

# STUDY ON THE PALISADE IN MANCHURIA

By HIROSHI SATO

*Professor of Geography*

This thesis is based on the two studies on the palisade in Manchuria<sup>1</sup> effected by the author with financial assistance from the *Nihon Gakujutsu Shinkokai* (Japan Society for the Promotion of Science) in 1939 and 1940. The palisade<sup>2</sup> was erected in the Ching dynasty (清朝) and is one of the remarkable examples of an artificial boundary.

## I. Object of Erecting Palisade

Generally speaking, all boundaries of the world are made by man, and there cannot be any boundaries made by nature. Such boundaries as snow-lines, isothermal lines, coast lines, the lines beyond which no vegetation can be cultivated, or the highest possible altitude fit for human habitation, are boundaries and lines determined by man. But these are considered as natural boundaries because the natural elements constituting a part of them are very strong. It is necessary for me to classify boundaries in making a study on the palisade. That is, those boundaries determined by natural things such as rivers, mountain ranges, forests, sea-coasts, deserts, and swamps and lakes are called natural boundaries, and those boundaries such as no-man's land,<sup>3</sup> walls and dykes, longitude and latitude, neutral zones, and buffer zones, are called artificial boundaries.

The palisade of which I am going to speak belongs to boundaries of the category of walls and dykes, and is an artificial one. This kind of boundaries were mostly erected in ancient times when the world was still uncivilized. For instance, the Great Wall of China<sup>4</sup> was erected so as to check enemy invasions

<sup>1</sup> The name Manchuria was first employed in 1636 by the Emperor Tai-tsung (太宗) of the Ching dynasty, and it seems to have originated from his title, Man-chu (滿住).

<sup>2</sup> The palisade is called the chang-cha (長柵) or liu-tiao-pien-chiang (柳條邊牆) in Chinese, the former signifying a long fence, and the latter a fence made of willow trees.—H. Sato, "On the Palisade in Manchuria," *Jap. Journ. of Geol. and Geogr.*, Vol. III, Nos. 3-4 (1924).

<sup>3</sup> The No-man's land, separating Manchuria from Korea down to the latter half of the last century, was formed in 1627 by the Tai-tsung, Emperor of Ching, and was situated on the right bank of the Yalu river. It is a kind of artificial waste frontier and its main purpose is the defence of the Manchus against Korean invaders.—B. Koto "A Consideration on the Koreo-Manchurian Boundary" (in Japanese), *The Toyo Gakugei Zasshi*, Vol. XXII, Nos. 290-291 (1904).

<sup>4</sup> The Great Wall of China was erected in 469 B.C. by the Prince Chung-shan and was accomplished in 214 B.C. by Chi Hwang-ti (始皇帝) of the Tsin dynasty. Its whole length is 3400 km.—F.G. Clapp, "Along and Across the Great Wall of China," *The Geogr. Rev.*, Vol. IX, No. 4 (1920), pp. 221-249; G.B. Cressey, *China's Geographic Foundations* (1934), pp. 6-7.

from the North, Walls of Antoninus<sup>5</sup> and Hadrian<sup>6</sup> were built against the invasion of the northern clans belonging to the Gaelic branch of the Celtic race, known as Picts and Scots, and the Offa's Dyke<sup>7</sup> built by Offa was set up to prevent the entrance of the Welsh people. Wan's Dyke,<sup>8</sup> the Wall of Media,<sup>9</sup> walls in Germany,<sup>10</sup> the boundary line of Cairns<sup>11</sup> in the northern Balkan; these were all erected to check the invading enemies. Thus, the boundaries of the world were built mainly by people to protect themselves and the cattle they raised, in the early stage of development of the race, from the invasion of daring nomadic people. But the palisade of the Ching dynasty had its main object in relieving the impoverished people, and in developing their cultivation, and it purported to check people from going to Mongolia out of the land of Manchuria. They erected gates on the boundary to keep watch over the streams of men and goods and imposed taxes on them. Therefore, the palisade, in its essence, served as a means to protect the people within and bring about better feeling among the people rather than to prevent their enemies from coming in. The palisade which extended to 1,300 km accomplished its purpose of protecting the people for their cultivation and maintaining public peace, and the gates on the strategic points served as a means to promote trade and bring about better understanding within and without the gates. Of course, the palisade did help much in checking the entering of nomad who raised cattle and wandered about in search of grazing ground, but that was not the chief object of the palisade. As a type, the palisade assumes the same form of defence boundary as Limes, Vallum, Dyke, or Mauer in Europe, judging from the fact that the moat was built outside of the dyke, that is, on the Mongolian side. But essentially, the object of the boundary was the development of cultivation within the boundary, that is, on the Manchurian side, and so it can be called an economic boundary.

<sup>5</sup> The Wall of Antoninus (or Graham's Dyke) was constructed in 80 A. D. by Tacitus between the Firth of Clyde and the Firth of Forth.—T. Holdich, *Political Frontiers and Boundary Making*, (1916), pp. 163–164.

<sup>6</sup> The Wall of Hadrian was formed in 129 A. D. between the Tyne and the Solway and consisted of a stone wall 6 to 9 feet thick and about 12 feet high, which ran for 73 miles the Tyne to the Solway.—*Ibid.*, p. 164.

<sup>7</sup> The Offa's Dyke was constructed in the end of the eighth century A. D., by the powerful Mercian King, Offa, as a protection against the Welsh. A part of it is incorporated in the county boundary of Denbigh. This great barrier extended from the Wye to the Dee.

<sup>8</sup> Wan's Dyke, Buckinghamshire Grim's Dyke and Middlesex Grim's Dyke are all artificial boundarydykes of ancient Britain.—J. Berry, "Transylvania and its Relations to Ancient Dacia and Modern Rumania," *The Geogr. Journ.*, Vol. LIII, No. 3 (1919), p. 134.

<sup>9</sup> The Wall of Media in Babylonia was constructed in the time of Xenophon between Balad and Istabulat. Its erector is called Nimrod.—K. Mason, "Notes on Canal System and Ancient Sites of Babylonia in the Time of Xenophon," *The Geogr. Journ.*, Vol. LVI, No. 6 (1920), p. 472.

<sup>10</sup> In Germany, we find three relics of ancient boundarydyke, namely the Danewerk, the Grenzwall Karls des Grossen and Limes Germanicus.

<sup>11</sup> The boundary of Cairns, separating southeastern Rumania from Banat, runs from Mt. Domogled to the opposite valley crossing the Cserna.

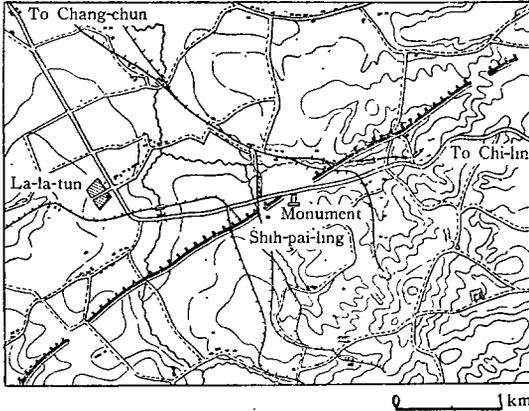
II. *Distribution of the Palisade*

Fig. 1. The palisade near Shih-pai-ling where they set up a monument of an emperor.

the name of the Eastern Palisade runs over a range of 420 km high, from Kai-yuan, Wei-yüan-pu-men (威遠堡門), in the south-easterly direction, and running east of Feng-huang-cheng (鳳凰城) via Ying-ê-cheng (英額城) and Ai-yang-pu (驪陽堡), it reaches the sea-coast in the west of where the river Ya-lu enters the sea. Thus, the palisade consists of these two parts, and is known as the palisade of the Ching dynasty.

In the book of *Ching-i-tung-chih* (清一統志), it is recorded: "The country fence of Cheng-king (盛京) rises in the south from Feng-huang-cheng and reaches Kai-yuan in the north, and turns west to Shan-hai-kuan (山海關)<sup>12</sup> till it reaches the Great Wall of China. The entire length is over 1950 *li* (里). The other part of it runs east of Wei-yüan-pu, passes the northern side of Kirin,<sup>13</sup> and extends to Fa-tê-hê. Its length is over 690 *li*. Willows were planted on the palisade and ropes tied from willow to willow to form a boundary line. This was called a willow boundary (Liupien, 柳邊)."

The Western Palisade is 893.2 kilometers long

The palisade rises from Mt. Jui-tzu (錐子) in the neighbourhood of the Great Wall of China, from the west running north-east till it reaches Kai-yuan (開原) and, northward, it goes through Fa-tê-hê-chan (發特哈站) of shu-la-hsien (舒蘭縣), Kirin-sheng (吉林省) till it meets Mt. Liang-chia (亮甲山). This is known among foreigners as the Western Palisade, and extends over a length of 893.2 km. The other part of the palisade which goes by

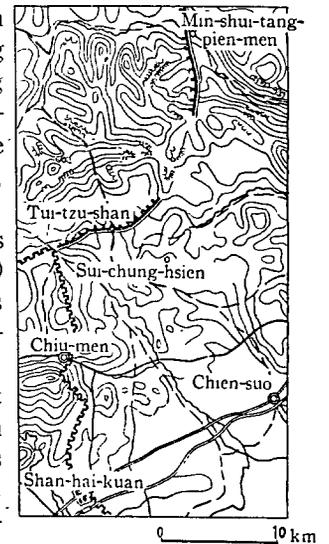


Fig. 2. Starting point (Tui-tzu-shan) of the Western Palisade.

<sup>12</sup> Shan-hai-kuan is called Lin-yü (臨榆) or Yü-kuan (榆關). The Chinese name Shan-hai-kuan signifies mountain-sea-barrier, or between mountain and sea.

<sup>13</sup> Or Chuan-chang (船廠). The term Kirin has been employed since the 15th year of Chien-lung (乾隆) of the Ching dynasty (1745 A.D.), although it used to be called Chi-lin-wu-la (吉靈烏拉) up to that time. Chuan-chang means a ship-yard, because in the Ching period, the forty-four battleships were made here in 1658 to defend the Manchus against the invasions of the Russians

according to measurements derived from a map whose scale was one one-hundred-thousandth. The measurement of the moat surrounding the wall, which is the remains of the palisade, is 571.75 km long from end to end. That part of the palisade which can be actually surveyed is probably only about half of 893 km. That part of the palisade north of Wei-yüan-pu is particularly well-preserved, and especially in that portion southeast of Hsin-king, in a place called Shih-pai-ling (石碑嶺), the dyke is low, but it extends from southwest to northeast and is magnificent (Fig. 1). Here is a monument set up in memory of an emperor who came to inspect the palisade.

Surveyed from its place of origin in the west, the Western Palisade starts from Mt. Jui-tzu, 365 m high, at which point it meets the Great Wall (Fig. 2). This mountain is 22 km north of Shan-hai-kuan. This palisade extends northward across mountains and valleys, making the boundary line between Chin-chow-sheng (錦州省) and Je-ho-sheng (熱河省). It goes across Mt. Pi-chia (筆架), 405 m high, and reaches Ming-shui-tang-pien-men (明水塘邊門), on a river terrace (Fig. 3). There is now no gate at this place, but one can see the relics of a gate which once stood there since it had been built in 1679 (the 18th year of *Kang-hsi*, 康熙).

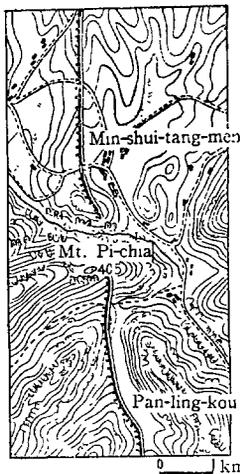


Fig. 3. The palisade near Min-shui-tang-men.

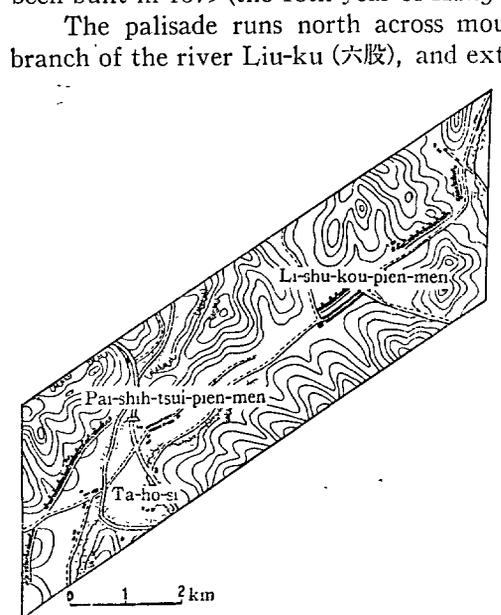


Fig. 4. The palisade near Pai-shih-tsui-pien-men and Li-shu-kou-pien-men.

The palisade runs north across mountains 400 m high, follows along a branch of the river Liu-ku (六股), and extends further north from a point near Tung-pien-shang (東邊上), and reaches Pai-shih-tsui-pien-men (白石嘴邊門) (Fig. 4). This part was built in 1697, the 36th year of *Kang-hsi*, but there remains no gate today, although the stones and bricks that formed its foundation are to be seen by the road-side. If one goes northeast from this point one reaches Li-shu-kou-pien-men (梨樹溝邊門), which dates from the 36th year of *Kang-hsi*. It was, however, destroyed 40 years ago, and at present there are no foundation stones or bricks, not to mention the gate itself. If one moves 36 km from here one reaches Hsin-tai-pien-men (新臺邊門), but here too there is no gate (Fig. 5). This was also built in the same year. Hsin-

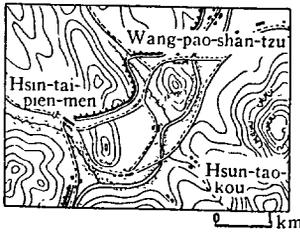


Fig. 5. The palisade near Hsin-tai-pien-men.

tai-tsun (新臺村) stands on a river terrace 2 to 3 meters high, and is a village of considerable size. If one goes northeast, passing Chiang-chia-tun (江家屯), to the western part of Cheng-chia-tai (沈家臺), one finds that the moat and dyke of the palisade have stood the weather well. The next gate one comes to is Sung-ling-pien-men (松嶺邊門), built in 1675 (14th of *Kang-hsi*) and it has kept its original shape well to this day (Fig. 6). The palisade extends to Chiu-kuan-tai-pien-men (九關臺邊門) where one finds no gate standing now (Fig. 7). This gate was built in 1676 (15th of *Kanghsì*), and in the site where there once was a gate, a wooden door stands. From here the moat of the palisade runs eastwards to a mountain 242 m high. The winding moat creeping like a long snake is clearly visible from the height.

Now the palisade climbs a mountain 505 to 708 m high, and then begins to go down gradually till it reaches Ching-ho-pien-men (清河邊門). The original gate of this part was erected in 1676 (15th of *Kang-hsi*), but it must have been repaired since then as the gate which stands today looks rather new (Fig. 8). In the part between this point and the next Pai-tu-chang-pien-men (白土廠邊門), which covers a distance of 42.65 km, the moat and dyke are well preserved (Fig. 9). The gate which was built in 1676 stands at the north end corner of the village just as it stood in the old days. The moat now begins to run across the great plain, Liao-ho (遼河), and reaches Fa-ku-pien-men (法庫邊門), via Chang-wu-tai-pien-men (彰武臺邊門) which was founded in 1687 (26th of *Kang-hsi*). The original shape of the moat in this part, except where it runs along hills, is not preserved owing to frequent floods of the river Liao-ho.

Fa-ku-pien-men was built in 1662, the first year of *Kang-hsi*, and its gate can be seen even now (Fig. 10). But the shape of the gate remains so remarkable that one cannot but wonder if it was not a successor to the original one. From here the moat goes east, passing through Pai-chia-kou (柏家溝) and San-tai-tzu (三臺子), and reaches Ma-chien-tai-pien-men (馬

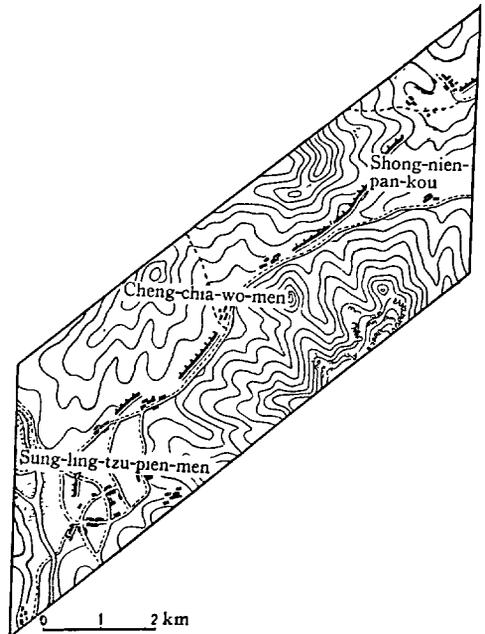


Fig. 6. The palisade near Sung-ling-tzu-pien-men.

千臺邊門) (Fig. 11) in the neighbourhood of Yang-chia-wo-peng (楊家窩棚). At this point neither the gate nor the moat can be seen, as this part is being cultivated. It seems the gate was destroyed at some time since 1912. The palisade extends from here to Wei-yüan-pu-pien-men, after crossing the Manchurian Railway from west to east, and at the point where it meets the railway, the original shape is very well kept and a wooden pillar standing at the spot indicates "the site of the Palisade."

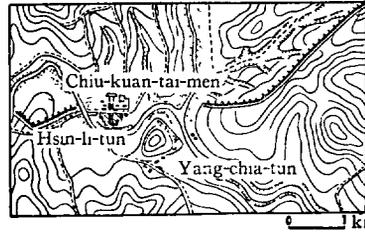


Fig. 7. The palisade near Chiu-kuan-tai-men.

From a point 5 km north of Kai-yuan, the moat runs northward along the eastern side of the railway. One can see the moat quite well near Chuan-tow (泉頭) Station where the moat comes closest to the line.

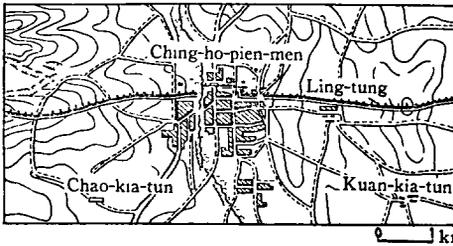


Fig. 8. The palisade near Ching-ho-pien-men.

Pan-la-shan-pien-men (半拉山邊門) was founded in 1681 (20th of *Kang-hsi*) and its original shape remains to this day (Fig. 12).

The scenery here is simply lovely and the place is a favourite with the citizens of Ssu-ping-chieh (四平街). One can see the moat very well in this part. To reach Hê-êr-su-pien-men (赫爾蘇邊門), founded in 1681, one has to go farther north, although no gate remains there now (Fig. 13). But at the entrance of Erh-shih-chia-tzu (二十家子), which lies 5 km north of this gate, one can find stumps of willow trees, planted in the olden days, remaining on the dyke 2 km long at an interval of 2 m between the two stumps. This fact serves to show that willow trees were indispensable in the construction of the palisade.

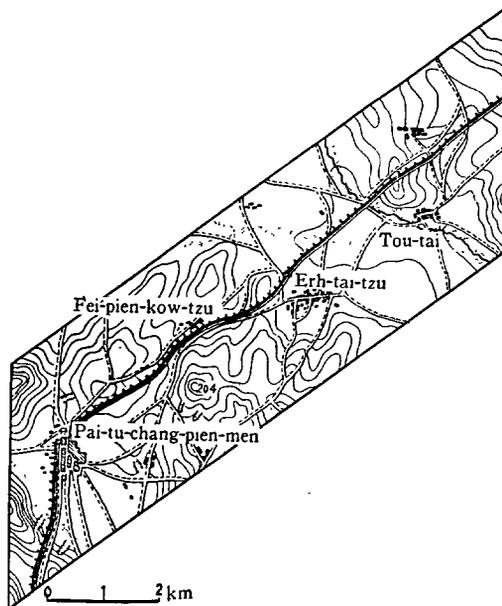


Fig. 9. The palisade near Pai-tu-chang-pien-men.

Although one finds no gate at I-tung-pien-men (伊通邊門) which was built in 1681, the moat in its original shape can be seen here and there that part going north from this point. This is particularly signifi-

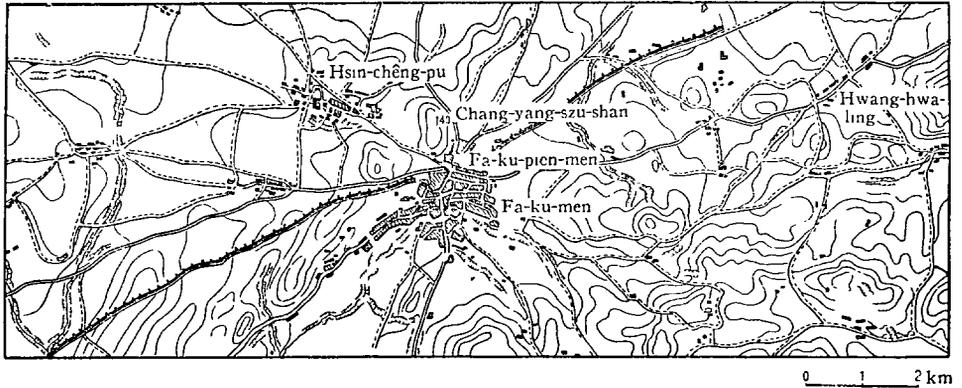


Fig. 10. Map showing the palisade near Fa-ku-pien-men. The town of Fa-ku-men is an important center of communication.

cant in the southeast of Hsing-king. But in the neighbourhood of Hsia-chiu-tai (下九臺) along the Kirin Railway, one cannot find the moat in its original shape, having been covered with paddy fields cultivated by Koreans. According to a map the moat extends as far as Fa-tê-hê-pien-men in Kirin, built in 1681, and this is the northernmost gate of the Western Palisade, and whose shape is just what it was when first built (Fig. 14). One cannot see the moat near the gate, but it runs eastward, crosses the river Pei-yin (被陰), and ends its long journey at Mt. Liang-chia (亮甲), 363 m high.

The Eastern Palisade was built in the days of the Emperor Kang-hsi (康熙) solely in order to demarcate the area of Wei-chang, or the imperial hunting grounds. Its whole length is about 420 km.

### III. Construction of the Palisade

The record *Hu-tsung-tung-jih-lu* (扈從東日錄), by Kao-Shih-Chi (高士奇) of the Ching dynasty reads as follows: "Willows were planted on the dyke and ropes tied from willow to willow to form a boundary separating Mongolia. The south end of it starts from Korea and runs far west till it reaches Shan-hai-kuan. Those who dare come over it without permission will be dealt with severely."

Again in the book of *Liu-tiao-chi-lueh* (柳條紀略), written by Yang Pin (楊賓) of the Ching dynasty, one reads; "In olden days they used to plant elm-trees on the boundary, and called it an elm-boundary. Nowadays, in the district of Liao-tung (遼東) they erect boundaries by planting nothing but willows. The highest of them are three to four feet high, and the lowest is about one foot, forming something like a bamboo-fence one finds in China. The boundaries which have a moat outside are called the palisade (Liu-tiao-pien 柳條邊)."

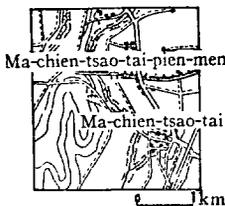


Fig. 11. The palisade near Ma-chien-tsoo-tai-pien-men.

The Western Palisade			Length of the Palisade	
Name of the Gate			Ancient time	Present time
Mt. Tui-tzu	(錐子山)	邊門	27.6 km	21.6 km
Min-shui-tang-pien-men	(明水塘邊門)	邊門	40.3	22.9
Pai-shih-tsui-pien-men	(白石嘴邊門)	邊門	4.2	0
Li-shu-kou-pien-men	(梨樹溝邊門)	邊門	34.0	4.05
Hsin-tai-pien-men	(新臺邊門)	邊門	60.0	38.55
Sung-ling-pien-men	(松嶺邊門)	邊門	48.35	16.7
Chiu-kuan-tai-pien-men	(九關臺邊門)	邊門	35.0	19.0
Ching-ho-pien-men	(清河邊門)	邊門	42.65	41.75
Pai-tu-chang-pien-men	(白土廠邊門)	邊門	97.0	92.3
Chang-wu-tai-pien-men	(彰武臺邊門)	邊門	67.5	65.7
Fa-ku-pien-men	(法庫邊門)	邊門	80.8	58.7
Wei-yüan-pu-pien-men	(威遠堡邊門)	邊門	69.35	33.4
Pan-la-shan-pien-men	(半拉山邊門)	邊門	50.7	39.0
Hê-êr-su-pien-men	(赫爾蘇邊門)	邊門	61.2	55.9
I-tung-pien-men	(伊通邊門)	邊門	159.55	147.2
Fa-tê-hê-pien-men	(法特哈邊門)	邊門	15.0	15.0
Mt. Liang chia	(亮甲山)	邊門	893.2	571.75
The Eastern Palisade				
Wei-yüan-pu-pien-men	(威遠堡邊門)	邊門	75.0 km	
Ying-ê-pien-men	(英額邊門)	邊門	85.0	
Hsing-ching-pien-men	(興京邊門)	邊門	95.0	
Chien-chang-pien-men	(謙廠邊門)	邊門	40.0	
Ai-yang-pien-men	(豔陽邊門)	邊門	65.0	
Feng-huang-cheng-pien-men	(鳳凰城邊門)	邊門	60.0	
The coast of Korea Bay			420.0	

From the above-mentioned records, it is clear that the palisade consists of a dyke with willow trees planted on it, and a moat running along side. According to some books, the height of the dyke is three feet and its width three feet. The moat is five feet in depth and five feet in width, so that if the dyke and the moat were measured together, both the height and the depth would be eight feet each. Among the palisades I inspected for my research, I could not find any moat of this type, but I happened to come across some moats which were on an inclining plane and which were two to three feet deep, beaten by the weather. Those parts

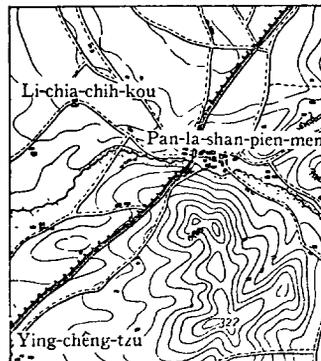


Fig. 12. The palisade near Pan-la-shan-pien-men.

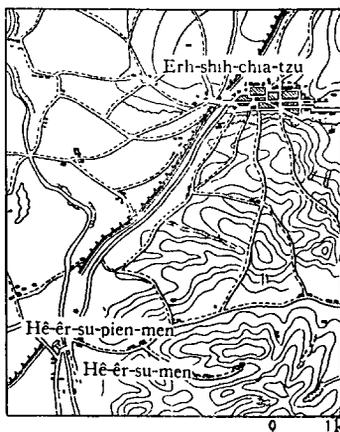


Fig. 13. The palisade near Hê-êr-su-pien-men.

one finds to be 4.5 km in the south of Pan-la-shan-pien-men (Fig. 15), and near Chuan-tow Station, the moat gets very deep. But in general, the depth of the moat is 1.5 m, the width, 3.5 m, and the height of the dyke 1.5 m and the width 2.0 m (Fig. 16).

Some of the old stumps of the willows which remain to this day can be found at Shih-pai-ling. But they served as fuel for the people from the ancient days and it is quite rare to find any of them now. In the dyke of the palisade in the north of the road running from Erh-shih chia-tzu to He-êr-su-pien-men, one can find stumps which are considered as remains of ancient willows in the range extending over 2 km at an interval of 2 meters.

Anyway, the moat on the Mongolian side and the dyke on the Manchurian side comprise the palisade, and on the dyke willows are planted at a fixed interval, and ropes tied from one willow to another; the willows, spreading out their branches, are thus turned conveniently into a fence.

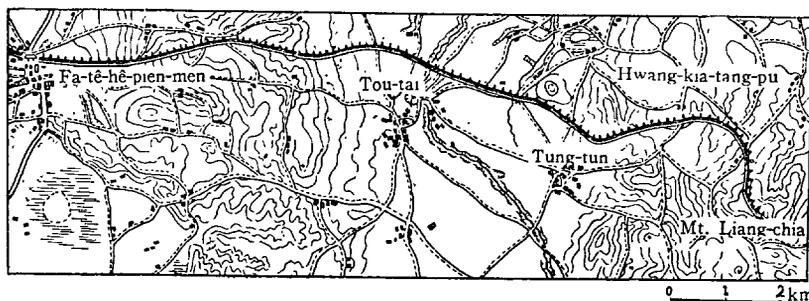


Fig. 14. Map showing the distribution of the palisade near Fa-tê-hê-pien-men and the terminal point of it at Mt. Liang-chia.

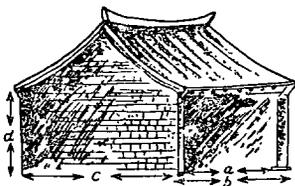


Fig. 15. Construction of the gate, Pan-la-shan-pien-men. a is 4.50m, b 5.50m, c 5.95m and d 2.80 m.

At strategic points gates were constructed. The number of gates on the Western Palisade (Fig. 17) amounted to 14, and 6 on the Eastern Palisade. And there they used to keep watch over traffic, kept public peace, and levied taxes. I could carry out a research on the 14 gates of the Western Palisade, and one gate of the Eastern Palisade. Those parts where one can find gates nowadays are, from the south: Sung-ling-pien-men, Ching-ho-pien-men, Pai-tu-chang-pien-men, Fa-ku-pien-men, Pan-la-shan-pien-men, Fa-tê-hê-pien-men. Not

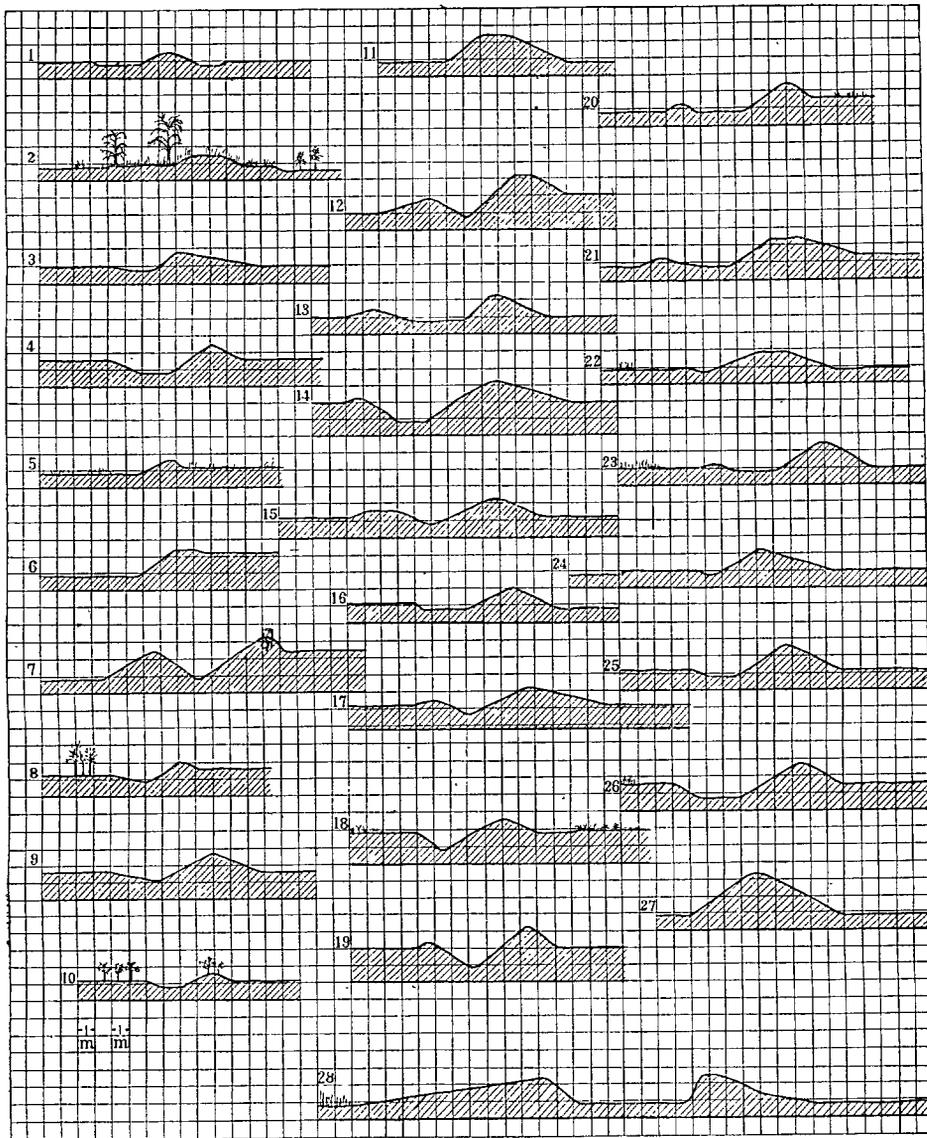


Fig. 16. Cross-section of the moat and dyke of the palisade in Manchuria.

1...At the northern side of Chiu-kuan-tai village. 2...At Ho-chia-wo-peng (何家窩棚) near Chang-wu-tai. 3-4...Near Fa-ku-pien-men. 5-6...At the vicinity of Ma-chien-tsao-tai-pien-men. 7...At Wei-yüan-pu-pien-men. 8-10...At "the site of the palisade." 11...At Chuan-tow Station. 12...At Pan-la-shan-pien-men. 13...At He-ér-su village. 14...Near Erh-shih-chia-tzu village. 15...At I-tung-pien-men. 16-22...At the southern side of Shih-pai-ling. 23-26...At Hsin-li-tun. 27...At Pai tu-chang-pien-men (This palisade is of Min dynasty). 28...At Ling-tung village near Ching-ho-pien-men (dyke is uncertain).

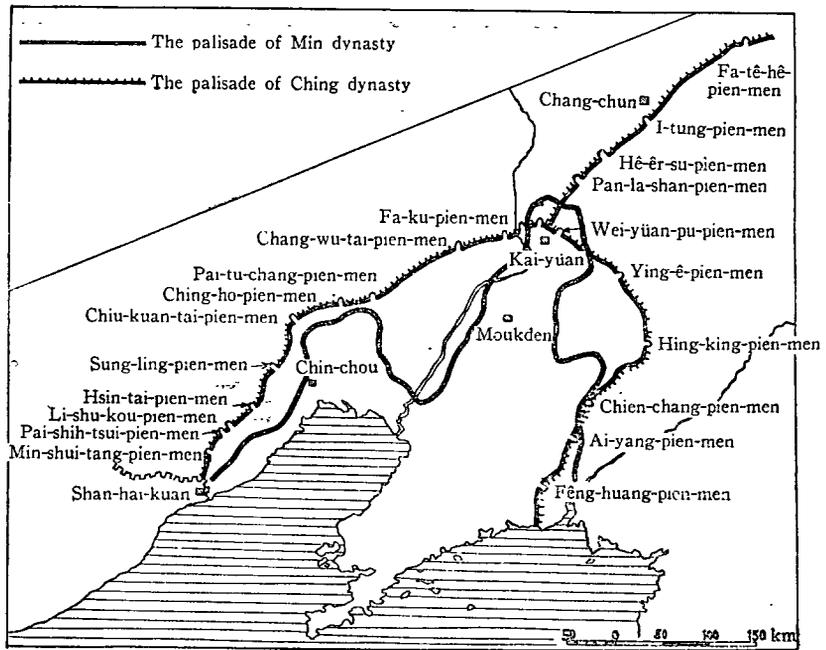


Fig. 17. Map showing the distribution of the palisade in Manchuria.

only in their size, height, width and type are they uniform, but in having a station for guards on the left-hand side of the gate, on the inner side (Fig. 18), that is, on the Manchurian side. At Wei-yüan-pu-pien-men and Pan-la-shan-pien-men one can still see the stations which have stood the weather well to this day. One can easily understand that the gates served as important places for traffic, judging from the fact that only one or two roads meet inside the gate (Manchurian side), while more than two roads run into the Mongolian side.

From the foregoing explanation, I think the readers will gather that the dyke with willows planted on it, and the moat lying outside of the dyke, and the gate, *pien-men* (邊門),<sup>14</sup> are indispensable to the construction of the palisade (Fig. 19). The reason why the palisade could achieve its desired end with this simple construction is that the traffic in those days was not at all heavy, and was mainly by carriages. The incomings and out-goings of horses and carriages must have been watched over without any difficulty. And it could successfully prevent the invasion of nomadic people in the Ching dynasty, who came with their cattle seeking new pastures.

<sup>14</sup> *Pien-men* or *Men* means a barrier-entrance or a barrier-gate. We can see that both the gates and entrances have contributed not a little to the development of markets or towns and also have done great service to the civilization or culture of the time when they were constructed.

#### IV. Conclusion

What value has this study on the palisades, on human geography, particularly on political geography?

If we view this from a theoretical point, the palisade is one of the important forms in the development of boundaries, a fact confirmed by many geographers.

A fence or an earthen wall is built around houses, and this develops into a citadel surrounding a city; this develops into the form of the Great Wall of China or the Roman Citadel.

In the process of the boundaries from this stage to this day when a boundary is determined by treaties, the palisade serves as an important "Mittelglied." The palisade, being different from many boundaries of walls, has colonization as its main object and has for its second object the prevention of enemy invasions. This can be considered, therefore, as an economic boundary.

If viewed from its practical use, the palisade in those days served to separate Manchuria from Mongolia and did much to benefit Manchuria. In other words, the palisade served to separate the moist plains of Manchuria from the dry plains of Mongolia, and gave the role of cultivation to Manchuria and that of cattle herding to Mongolia. Consequently this had a big influence on the development of industry and culture in the Ching dynasty. It is quite reasonable to believe that industries, citizens, and cities should centre about the east on the Manchurian side where there is plenty of rain; and that sheep, paoes, or



Fig. 19. The palisade-gate, Fa-ku-pien-men, and the station for guards in modern style at the town of Fa-ku.



Fig. 18. An ancient guard-house at Wei-yüan-pu-pien-men.

lama temples would centre on the Mongolian side where there is less rain, if weather and soil stimulated botanical growth, on which animal lives depended, and human activities depended on those things. The palisade must have contributed much toward the individual development by dividing these districts from each other.

From the viewpoint of

materials for study, the study of the palisade could greatly benefit the theory of boundaries. Just as Gannett<sup>15</sup> of the American Geological Survey greatly contributed to the theory of boundaries by his "Boundaries of America" and Cohausen of Germany did likewise by his elaborate work on "Limes,"<sup>16</sup> this study on the palisade can do much toward geography through data. This is because those data are recently compiled ones dealing with the present state of the palisade, its construction and distribution. By this research it became clear that the palisade belongs to the same category of vallum or dyke, similar to Offa's Dyke or Trajanswall.<sup>17</sup> Also it has become evident that in Transylvania where there are few stones as in Manchuria, dykes are being constructed. The fact that the present state of many of the gates and stations found on the palisade coincides with ancient records while their uniformity in form, construction and position over a wide of 900 km speaks plainly how the Ching dynasty prospered in those days, and how complete was the legislative system.

In other words, the palisade was "the national boundary which is the outcome of its activities,"<sup>18</sup> and at the same time it was the acme of the living world. That is, "in the primitive days of apathetical conception, those boundaries, to the people living in them, were the farthest points where their necessary food was available." Moreover in the extensively wide flat area of Manchuria and Mongolia, it was the best way to divide the two lands by such an artificial obstacle.

In short, the palisade is, from the natural point, a direct product of proper landscape (Landschaft) in Manchuria and Mongolia, while from the human standpoint, it is a product brought into existence by the mode of living in the Ching dynasty. Also, to the boundary between the two countries is very closely knit together by mercantile traffic, human and vehicular traffic, and the collecting of taxes, so that it was necessary to have a clearcut boundary line. Seeing that this was so, it might be said that the significance of the palisade is great and that studies concerning the same are of considerable value.



<sup>15</sup> H. Gannett, "Boundaries of the United States," *Bull. of the U.S. Geol. Surv.*, No. 226 (1904), pp. 1-145.

<sup>16</sup> Limes is called "Limes Germanicus" or "Pfalgraben." It is a typical artificial boundary, erected in the second century, separating the Roman Empire from Germania. It starts from Rheinbrohl and reaches to the upper of the Danube, crossing the Rhein. Its whole length is 540 km.—A. von Cohausen, *Der Römische Grenzwall in Deutschland* (1884).

<sup>17</sup> Trajanswall which was built by Romans is a boundarydyke in Rumania between Axiopolis and Constantza.—R. Hennig, *Geopolitik* (1928), p. 112.

<sup>18</sup> Fr. Ratzel, *Politische Geographie* (1923), p. 386-387.