful temple dedicated to Chang Liang of the Han period now housing the modern China Travel Service Hostel.

[1] For this and other observations along the modern highway, I am indebted to Schuyler Cammann who read me some notes taken by him on his trip along the road in 1945.

The war brought changes along the route, too. Kuang-yuan, long an important city in northern Szechuan, now is the cross-roads point of the highway with the navigable Chia-ling Chiang and has acquired even greater importance. Travelers between Lan-chou and Chungking on the bus lines change bus at this point. The Hsien or District city of Feng, on the other hand, lost some of its population to Shuang-shih-p'u, a short distance south of Feng, because of the better situation of the smaller town. Liu-pa, depopulated during the T'ai-p'ing rebellion of 1850-64, still is a ghost city with a fine wall but no inhabitants to speak of. By contrast, Pao-chi at the brink of the Wei Ho also shared in the war-time boom and extends far beyond its walls. While the highway eastward to Ch'ang-an had been temporarily abandoned to decay because of the competition of the railroad, the railroad itself also badly needed repairs.

In place of the trestles on which the ancient road ran, the modern motor road crosses over concrete bridges such as the one shown in Plate 34. Along the road route extends a telegraph line and a telephone line, taking the place of the old smoke signal towers used for emergency signals in the by-gone ages.

Still further changing the character of the transmontane communications here is air travel between Ch'ang-an and Ch'eng-tu as well as other points such as Pao-chi, Han-chung, and Chungking, all of which have airfields. Commercial flights between Ch'ang-an and Ch'eng-tu were initiated by the Ministry of Communications in 1935 when they were entrusted to Eurasia Corporation, a company with German interests. The first flights started in September and a stop was to be made at Han-chung. However, because the field was not in good condition, this

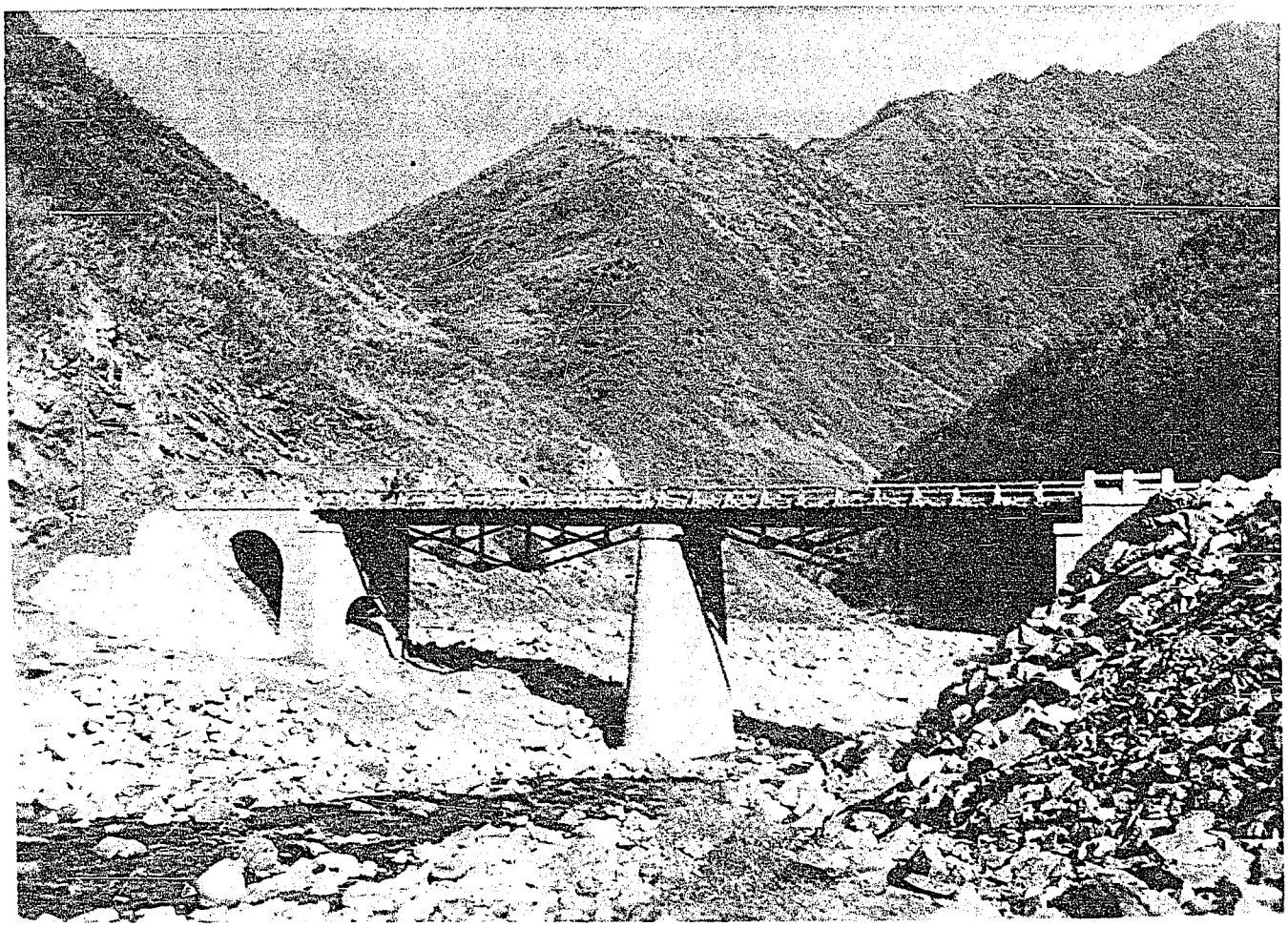


Plate 34. One of the rare modern-style bridges that have been constructed for the motor road through the Ch'in-ling Shan. It is located about ten miles north of Pao-ch'eng.

(Photo by Sydney Franklin)

stop was postponed. On April 1, 1936, the run was extended south from Ch'eng-tu to Kunming in Yunnan Province. The total distance from Ch'ang-an to Kunming is 810 miles by the route taken and was covered in six and a half hours.[1] This compares with the month or so which was required for Marco Polo to traverse the distance between Ch'ang-an and Ch'eng-tu alone.

In spite of these modern changes which have brought the northwest and southwest into the most intimate contact since time began, the persistence of old routes and old methods of transport furnish the same strong contrasts that is noted in many less remote regions of China. 'In western China', states the Szechuan Economic Quarterly, 'human and animal pack-transport still occupy an important place'.[2] A recent traveler over the road states that at the border between Szechuan and Shensi one still meets with the bamboo carrying-basket shaped like a funnel with a backward flaring lip, which General Pereira noticed strapped to the backs of Chinese carriers in the eastern part of the Ch'in-ling Shan.

The courier routes of the past such as the Tzu-wu Tao and the route down the Ch'ien-yu Ho from Ch'ang-an are still shown as postal routes in the 1942 postal map.

Official communications along the transmontane routes likewise continued down to recent times using the system of the past. Long before the abolition of the old courier service, the modern postal system got its start. It was established by Imperial decree in 1896 as an adjunct of the Customs Service and under foreign direction.

[1] Lin, Hou-tao, op. cit., p. 108.

[2] Wu, Tan-ko, op. cit., p. 58.

Every Commissioner of Customs acted ex-officio as District Postmaster. In 1906 a Board of Posts and Communications was established, but it was not until the fall of the Manchu dynasty that the Posts were set up as an independent organization. By 1914 China was a member of the International Postal Union and had begun to undertake responsibility for the delivery of Union mails.[1]

In 1904 the only direct postal connection between Shensi and Szechuan consisted of a single courier route leading southwestward from Ch'ang-an to Yang, apparently via Fu-p'ing in the Ch'in-ling Shan. From Yang it ran through Hsi-hsiang and the Ta-pa Shan to Wan-yuan and thence along the T'ung Chiang down to its debouchér into the Ch'ü Chiang. From there it ran to Sui-ting and Chungking.[2] By 1911, however, the postal system was using six routes across the Ch'in-ling Shan to the Han Chiang valley and three routes across the Ta-pa Shan to Szechuan, one of these being the Chin-niu-Tao.[3]

The privately operated Min Chü, or "people's post", however, continued to compete with the public post office long after the old courier system disappeared from the scene in 1921. In fact, its services offered such strong competition to the Government postal service that in 1932 it still was carrying 142,700 parcels and 3,927,700 letters. This could not be tolerated by the new postal system, so that in 1934 the Ministry of Communications issued an order putting a stop to private transport of mails.[4]

1 T'ang, Liang-li, op. cit., p. 268.

2 China, Imperial Maritime Customs, Decennial Reports on trade, 1892-1901, Appendix II, p. lvii, postal map of China, 1904.

3 China, Ministry of Posts and Communications, Report on the workings of the Chinese Post Office, Shanghai, 1912, postal map of China

4 T'ang, Liang-li, op. cit.

The opening of highway transportation across the Ch'in-ling Shan and Ta-pa Shan was due to the stimulus of war-needs. Private commercial use of the road during the war years, therefore, was slight, since most of the modern transportation equipment was government owned and operated, or was requisitioned by the Government. The needs of industry, and the demands of private transportation were met in part by the Government's newly organized "post-courier transport" system, a re-adaptation of the system of the past ages. This system again reverted to the non-mechanized means of transport, inasmuch as the cost of gasoline and oil, as well as the lack of motor equipment and tires were not to be overcome by available means. The equipment used on the Szechuan-Shensi post-transport system within Szechuan was in part rented and in part requisitioned. In 1944 the equipment included the following:[1]

	privately owned	requisitioned	total
Rubber-tired carts	220	562	782
Rubber-covered-wheel carts	932	---	932
Large rubber-tired carts	78	1,350	1,428
Rickshas	112	---	112
Horse-carts for passenger traffic	135	---	135

In 1942 the number of miles of main road and branch roads involved in the operation of the Szechuan-Shensi system within Szechuan came to 1,028. In 1943 this had increased to 1,078, and by 1944 this had further increased to 1,185 miles. The overall commodity transport of the post-system by the above means of transport equalled the tonnage carried by

[1] Wu, Tan-ko, op. cit., p. 58-59.

the motor-truck system, according to the Szechuan Economic Quarterly, although the passenger traffic carried by motor vehicles far surpassed that of the slower means of transport available to the Post-courier Transport Administration. The tonnage and passenger carriage by this system during the first nine months of 1944 were as follows:[1]

Month	Tons lifted	Ton-kilometers	Average distance per ton lifted (freight)	Number of passengers	Man-kilometers
Jan.	7,502	860,437	115	42,237	224,097
Feb.	11,066	2,215,912	201	4,848	33,211
March	309,004	3,921,857	12.7	9,703	119,413
April	276,796	3,855,622	13.9	6,723	85,578
May	37,778	2,622,557	69	78,748	248,708
June	8,032	2,078,111	259	80,731	481,855
July	10,614	3,583,926	325	85,798	303,449
August	14,034	3,617,840	258	147,263	517,203
Sept.	10,689	2,465,435	224	84,480	298,848

It is apparent at once that the figures for the average distance carried for each ton of freight show a great drop during the three months of March through May. The number of passengers carried also is comparatively small for the three months. At the same time, however, the greatest tonnages of freight were moved during these spring months. The significance of these facts cannot be ascertained without a knowledge of the nature of the cargo carried. It is likewise apparent that the distances traveled by passengers average very short. This probably is because all the long distance passenger travel is done by motor bus, whereas passenger traffic on the horse-carts are of only local importance. The total amount of freight carried monthly may not be impressive in terms of a modern transport system, but as compared with some 30,000 tons

[1] Wu, Tan-ko, op. cit., p. 59-62.

of freight carried monthly during the best months of the Burma Road traffic, the record along the Szechuan- section of the Szechuan-Shensi highway is not insignificant.[1]

In judging the future of transportation between Szechuan and Shensi, the war-time experience cannot be taken as a standard. War-time inflation in Free China made the government-run post-transport system an unprofitable and losing business. If an index of 100 is taken for January of 1941, transport prices on the Szechuan-Shensi highway went up to 115.5 by the end of that year. The index advanced to over double or 288.75 in 1942, to 1,146.46 in 1943, and to 1,749.26 by January of 1944. The drastic inflation thereafter was so rapid that by November 1944 the index had reached 4,279.88.

As a matter of fact, cost of transport rose far faster than commodity prices. Whereas the commodity price index had risen from the 100 as base for January 1941 to 2,380 by November 1944, the cost of transport index had reached to almost double that of commodity prices.[2] From this abnormal situation, we can see that the nature of the economics of highway transport across the transmontane route in the west will have to await clarification in the statistics of more settled times. Furthermore, the monopoly role that the Post-courier Transport Administration played during the war period gives no true indication of what the situation might be under competitive conditions.

[1] Information on the war-time use of the Shensi section of the Szechuan Shensi highway has not been available to the writer.

[2] Wu, Tan-ko, op. cit., p. 59-62.

CHAPTER V

THE ROAD AND ITS RELATION TO POPULATION CENTERS

In discussing the relationship between the road and population centers, it will suffice to limit the examination to the Lien-yün Tao and Chih-niu Tao, inasmuch as these routes have formed the principal channel of communications for the last thousand years.

In the development of population centers a number of different factors were important in influencing location of sites. Some are geographical, some strategic, and some cultural in character. Among the geographical factors, the situation of the confluence of two or more rivers is marked. Virtually all the cities of the Ta-pa Shan zone and the adjacent hilly land along the road route are found to have this situation. The same is true of such cities in the Wei Ho valley as Wu-kung, Fu-feng, and Pao-chi, and of the route north of the Ta-pa Shan where this situation is had at Mien, Pao-ch'eng, and Feng. The reasons for this are that such sites have the multiple advantages of being the natural foci of river and or valley communication routes, of having defensive value in being bordered on one or more sides by water (for example, see Plate 29), and of having water supply as well as sewage disposal channels ready-made.

Another geographical factor is the availability of arable land in the immediate vicinity. This is particularly important in the mountain areas of the west where poor transportation facilities force

population centers to depend primarily upon locally grown food supplies. Naturally, too, this occurrence of arable land is closely associated with river valleys. In the Wei Ho valley, this factor is not important in location, since arable land is not localized to a small area immediately around the developed centers of population. In the mountain zone, however, the importance of this factor looms large. One finds such cities as Feng, Pao-ch'eng, Han-chung, Mien, Kuang-yuan, Chao-hua, Tzu-t'ung, and Mien-yang being set in such locally important though small plains areas, the largest piece of arable land in the mountain zone being the Han-chung Basin.

Strategic reasons played the primary part in the establishments of such towns as the now dead Liu-pa and of Ning-chiang. Both of these were formerly purely garrison settlements. They flourished more in times of internal wars and dynastic struggles than they did in times of peace. This is the reason Liu-pa has not revived since the time of the T'ai-p'ing rebellion. There is no economic or commercial inducement for resuscitation of this place. The only claim it has to justify its name on a map is its still excellent walls (see Plate 18). Ning-chiang is primarily important as a half-way point between Mien to the north and Kuang-yuan to the south of the main body of the Ta-pa Shan, as well as being the nearest garrison to the Shensi-Szechuan boundary in Shensi. It draws its sustenance from a small basin in which it is located. Wylie noted it as an exceedingly poor place when he went through it. The present motor highway by-passes the town by about a quarter of a mile.

The location of barriers or what corresponds to "road blocks" in modern military parlance was important in creating small settlements. For the most part, such places still retain their ancient label and have

as the last character of their names the term "kuan" which means barrier. Frequently, the barrier also is associated with a temple site and a courier post. The latter probably has been the most important factor in creating numerous small villages and hamlets spaced at approximately equal intervals along the route. Most of the courier posts were established at specified distances apart, ten miles being the most common distance. At first official hostels were perhaps the sole accompanying building. These in turn attached to them quarters for servants and guards, and persons catering to the community thus formed. When private operation of hostels began, further caterers and shop-keepers would be attracted to serve the needs of travelers. Thus the settlements expanded to small villages. Many of the villagers were forced to seek supplementary means of livelihood in scratching and planting the narrow strips of alluvium adjacent to the road, or to till patches of the mountain slopes, as von Richthofen observed in crossing the Ch'in-ling Shan. In the more favorable localities, the courier posts developed into flourishing towns, as in the case of Ta-an-i southwest of Mien in the Han-chung Basin.

Whether roads have a greater influence in creating centers of settlement or whether settlements are more important in bringing about road connections often is an argument corresponding to that of the chicken and the egg. In the case of transmontane routes such as the one here examined, however, the settlements at the two ends of the routes were the initiating factors. The route and road originally were designed to facilitate conquest of the area at the southern terminus of the road by the rulers of the area at the northern terminus of the road. The cities, towns, and villages in between, however,

might be said to have come as a result of the road. Their development and expansion, again, in turn led to the improvement and development of the roads leading to them. The necessity of supplying the settlement with produce of distant regions, of providing for quick mobility for defending troops, or for using the center as a base for military activity all were compelling reasons for the improvement of the road connection. Thus, road and settlement inter-acted mutually to promote the growth of each. The road strengthened the economic, political and military situation of the settlement. The settlement demanded the improvement of the road.

The coming of the motor highway and motor transportation has had a significant effect upon the relative importance of cities along the route. Small villages formerly of little importance, such as Shuang-shih-p'u on the Lien-yün Tao, have blossomed into boom towns, while District seats such as adjacent Feng have declined relatively. The new geographical situation created by the choosing of Shuang-shih-p'u instead of Feng for the forking of the motor-road has led to the prosperity of the former at the expense of the latter.

Then, too, the change in the pattern of travel stops is of significance in the increase or decrease of prosperity of the towns along the route. Because of the still limited use of motorized travel and transport, this change has not been completed to such a stage as to show clearly the effects of the new pattern being evolved. In the old mode of travel by foot and by horse-back, the stops were more frequent and closer together, because the distance traveled per day amounted to only 15 to 30 miles. With the advant of motorized travel, the day's

journey may be many times farther than the former average, so that several old-time stops will be passed by, thus depriving them of the trade on which they once could count. This probably will result in the decline of some towns and the building up of other towns.

Should a railroad be constructed over the route as planned, further changes in this pattern of stops will occur. On the other hand, it is also likely that all the towns will gain in being on a motor road or on a railroad because of having some share in the increased flow of trade. The relative gains may be far greater in the case of towns at strategically located stops, however.

CHAPTER VI

A REVIEW AND EVALUATION OF THE ROLE OF SHENSI-SZECHUAN COMMUNICATIONS

In summing up the role of the Shu Tao or Road to Szechuan in the historical past and in evaluating the significance of its future, what are the important conclusions and reasonable prognostications?

We have noted that Shensi, or, more properly, the Wei Ho valley was the original dispenser of Chinese civilization to the fertile Szechuan Basin via the channel of the transmontane roads. With this gift went most of the cultural heritage of the north to the lasting benefit of the southwest. With the gradual exploitation of Szechuan's agricultural productivity, this region became the economic mainstay of the great Han dynasty in the winning and consolidation of its empire. It became the great conservative factor in Chinese politics. There is a saying that when the Chinese empire becomes filled with unrest, Szechuan remains longest loyal to the Government; but that in the pacification of the country, Szechuan is always the last to hold out in resistance. This is the characteristic of a mountain-locked region. This factor has an important influence on adjacent provinces, and with improved communications, this influence becomes stronger.

During the many internal struggles of the various dynasties of China as well as in times of invasion of nomadic conquerors from the northwest, the transmontane routes have acted as escape outlets for beleaguered forces as well as channels of invasion. Possession of their strategic control points was the goal of rival armies.

The roads to Szechuan have led to immigration of settlers and refugees from the uncertain north to be nourished from the reliable production of the southwest. At the same time this has brought with it the skilled labor of northern artisans to the benefit of Szechuan and Yunnan.

The shifting of the economic strength of the nation from the basin of the Huang Ho to the delta of the Yangtse Chiang reduced the political supremacy of Shensi to that of a fringe province. Relative to Shensi, Szechuan's position both economically and politically has risen to greater heights. In time of national crisis it was to Szechuan that the nation looked for succor. But Shensi shared in the position of back door for China, and the needs of war bound the two closer by the tie of a motor highway. From Szechuan flowed strength to Shensi over the Ta-pa Shan and Ch'in-ling Shan. Via Shensi came some of the life-blood for the struggle with Japan before the invasion of Russia by Germany in 1941 brought to an end the supply line for China through Siberia and Turkestan.

"The southwest and the northwest represent China's future", writes a Chinese author.[1] That the importance of the transmontane communications linking these two significant regions were recognized long before the Japanese invasion forced the Chinese Government to seek refuge in the west is shown in a statement by a leading Chinese in 1935. "The Sian-Han-chung highway", says T'ang Liang-li, "...is not only important from a commercial standpoint, but is also strategic from the viewpoint of national defense."[2]

1 Meng, C.Y.W., China should have a great northwestern railway, China Weekly Review, January 20, 1940, p. 276.

2 T'ang, Liang-li, op. cit., p. 233.

Strategically, the position of the road as a military channel from a secure supply base is important for the domination and control of the northwest. The reliable natural productivity of the province together with its immense manpower of over 50 million people are essential assets in such a base.

"The problem of northwest China include not only the balance of power between the Kuomintang and the Communists, but also the problem of the powerful Moslem minority in the provinces of Kansu, Ninghsia, and Shensi", wrote Owen Lattimore in 1940.[1] Furthermore, he says concerning the highway from Ch'ang-an to the Siberian border of Sinkiang that "Development pushed on under the urgency of military need will have many consequences. Russian influence will have a wide-ranging effect in the economic and cultural life of Sinkiang, and may well spread into the provinces of Kansu and Ninghsia."[2]

The reason for this Russian penetration, according to Lattimore, is largely attributable to the natural geographic orientation of Sinkiang toward Soviet Russia rather than toward"China Proper". Any development of foreign trade would mean development of foreign trade with Russia. From Ti-hua (Urumchi) to the railhead of industrialized Siberia is only 600 miles, while it is a thousand miles longer from Ti-hua to the railhead in unindustrialized China at Pao-chi in western Shensi. Furthermore, the more fertile side of Sinkiang lies toward Russia, while the more desert side lies toward "China Proper".[3]

Thus, it is against this background of Soviet Russian political

1 Lattimore, Owen, China's Turkistan-Siberian supply road, Pacific Affairs, Vol. XIII, December, 1940, p. 405.

2 Ibid, p. 412

3 Ibid, p. 403.

and economic penetration of the northwest that the strategic significance of the Ch'in-ling Shan and Ta-pa Shan road must be viewed.

The economic factor in the role of the road is no less important. There always has been a need for the interchange of the products of the semi-tropical Szechuan Basin with the specialized products of the semi-arid northwest such as wool, hides and cotton. The chief reason that the volume of this inter-provincial trade has not been greater is the poorness of the transmontane roads for transport of bulk cargo. The new highway will increase the possibilities considerably, particularly when normal times bring the improvement and availability of mechanical equipment and fuel supply. But even hand-cart transport is about twice as efficient as the transport by human carriers, and somewhat cheaper than pack-animal transport. If and when a railroad follows the highway across the Ta-pa Shan and Ch'in-ling Shan as is planned by the Chinese Government, transport costs will be reduced to a fourth of what it has been in the past.

This is deduced from the comparative cost of various means of transport during normal times in China. For instance, prior to 1937, if an index of 100 be taken as the basis for cost of freight transport by river steamer in China, the index for railroad transport cost was 112, for native boat transport cost 175, for cost by pack-animal 425, for cost by handcart 450, and for cost by human carrier 890.[1] The reduction that is possible in transport costs across the mountain belt in the west will greatly increase the profits of trade. Commodities which gave only marginal profits or which were uneconomical to transport across the mountains will become profitable for interchange in the future, and the overall volume of commodity movement will undoubtedly see a vast increase.

The northwest has one resource in which Szechuan as well as other provinces of China are keenly interested. This is petroleum. Szechuan has some petroleum resources but they are much more limited than that of either Sinkiang or Kansu, although Szechuan is second today in its development of oil resources. The most promising field is the Lao-chuan-miao field in northern Kansu where two pay sands have been penetrated. The production of crude oil here yielded 32,595,200 gallons in 1942, and the field is still not entirely explored. Other oil-bearing areas in China's northwest include the Tsungaria Basin, the Tarim Basin, and north Shensi. In Tsungaria on the southern border of the basin a continuous oil belt has been prospected and proved capable of commercial production. Seepages have been found at the northern and eastern margin of the Tarim Basin, but prospecting has not started here. Still other areas which are probable oil-bearing areas include the Turfan Basin between the Tsungaria and Tarim Basins, the Tsaidam Basin, and southern Kansu. A large part of China's estimated 1,620 million barrels of oil reserves are located in the northwest.[1]

In furthering cheaper highway transport in Szechuan as well as across the mountains to Shensi, the Ta-pa Shan and Ch'in-ling Shan highway and probable future railroad will play an important role in making available the oil of the northwest. That the early construction of a railroad to supplement the highway is highly desirable is realized by Chinese Government officials. In his Summary of National Reconstruction, P'eng Hsueh-p'ei writes:

If a light railway were built from Kuang-yuan to Nan-cheng (Han-chung), it would be about 180 kilometers long, connecting the Chia-ling Chiang

[1] Juan, Vei-chow, The mineral resources of China, Economic Geology, Vol. XLI, June-July, 1946, No. 4, part 2, supplement, p. 402-421.

and the Han Chiang. A similar linkage could be secured by a 70-kilometer light railroad farther up the rivers from Lueh-yang in Shensi to Mien on the Han Chiang.

"If now a light railroad were built from Pao-chi to Han-chung and thence to Kuang-yuan, the three rivers Wei, Han, and Chia-ling would be linked, to the great advantage of transportation on the Huang, Yangtse and various Szechuan rivers. While motor highways now connect these, the use of motor vehicles and of gasoline is costly and not as reasonable as the cost of a light railroad system."[1]

In the construction and operation of such a railroad as proposed, there not only are engineering difficulties to overcome, but there is the question of power to operate the trains. Two forms of power could be utilized, coal and hydro-electric power. Both Shensi and Szechuan produce coal and have large reserves. Such coal could be made available for locomotive use if railway lines or if navigable rivers connected with the railways were to reach the coal producing areas. Since the northern end of the railroad would connect with the Lung-hai Railroad at Pao-chi, and since coal is obtained for the Lung-hai line by a branch line north of Hsien-yang, this would be one immediately available source. On the southern side of the mountain belt, the largest coal producing mines at present are on the Chia-ling Chiang, 10-20 miles north of Chungking. While almost the whole production of this mine goes to supply Chungking at present, production here and in adjacent mines could be expanded with additional mining equipment to meet the needs of the railroad. Railroad connection with this area could be

[1] P'eng, Hsueh-p'ei, op. cit., p. 108-109.

had either via the Ch'eng-tu to Chungking railroad or via the Chia-ling Chiang by native boats at Kuang-yuan, although this last form of transport upstream might prove too expensive.

The possibilities for development of hydro-electric power in the streams of the Ch'in-ling Shan and Ta-pa Shan are considerable, although these possibilities are limited to the region south of the Ch'in-ling Shan water divide. The Pao Shui flowing out of steep gorges at Pao-ch'eng represents an instance of such possibilities. This river runs through a deep, narrow canyon, so that little arable land would be inundated by the construction of a dam to impound the water. The mountains are largely in forest which protects the soil from erosion and keeps the run-off free of sediment. Moreover, the volume of the Pao Shui at its smallest at Ma-tao is never less than 350 cubic feet per second. At its largest, it reaches the volume of 70,000 cubic feet per second. From the records of the past few years, it has been found that the average total volume of the water during the three months of August through October reaches over 35 billion cubic feet.

A dam 200 feet high and about six-tenths of a mile wide at Ma-tao (Ma-tao-i) would impound this flood water for gradual release in sufficient volume to operate a generating plant of 35,000 kilowatt capacity most of the year around. This would supply sufficient power to run electrified railroad transport across the Ch'in-ling Shan and part of the Ta-pa Shan, as well as for supplying all the light and power requirements in the Han-chung Basin cities and towns.[1]

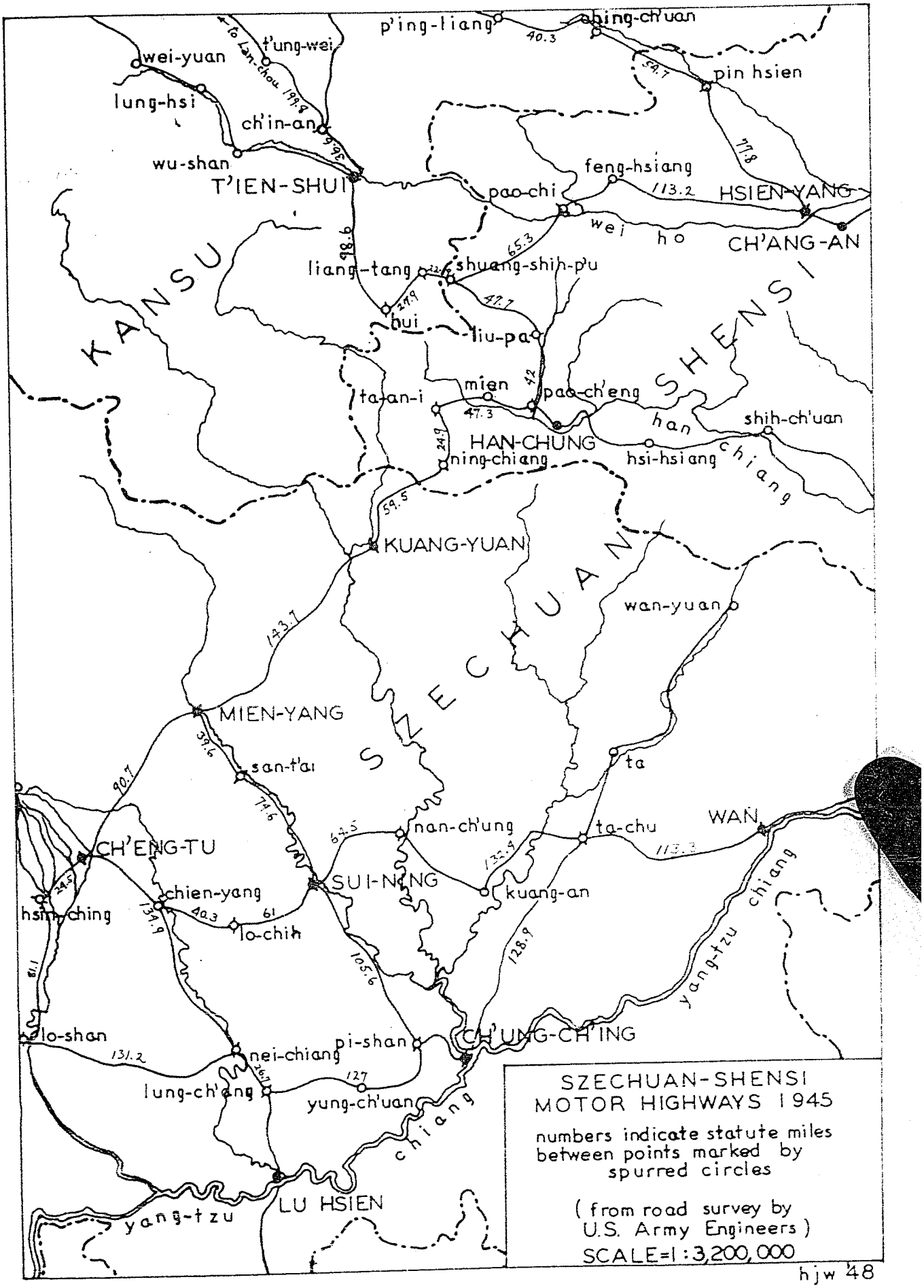
[1] China, Executive Yuan, Shui-li wei-yuan-hui yueh-k'an, Vol. 1, No. 7, July 31, 1944, p. 16-17.

It is seen from the above that the question of the practicality of running such a railroad across the Ch'in-ling Shan and Ta-pa Shan raises no great obstacles. We may expect, therefore, that when political and economic conditions in China have improved and stability achieved, the spanning of the mountain belt by a railroad will come up for serious consideration.

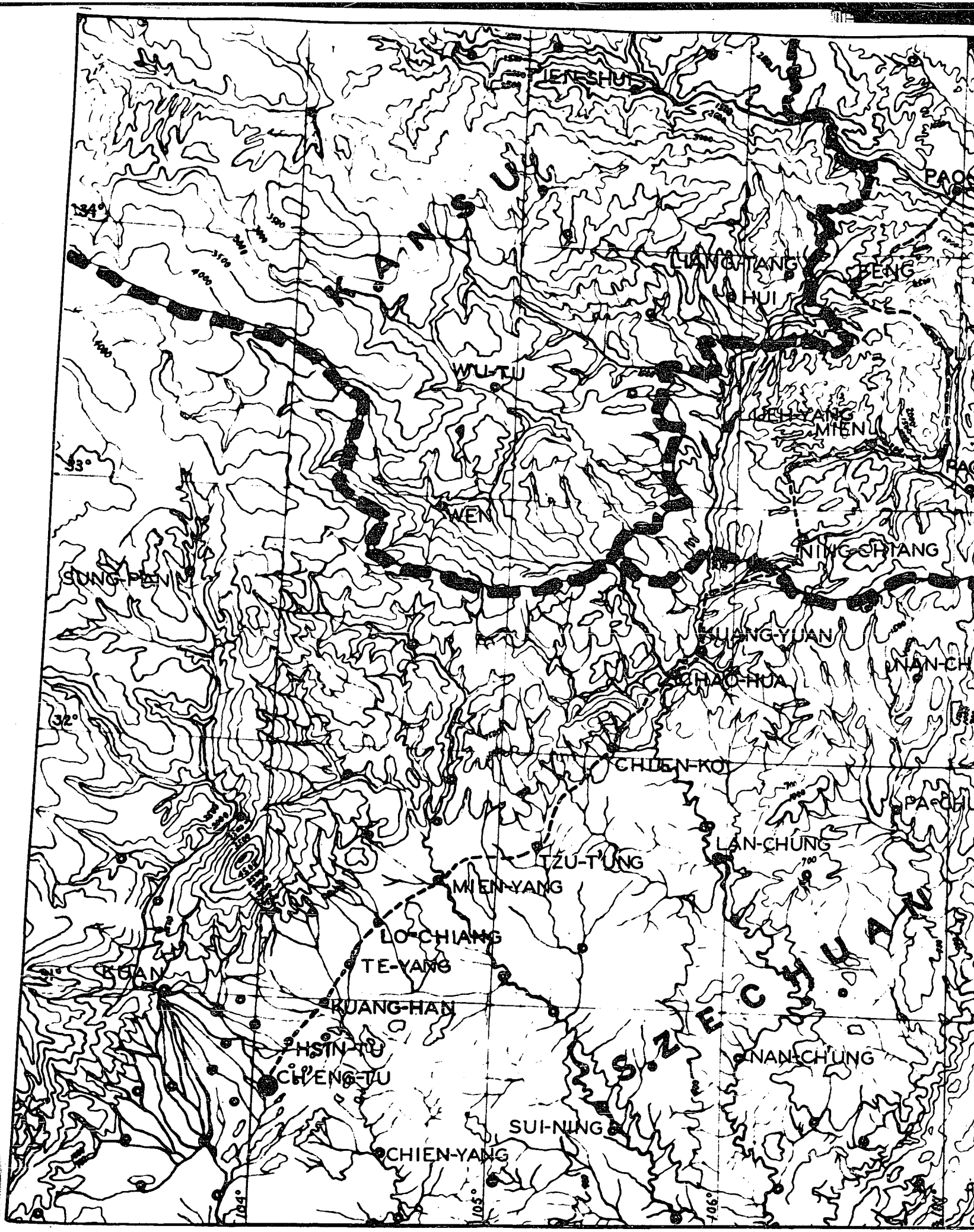
In estimating the future importance of the transmontane surface communications in the road and rail systems of China, it seems reasonable to believe that they will hold a much more important role than they have in past milleniums. It was the limitation of the mountain barriers in a day of poorly developed means of transport that has kept Szechuan from playing a more intimate part in the life of the Chinese nation. Today a beginning has been made in a change to modern transportation. The future not far off will see much greater improvement. The war years have opened the eyes of Szechuan leaders to the great prosperity that could come to this isolated region, and have brought progressive changes in its economic and industrial outlook. The Szechuanese themselves are looking to bursting the bonds of their isolation. In this development the importance of good road and railroad communications have been brought home to them especially.

In Shensi, too, the difficulties of a province divided into two dissimilar regions north and south by a huge mountain range also create desires for improved land communications. The products of the warm, moist south such as sugar, tea, rice, ginger, citrus fruits, and bamboo which the Wei Ho valley lacks are among the economic inducements.

For the nation at large, the question of the land communications


p'ing-liang
ching-ch'uan
40.3
54.7
pin hsien
wei-yuan
t'ung-wei
to Lan-chou 199.9
lung-hsi
ch'in-an
36.6
wu-shan
T'IEN-SHUI
feng-hsiang
113.2
HSIEN-YANG
pao-chi
wei ho
CH'ANG-AN
liang-tang
shuang-shih-p'u
65.3
98.6
42.7
hui
liu-pa
KANSU
SHENSI
mien
42
ta-an-i
pao-ch'eng
47.3
han
shih-ch'uan
24.9
HAN-CHUNG
hsi-hsiang
ning-chiang
chiang
59.5
KUANG-YUAN
SZECHUAN
wan-yuan
143.7
MIEN-YANG
39.6
san-t'ai
90.7
74.6
ta
nan-ch'ung
64.5
ta-chu
WAN
113.3
132.9
CH'ENG-TU
SUI-NING
kuang-an
24.5
chien-yang
hsin-ching
134.9
40.3
61
lo-chih
105.6
128.9
yang-tzu chiang
81.1
lo-shan
131.2
nei-chiang
pi-shan
CH'UNG-CH'ING
24.7
127
lung-ch'ang
yung-ch'uan
chiang
LU HSIEN
yang-tzu
SZECHUAN-SHENSI
MOTOR HIGHWAYS 1945
numbers indicate statute miles
between points marked by
spurred circles
(from road survey by
U.S. Army Engineers)
SCALE=1:3,200,000
hjw 48

MAP 5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JEN-SHUI
LIANG-CHIANG
HUI
WU-TU
WEN
SUNG-PAN
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NING-CHIANG
KUANG-YUAN
CHAO-HUA
CHIEN-KO
TZU-T'UNG
MIEN-YANG
LAN-CHUNG
LO-CHIANG
TE-YANG
KUAN
KUANG-HAN
HSIN-TU
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31°
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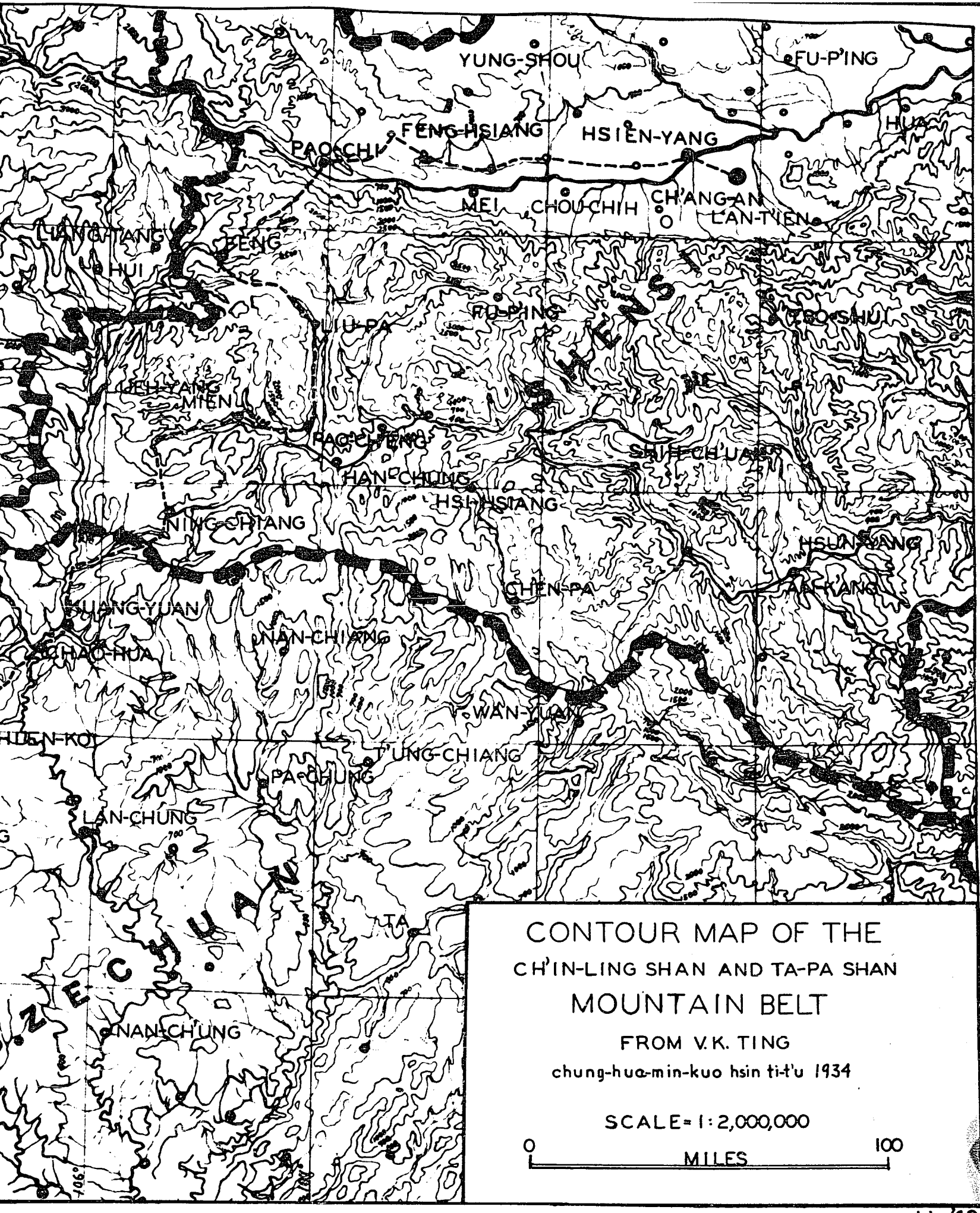
105°
106°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FU-P'ING
FENG-HSIANG
HSIEN-YANG
PAO-CHI
MEI
CHOU-CHIH
CH'ANG-AN
LAN-TIEN
LIANG-T'ANG
HUI
FU-P'ING
LIU-PA
PAO-SHUI
MIEN
PAO-CH'ENG
SHIH-CH'UAN
HAN-CHUNG
HSI-HSIANG
NING-CH'IANG
HSUN-YANG
CHEN-PA
AN-K'ANG
KUANG-YUAN
NAN-CHIANG
CH'AO-HUA
WAN-YUAN
T'UNG-CHIANG
PA-CHUNG
LAN-CHUNG
SZECHUAN
TA
NAN-CH'UNG
CONTOUR MAP OF THE
CH'IN-LING SHAN AND TA-PA SHAN
MOUNTAIN BELT
FROM V.K. TING
chung-hua-min-kuo hsin ti-t'u 1934
SCALE = 1:2,000,000
0
MILES
100

MAP 6

hjw '48

Plate 35. The dirt surfaced road on the south bank of the Wei Ho during low water, with the city of Pao-chi visible in part on the opposite bank. This section might be considered a suburb and comprises chiefly loess dwellings tunneled into the slopes. Camels are still an important means of transport in this area, particularly in communications with the areas to the west.

(Photo by Sydney Franklin)

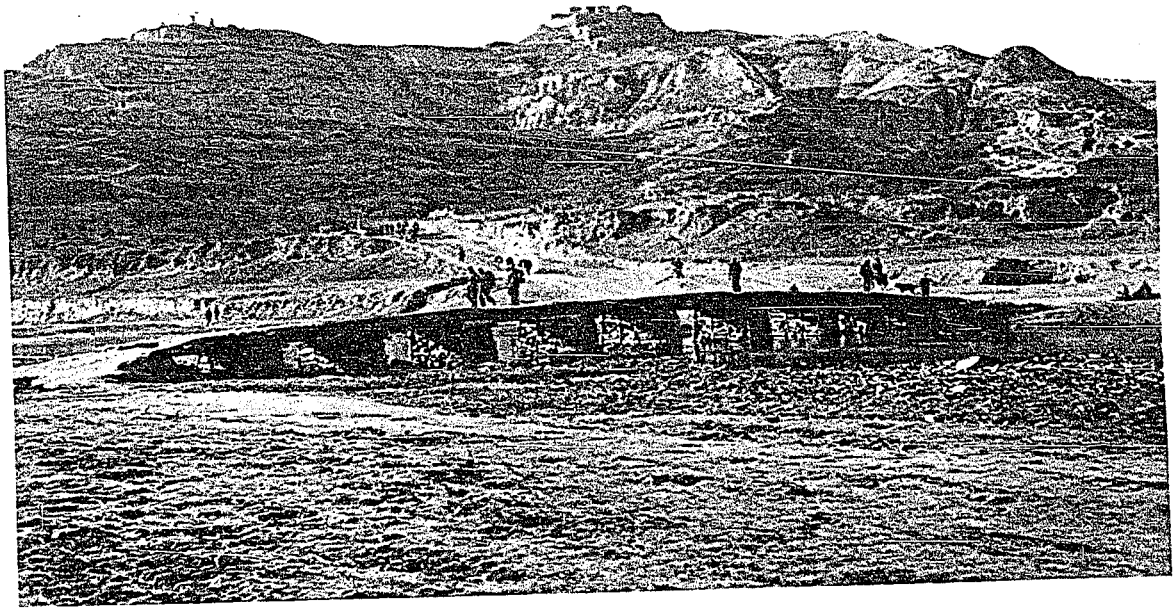

Plate 36. A road crossing over a stream in the vicinity of Pao-chi. The bridge is a temporary structure which usually is taken down during flood seasons when streams widen greatly over their dry-season width.

(Photo by Sydney Franklin)

APPENDIX A

MOTOR ROAD CONDITIONS BETWEEN CH'ANG-AN AND CH'ENG-TU FROM THE REPORT OF A ROAD RECONNAISANCE CONDUCTED BY THE UNITED STATES ARMY ENGINEER CORPS IN MARCH 1945

(See accompanying map No. 6 for mileage between points on route)

1. Ch'eng-tu to Mien-yang. The road is level to hilly, allows two-way traffic, and is mostly rough, but suitable for all-weather use. The maximum grade, which is on a short stretch, is 12 per cent. Bridge capacity has a six-ton maximum limit.

2. Mien-yang to Kuang-yuan. The ferry crossing at Mien-yang is by barges of which there are two. A barge can take two trucks or 12 tons weight. The crossing takes about 15 minutes one way. The road in this stretch is mostly hilly with a few level sections. Most of it is two-way, although there are some short one-way sections. The surface is fair to rough. The maximum grade is 16 per cent. Bridge capacities run from 6 to 20 tons. The ferry crossing at Chao-hua takes about ten minutes. There are four barges each of which can take two trucks or 16 tons of weight. Just before reaching Kuang-yuan, vehicles must make another ferry crossing which takes about five minutes. Three barges are available, each of which can take two trucks or 20 tons of cargo.

3. Kuang-yuan to Ta-an-i. The road generally follows river valleys through rough terrain. The road surface is fair to rough. A few short stretches have only single-lane width. There are a few short, steep grades with a maximum of 16 per cent slope. Bridge capacities range from five to 20 tons.

4. Ta-an-i to Pao-ch'eng. The road follows a gradual slope in the Han Chiang valley. It has a two-lane width with good surfacing. Bridge capacities range between 5 and 20 tons.

5. Pao-ch'eng to Liu-pa. The road follows stream valleys and then crosses mountain ridges. It is two-lane but has many short one-lane sections, and the surface is good. Bridge capacities range between 4 and 20 tons.

5. Liu-pa to Shuang-shih-p'u. This is a mountainous section with many long 10 per cent grades. The road is two-lane except for short sections which are of one-lane width. The surface is good. Bridge capacities range from 5 to 20 tons.

6. Shuang-shih-p'u to Pao-chi. The road is a two-lane, all-weather road with good clay-bound gravel surface. Bridge capacities range from 10 to 15 tons. Two small bridges were washed out in 1945 and fords by-passed them temporarily.

7. Pao-chi to Hsien-yang. The road is a two-lane, dry-weather road with clay surface on the same level as the fields. It has little drainage, so that it is impassable in wet weather.

APPENDIX B

INDEX OF TERMS, NAMES, AND ALTERNATE NAMES, WITH THEIR CORRESPONDING CHINESE CHARACTERS, ARRANGED ALPHABETICALLY ACCORDING TO THE PHONETICAL SEQUENCE USED IN THE CHINESE-ENGLISH DICTIONARY BY GILES

An-k'ang (Hsi-ch'eng)	安康
An-yang	安陽
Cha	笮
Ch'ai-kuan-ling	柴關嶺
Chan	站
Chan-ch'ih	站赤
Chan-pa-lin	搽垻林
Chang Ch'i	張齊
Chang Chien	張簡
Chang Ch'iung	張邛
Chang Hsien-chung	張獻忠
Chang I	張儀
Chang Keng-chü	張庚去
Chang Liang	張良
Chang Lu	張邸
Chang Lu	張魯
Chang T'ang	張湯
Ch'ang-an	長安
Ch'ang-an Ho	長安河
Ch'ang-kang	長岡
Chao-hua	昭化
Chao Wang	昭王
Chao Yün	趙雲
Ch'ao-t'ien-kuan	朝天關
Chen	軫
Chen-an	鎮安
Chen-pa (Ting-yuan)	鎮巴
Ch'en Chi-ch'ing	沈際清
Ch'en Chin	沈縉
Ch'en-ts'ang	陳倉
Ch'eng-ch'uan	乘傳
Ch'eng-ku	城固
Ch'eng-tu	成都
Chi-kung-liang	鷄公樑
Chi-nan	齊南
Chi-ti-p'u	急遞舖
Chi-t'ou-kuan	雞頭關
Ch'i-chou (Feng-hsiang)	岐州
Ch'i Kuo (State of Ch'i)	齊
Ch'i-shan	岐山

Ch'i Shan	祁山
Ch'i-pan-kuan	七盤関
Ch'i-hsing-pa	七星垻
Chia-ling Chiang	嘉陵江
Chia-meng	葭萌
Chia-ting	嘉定
Chiang-che	江浙
Chiang-k'ou (Hsi-chiang-k'ou)	江口
Chiang-ling (Ching)	江陵
Chiang-tu (Yang-chou)	江都
Chiang Wei	姜維
Chiang-yu	江油
Chien-men Hsia	劍門峽
Chien-men-kuan	劍門関
Chien-men Shui	劍門水
Chien-ko	劍閣
Chien-wei	犍為
Chien-yeh	建業
Ch'ien-ch'a-p'ing	前茶坪
Ch'ien-yu Ho	乾祐河
Chih-ch'uan	置傳
Ch'ih-ch'uan	馳傳
Ch'ih-fan	赤坂
Ch'ih Tao	馳道
Chin Hsing-wang	金興旺
Chin-k'ou-kuan	進口関
Chin Kuo (State of Chin)	晉國
Chin-ling Ho	金陵河
Chin-niu Hsia	金牛峽
Chin-niu Tao	金牛道
Chin-sha-wan	金沙湾
Chin-yang Ho (See Yen Ho)	
Ch'in-chou	秦州
Ch'in Kuo (State of Ch'in)	秦國
Ch'in-ling Shan	秦嶺山
Ching (a path)	徑
Ching (Chiang-ling)	荆
Ching-ch'uan-kuan	井泉関
Ch'ing-ch'eng Shan	青城山
Ch'ing Shui	青水
Ch'ing-yang Ho	青羊河
Chiu-kung-p'ing	九拱坪
Chiu-yuan-kuan	九元関
Ch'iu-po-liang	秋坡梁
Chiung (a tribe)	邛
Chou-chih	盜厓
Chu-ko Liang (Chu-ko Wu-hou)	諸葛亮
Chu-ko Wu-hou	諸葛武侯
Ch'u Ho	楮河
Ch'u Kuo (State of Ch'u)	楚國
Ch'uan	傳

Ch'uan-ku Lu	川谷路
Chung Hui	鍾會
Chung-shu	中書
Chü Ho	沮河
Chü Ku	駒谷
Chü Hou (Marquis Chü)	苴侯
Ch'ü Chiang	渠江
Ch'ü-jen	朐忍
Ch'ü Shui	淇水
Erh-li-kuan	二里関
Erh-t'u-ti	二土地
Fan Sui	范睢
Fei-ch'iu-kuan	廢邱関
Fei-hsien-kuan	飛仙関
Fen-shui Ho	分水河
Fen-shui-ling	分水嶺
Feng	鳳
Feng-ch'uan	鳳泉
Feng-hsiang (Ch'i-chou)	鳳翔
Feng-ling	鳳嶺
Fu Chiang	涪江
Fu-feng	扶風
Fu-p'ing	佛坪
Hai-chou	海州
Han Chiang	漢江
Han-chou (Kuang-han)	漢州
Han-chung (Nan-cheng, Hsing-yuan)	漢中
Han Hsing	韓信
Han Kao Tsu	漢高祖
Han-tan	邯鄲
Han-yuan	漢源
Han-yuan Kou	漢源溝
Han-yuan Shan	漢源山
Hei Ho	黑河
Hei-lung Chiang (Hei Shui, T'ai-pai Ho, Pao Shui)	黑龍江
Hei Shui (Hei-lung Chiang, Pao Shui, T'ai-pai Shui)	黑水
Ho-ch'uan	合川
Ho-ming-yuan	何明遠
Ho-shang-yuan	和尚原
Hou P'u	侯補
Hsi-ch'ang	西昌
Hsi-ch'eng (An-k'ang)	西城
Hsi-chiang-k'ou (Chiang-k'ou)	西江口
Hsi-hsiang	西鄉
Hsi-hsiang-chieh	西鄉街
Hsi-hsiang-p'ing	西鄉坪
Hsi-nan-i	西南夷
Hsiang (Hsiang-yang)	襄
Hsiang-tzu-liang	箱子梁
Hsiang-yang (Hsiang)	襄陽

Hsiang-yü	項羽
Hsiao Ho	蕭何
Hsiao-ho-k'ou	小河口
Hsiao-i	孝義
Hsien-jen-kuan	仙人關
Hsien-yang	咸陽
Hsin-chieh-tzu	新街子
Hsin-p'u-wan	新鋪湾
Hsin-shu-wan	新樹湾
Hsing-p'ing	興平
Hsing-yuan (Han-chung)	興元
Hsü Shui	胥水
Hsü Ta	徐達
Hsüan-han	宣漢
Hsün Ho	洵河
Hsün-yang	洵陽
I	驛
I-ch'ang	宜昌
I Chou	益州
I-men-chen	益門鎮
I-pin (Jung-chou)	宜賓
I-shan	宜山
Ju Shui	汝水
Jung-chou (I-pin)	戎州
K'ai-feng	開封
Kan-yu Ho (See Ch'ien-yu Ho)	
Kang-ch'ang	鋼廠
K'ang-ting (Ta-chien-lu)	康定
Kao Ch'ung-wen	高崇文
Kao-tien	高店
Kuan	灌
Kuan-ch'uan	寬川
Kuan-chung	関中
Kuan-i	館驛
Kuan-t'ao	
Kuan-ya	関垭
Kuan-yin	觀音
Kuang-chou	廣州
Kuang-han (Han-chou)	廣漢
Kuang-ling	廣陵
Kuang-yuan	廣元
Kuei-yang	貴陽
Kun-lung-p'o	滾龍坡
K'ung Tao	孔道
Kuo-chen	虢鎮
La-yü Kou	蜡魚溝
Lan-chou	蘭州
Lan-chung (Pao-ning)	閬中
Lan-kuan	藍関
Lan-t'ien	藍田
Lao-ho-k'ou	老河口
Lao-jen-chai	老人寨
Lao-ku-kuan	牢固関
Lao-tai-pa	老戴垻

Lei-kung Shan	雷公山
Li Chih-ch'ang	荔枝嘗
Li-chou (Kuang-yuan)	利州
Li-pa	黎垻
Li Ping	李冰
Li-p'ing	梨坪
Li Ssu	李斯
Liang Chou	梁州
Liang-ch'uan	梁泉
Liang-tang	兩當
Liang-ya-kuan	亮垭
Lieh-chin-pa	烈金垻
Lien-yün-chan	連雲棧
Lien-yün Tao	連雲道
Lien-yün-wan (Lien-yün Harbor)	連雲灣
Lin-chang	臨漳
Lin-chiung	臨邛
Lin-k'ou-tzu	林口子
Lin-t'ao	臨洮
Lin-t'ou-miao	林頭庙
Lin-tzu	臨淄
Ling-chi	靈雞
Ling-shan Tao	靈山道
Liu-chou (Ma-p'ing)	柳州
Liu-feng-kuan (Fei-ch'iu-kuan)	留鳳關
Liu Kuo-chu	劉國柱
Liu-pa	留壩
Liu Pang	劉邦
Lo-chiang	羅江
Lo-shan	樂山
Lo-yang	洛陽
Lu	路
Lu-chih	陸贄
Lu-chou	瀘州
Lu-p'ing	陸平
Lu-t'ou-kuan	鹿頭關
Lung (Lung-chou)	隴
Lung-an (P'ing-wu)	龍安
Lung-ch'ih-ch'ang	龍池場
Lung-chou (Lung)	隴州
Lung-hai (Railroad)	龍海
Lung-ku	龍骨
Lung-t'ai Shan	龍台山
Lung-t'an	龍潭驛
Lung-wang-kou	龍王溝
Lü Pu-wei	呂不韋
Lüeh-yang	略陽
Ma Chou	馬周
Ma-ling-kuan	馬嶺關
Ma-liu-t'an	麻柳灘
Ma-p'ing (Liu-chou)	馬平
Ma-tao (Ma-tao-i)	馬道
Ma-tao-i	馬道驛
Mai Chiao	賈膠

Mao Chen-shou	毛震壽
Mao-pa	毛垻
Mao-p'ing	茅坪
Mei	酆
Mei-kuan-ya	美関埡
Mei-lin-kuan	梅林関
Mi-ts'ang Tao	米倉道
Miao-pa	庙垻
Miao-pa Ho	庙垻河
Miao-t'ai-tzu	庙台子
Mien	沔
Min Chiang	岷江
Min Chü	民局
Mo (Lord Mo)	墨
Mu-chu-kuan	木竹関
Nan-an	南安
Nan Chan	南栈
Nan-ch'ang (Hung)	南昌
Nan-cheng (Han-chung, Hsing-yuan)	南鄭
Nan-chiang	南江
Nan-ching	南京
Nan-ch'ung	南充
Nan Ho	南河
Nan Shan (Ch'in-ling Shan)	南山
Nan-t'ien-men	南天門
Nan-t'ou-ch'iao	南頭橋
Nan-yang	南陽
Ning-chiang	寧姜
Ning-shan	寧陝
Niu-hsin	牛心
Niu-t'ou Shan	牛頭山
O (District)	鄂
O (Governor)	鄂大中丞
Pa-chung	巴中
Pa Kuo (State of Pa)	巴國
Pa Shui	巴水
Pai-chang-po	白丈坡
Pai-chia-tien	白家店
Pai-hsiung-kuan	白雄関
Pai-lung Chiang	白龍江
Pai-ma-ch'eng	白馬城
Pai-ma-kuan	白馬関
Pai-shih-p'u	白石舖
Pai-shui-chiang	白水江
Pai-shui-chieh	白水街
Pai-shui-kuan	白水関
Pai-yang-kuan	白楊関
Pai-yün Hsia	白雲峽
Pai-yün-kuan	白雲関
Pan-miao	半庙
Pao-chi	寶雞
Pao-ch'eng (Pao-chung)	褒城

Pao-chung (Pao-ch'eng)	褒中
Pao-ning (Lan-chung)	保寧
Pao Shui (Hei Shui, Hei-lung Chiang, T'ai-pai Ho)	褒水
Pao-yeh Ku	褒斜谷
Pao-yeh Tao	褒斜道
Pei Chan	北棧
P'ei (Duke of)	沛公
P'eng-ch'eng (T'ung-shan)	彭城
P'eng Shan	彭山
Pien	汴
P'ing-chou	平州
P'ing-ho-liang	平河樑
P'ing Shui	洴水
P'ing-wu (Lung-an)	平武
Po-ch'i	簸箕
Po-lin-i (Po-lin-k'ou)	柏林驛
Po-lin-k'ou	柏林口
P'o (a tribe)	僰
P'u	鋪
San-ch'a-i	三岔驛
San-chiao-ch'eng	三交城
San-kuan (Ta-san-kuan)	散關
San-men-hsia	三門峽
San-p'ing	桑平
San-t'ai (T'ung-ch'uan)	三台
San-ts'ai Hsia	三才峽
Sha-ho-ch'ang	沙河場
Sha-kou-chieh (Sha-kou-k'ou)	沙溝街
Sha-kou-k'ou	沙溝口
Shan-yang (Huai-an)	山陽
Shang	商
Shang-t'ing-p'u	上亭鋪
Shen-hsuan-i	神宣驛
Sheng-hsuan-huai	盛宣懷
Shih-ch'iao-p'u	石橋鋪
Shih-ch'uan	石泉
Shih-hu-pa	石虎垻
Shih-kuan-tzu	石關子
Shih-men Ko-tao	石門閣道
Shih-men-kuan	石門關
Shih-niu-pao (Shih-niu-p'u)	石牛堡
Shih-niu-p'u	石牛鋪
Shih-t'ou Ho (T'ao Ch'uan, Wu-kung Shui, Yeh-ku Shui, Yeh Shui)	石頭河
Shih-yang-kuan	石羊關
Shou (Shou-ch'un)	壽
Shou-ch'un	壽春
Shu Kuo (State of Shu)	蜀國
Shuang-shih-p'u	雙石鋪
Shui-ma-i	水馬驛
So	所

Ssu Ho	泗河
Ssu-ma Hsiang-ju	司馬相如
Ssu-ma Hsuan	司馬宣
Ssu-ma I	司馬懿
Ssu-ma Ts'o	司馬錯
Su Ngo	蘇娥
Sui-ting (Ta) Sung-hsien-t'ing	綏定 送險亭
Sung-ling	松嶺
Ta (Sui-ting) Ta-an-i	達 大安馹
Ta-chien-lu (K'ang-ting) Ta-chien Shan	打箭爐 大劍山
Ta Ho	大河
Ta-ku Shan	大谷山
Ta-li	大理
Ta-lou Shan	大婁山
Ta-mu-shu	大木樹
Ta-pa-kuan	大垻
Ta-pa Shan	大巴山
Ta-san-kuan (San-kuan) Ta-shan-ch'a-kuan	大散關 大山岔關
Ta-shih-ch'uan	大石川
Ta-shih-t'ou (Ta-shih-yai) Ta-shih-yai	大石頭 大石崖
Ta-yao	大姚
Ta-yü Ho	大峪河
T'ai	臺
T'ai-ho-chen	太河鎮
T'ai Hu	太湖
T'ai-pai Shan	太白山
T'ai-p'ing (Wan-yuan)	太平
T'ai-yuan	太原
Tan Chiang	丹江
Tang-lo Ku	儻駱谷
Tang-lo Tao	儻駱道
T'ang	塘
T'ang Meng	唐蒙
Tao	道
T'ao-ch'uan (Shih-t'ou Ho, Wu-kung Shui, Yeh-ku Ho, Yeh Shui)	桃川
T'ao-lin	桃林
Teng Ai	鄧艾
Teng Chih	鄧芝
Ti-chu Shan	砥柱山
Ti-hua	迪化
Ti-shui-p'u	滴水舖
Ti-yün-so	遞運所
T'ieh-fo-kuan	鐵佛關
T'ieh-lu-ch'uan	鐵爐川
T'ieh-so-kuan	鐵鎖關
T'ien Chen-huang	田真黃
T'ien-hsiung-kuan	天雄關
T'ien-shui	天水

Ting-yuan (Chen-pa)	定遠
T'o Chiang	沱江
Ts'ao Chen	曹真
Ts'ao Ts'ao	曹操
Ts'ao-liang-i	草涼驛
Ts'e-yuan-tzu	策園子
Tso-shui (Hsiao-i)	柞水
Tsui-t'ou	嘴頭
Tsui-t'ou-yü	嘴頭峪
Ts'ui Yu	崔鈺
Tu-ling	杜陵
T'u	途
T'u-men-kuan	土門關
T'u-ti-ling	土地嶺
Tung-chiang-k'ou	東江口
Tung Ho	東河
Tung-ho-ch'iao	東河橋
T'ung Chiang	通江
T'ung-ch'uan (San-t'ai)	潼川
T'ung-kuan	潼關
T'ung-shan (P'eng-ch'eng)	銅山
Tzu-mu	子母
Tzu-p'ing	輜軿
Tzu-t'ung	梓潼
Tzu-wu Ho	子午河
Tzu-wu Tao	子午道
Tzu-yang	紫陽
Wan (Nan-yang)	宛
Wan-yuan (T'ai-p'ing)	萬原
Wang-erh-ya	王兒埡
Wang Chao-t'ung	汪兆侗
Wang Wen-shu	王溫舒
Wang Yu-jen	王友仁
Wei-ch'eng-i	魏城驛
Wei-ch'ien-k'ou	桅杆口
Wei Ho	漳河
Wei Kuo (State of Wei)	魏國
Wei Yen	魏延
Wen-ch'ang	文昌
Wen Hsiao-miu	文孝繆
Wen-lang	輼輬
Wu-chang-yuan	五丈原
Wu-hsing Chün	武興郡
Wu-kuan	武關
Wu K'uei-chuan	伍魁捐
Wu-kung Shui (T'ao Ch'uan, Shih-t'ou Ho, Yeh-ku Ho, Yeh Shui)	武功水
Wu-kung	武功
Wu Kuo (State of Wu)	吳國
Wu-lang-p'ing	五郎坪
Wu-li-pa	五里垻
Wu-lien-i	武連驛
Wu-ting-kuan	五丁關

Wu-tu	武都
Wu-yang	武陽
Wu-yü	嗚玉
Yang	洋
Yang An	楊安
Yang-chou (Chiang-tu)	揚州
Yang Kuei-fei	楊貴妃
Yang Liang	楊亮
Yang-p'ing-kuan	陽平關
Yang Sheng	揚聲
Yao-an (Yao-chou)	姚安
Yao-chou	姚州
Yao-ch'uan	軺傳
Yao-ling-kuan	腰嶺關
Yeh	鄴
Yeh-ku Ho (Shih-t'ou Ho, T'ao Ch'uan, Wu-kung Shui, Yeh Shui)	斜谷河
Yeh-lang	夜郎
Yeh Shui (Shih-t'ou Ho, T'ao Ch'uan, Wu-kung Shui, Yeh-ku Ho)	斜水
Yen-ch'a-kuan	鹽茶關
Yen-ch'ang	鹽場
Yen Ho (Chin-yang Ho)	堰河
Yen Kuo (State of Yen)	燕國
Yen-wu-p'u	演武舖
Yin-chia-hui	引駕廻
Yin-p'ing Tao	陰平道
Ying-p'an	營盤
Ying-ko-tsui	英哥嘴
Yu	郵
Yu-kuang	油光
Yü-tu-pa	漁渡垻
Yün-men Shan	雲門山

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